

TOWARDS **A MODEL** **APPRENTICESHIP** FRAMEWORK

A Comparative Analysis of
NATIONAL APPRENTICESHIP SYSTEMS



THE WORLD BANK



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FOREWORD



In 2012, the G20 Labor and Employment Ministers gave significant attention to apprenticeships and called for sharing of experience in the design and implementation of apprenticeship programs. This high level international interest was also reflected in discussions of tripartite constituents at the 2012 International Labour Conference's committee on youth employment, which called for the promotion of quality apprenticeships, including in developing countries.

In this context, the ILO and World Bank in 2012 jointly conducted a study to review international experience in apprenticeships and identify good practice principles based on the cross-country analysis. This report contains case studies on eleven countries' apprenticeship systems, a cross-case analysis and the development of a framework for a model apprenticeship system.

The countries chosen reflect a mix of developed and developing countries, with apprenticeship systems of differing stages of maturity.

The country case studies further confirm that better and more broadly available apprenticeships can reduce youth unemployment and poverty when combined with national efforts to spur job growth. The evidence and lessons drawn from their experience provide both motivation and practical recommendations for making apprenticeship a more attractive and a more efficient pathway to productive and decent jobs for more young people.

We commend this report to you as an example of high-quality technical inputs on skills policy and evidence of effective collaboration between our two organisations.

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COUNTRY EXPERTS

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INTRODUCTION

This report is based on eleven country case studies of national apprenticeship systems. To assist the reader with limited time, the analysis and framework for a model apprenticeship system are presented first in the report, with the country case studies at the end.

The eleven countries, in alphabetical order, are:

- ▣ Australia
- ▣ Canada
- ▣ Egypt
- ▣ England
- ▣ France
- ▣ Germany
- ▣ India
- ▣ Indonesia
- ▣ South Africa
- ▣ Turkey
- ▣ United States

COUNTRY CASE STUDY METHOD

Eleven country experts were engaged – one undertaking two case study reports – and one case study being co-authored. The purpose of the country case studies was – first, to obtain accurate and current information about

countries' apprenticeship systems written by people who were, in almost every instance, embedded within those countries and therefore had a deep understanding of the culture, politics and economics of the countries as well as the apprenticeship systems. It is well-recognized that apprenticeship systems need to grow from countries' national economic and cultural contexts and cannot be transplanted from one country as complete entities to another.

The second purpose was to obtain targeted information about key features and trends that could be used to develop a model apprenticeship system. The choice of countries was partly guided by the preference of the funding body, and partly proposed as a purposive sampling that would include representatives – both from countries with more developed economies, as well as those with less developed ones.

TYPOLGY OF MORE DEVELOPED AND LESS DEVELOPED ECONOMIES

More developed	Australia, Canada, England, France, Germany, United States
Less developed	Egypt, Indonesia, India, South Africa, Turkey

As the purpose of the overall project was to develop recommendations for the Indian system, a case study of India itself was included to enable initial comparisons in the early stages of the project.

The case studies were written in mid-2012. Each country expert was provided with a defined structure comprising a number of headings and sub-headings, to ensure that major identified issues were addressed, and that comparison among countries was made easier. Case study writers were requested to undertake the following quality and accuracy checks with expert validators:

- ▣ Interview a government official of reasonable seniority before finalizing their case study and include information gained from that interview in the case study.
- ▣ Have their case study report peer-reviewed by an expert academic from a different institution within their country.

ANALYSIS METHOD

A cross-case analysis was undertaken to draw out the key features of these case studies as a preliminary step to identifying recommendations and principles for a model apprenticeship system that might inform the further development of India's apprenticeship system.

For the cross-case analysis the following guidelines were used to develop the structures and headings:

- ▣ The format of the case study guidelines, which was itself developed partly from the project terms of reference but was also informed by the following two documents:
 - The INAP memorandum on apprenticeship architecture.

- Analysis of apprenticeships in the International Encyclopedia of Education (Smith, 2010).
- ▣ The cross-country analysis in the European Commission report on apprenticeship supply (European Commission, 2012).
- ▣ An apprenticeship life-cycle model developed in an Australian study (Smith, Comyn, Brennan Kemmis and Smith, 2009) to describe the progression through an apprenticeship for the individual apprentice.

The authors of the cross-case analysis worked with the country case studies to draw out characteristics and trends on the range of different systems' features, and examples of good practice. A matrix was developed from the authors' responses to a section on issue, strengths, weaknesses and learning from policy developments.

MODEL APPRENTICESHIP SYSTEM METHOD

The authors worked with the data to produce further analysis to create a model apprenticeship framework. This framework consisted of the following features:

- ▣ A set of principles under nine major headings.
- ▣ A listing of possible measures of success under four major headings (engagement, quality, outcomes and public policy), and associated challenges.
- ▣ Factors to be considered when expanding a country's apprenticeship system.

PART

1



Cross-case Analysis of Country Case Studies



This section provides a brief overview of the eleven systems. The apprenticeship systems vary in importance and size among the eleven countries. In most countries, but not all, apprenticeships have been most typically found in manufacturing, craft and construction occupations. This has necessarily limited the proportion of the workforce involved, especially, as these occupations have become less important, proportionately, in the more developed countries.

There seem to be three major orders of magnitude for apprenticeship systems, represented by the following matrix with two axes: focus in the country's education and training policy, thrust and size, relative to the labor force. This table relates to formal apprenticeships only.

TYPOLOGY OF FOCUS AND SIZE OF FORMAL APPRENTICESHIP SYSTEM

Focus Size	High	Low
Large (1.5% or more of labour force)	Australia, Germany, Canada, England, France	
Small	India, South Africa, Turkey	Indonesia, United States

The largest apprenticeship systems as a proportion of the labor force are found in Germany and Australia, both at 3.7%. Countries with low numbers and high focus are attempting to increase numbers while those with a low focus, particularly the United States (with 0.3%

participation), do not have a focus on increased participation. England has only recently achieved large numbers; in 1990 it was reported that there were only 53,000 apprentices, while today there are almost ten times that number.

There are sometimes alternative apprenticeship systems outside official systems managed by governments. Egypt, for example, has a well-established alternative apprenticeship system that is managed by the Egyptian Federation of Building and Construction Contractors and Turkey also has a parallel formalized scheme, managed by the Turkish Confederation of Tradesmen and Craftsmen. The latter is for occupations not covered by the relevant legislation.

It is useful to think of the eleven case study countries in terms of the *formal* and *informal* apprenticeship systems that have developed over time. In those countries that have well-established formal apprenticeships systems, such as Germany, Australia, England, and France, the range of jobs covered by apprenticeships covers the 'traditional trades', with a concerted effort being made to expand the systems to include newly-emerging jobs in a global market. The majority of the latter apprenticeships are in non-professional jobs although in some countries such as England, apprenticeships have been created in industries such as management and aeronautics with the intention of creating apprenticeships for airline pilots, as an example.

Informal apprenticeship systems exist in some countries as diverse as Indonesia, Turkey and the United States. In less developed countries such as Indonesia, India and Egypt, the existence of informal apprenticeships is the result of the multiplicity of micro, small and medium-sized businesses covering every trade. In these informal apprenticeships employers employ younger workers, sometimes for only very short periods of time, and train them on the job to do very specific tasks that are not necessarily expected to be transferable to other work contexts. These informal apprenticeships are not regulated, and the apprentices generally do not receive any kind of certification. It is also the case that informal and formal apprenticeships can exist side by side, although in these countries the formal systems have far fewer participants.

There have been varying degrees of change in the eleven countries' apprenticeship systems over the past few decades. In Canada and the US, for example, the systems have remained relatively unchanged with some alterations at the margins. On the other hand, Australia and the England have shown huge changes which have involved adding new 'variants' to the system. For example, Australia in the late 1980s introduced 'traineeships' which enabled access to apprentice-like arrangements for a much broader range of occupations and qualification levels; about two-thirds of Australian apprentices are 'trainees'. South Africa has also added a new type – 'learnerships', although this is a non-employment-based variant. Egypt has also introduced training-provider-based variants. In Germany, the system is constantly evolving and occupational profiles are re-defined every 10-15 years. France has extended the range of qualification levels and has introduced 'junior' apprenticeships for younger people. Most of the policy thrusts across countries can be summarized in the following list:

- ▣ Increasing participation of employers.
- ▣ Increasing participation of individuals, including targeting specific learner groups e.g. women, ethnic minorities.
- ▣ Aligning with national and/or international qualifications frameworks.
- ▣ Addressing youth unemployment with specifically youth-targeted initiatives under the umbrella of apprenticeships.

- ▣ Increasing the range of 'apprenticeable' occupations.
- ▣ Harmonization across State or Provincial boundaries.

In addition there have been other developments, such as (in countries with patchwork economies) targeting of specific occupations and/or geographical areas; attempts to increase the reach of apprenticeships into the informal economy (e.g. Egypt); and attempts to improve movement to higher education programs.

There are some specific, historically-related, issues. The least developed countries, Indonesia and Egypt, have introduced ideas from overseas (e.g. Germany, Australia), as have other countries such as Malaysia, and struggle to sustain these without donor funding. It is also reported that imported systems are not necessarily ideal for the individual country.

A problem seen in some countries (e.g. India, Egypt and the US), is that apprenticeship, and VET in general, has a low status compared with higher education. In these countries there is reported to be preference by individuals to undertake higher education; in the US it is reported that government policies and funding models favor the latter pathway. In other countries, particularly Germany, VET has a higher status.

PATHWAYS

While in some countries apprenticeship is seen only as a 'school-to-work' program, this is not so in all countries. Systems have generally been opened to adults even when they were formerly confined to young people. Such changes have not been without opposition. In England, for example, the opening up of apprenticeships to adults met with opposition and funding has been reduced for adult apprenticeships. It is likely that such opposition may be related to relative degrees of youth unemployment. In one case, France, apprenticeship for adults is only available to people with disabilities, although the new French 'professionalisation contract' has extended to all adults. The current situation is as follows:

TYPOLOGY OF AVAILABILITY OF APPRENTICESHIPS TO ADULTS

Predominantly for young people	Egypt, France, Germany, India, Turkey
Routinely includes both young people and adults	Australia, England, Indonesia, South Africa
Predominantly for adults	Canada, United States

Pathways into apprenticeships

There are sometimes relationships between apprenticeships and secondary schooling. In Germany the dual system is in fact part of secondary schooling. Apprenticeship in Turkey was until recently only available to 14-18 year olds, and was thus an alternative to secondary schooling. In most other countries, apprenticeship is seen as something that happens after secondary schooling, although in Australia and the US, apprenticeships can be undertaken as part of secondary schooling, but the numbers are small. In general, apprenticeships are open to anyone (subject to getting a job where apprenticeships are employment-based), although there is sometimes a requirement for school-leaving certificates. Countries that have higher levels of apprenticeship have additional educational requirements. In countries where adult apprenticeship is routine, there are normally no entry requirements for these. In Australia and England 'existing workers' or 'conversions', i.e., those already employed by a company, are quite common. In some cases, schemes are in place to prepare people for apprenticeships. In Australia these are called pre-apprenticeships; in Germany they are called 'school-based' or 'pre-vocational' programs 'and in England there is a scheme called 'Access to Apprenticeships'. These types of programs may be aimed at disadvantaged people (e.g. in England) or may be instituted simply to try to improve recruitment into apprenticeships (generally the case in Australia), allowing a portion of the training to be completed at a training provider, with, ideally, subsequent entry into a formal apprenticeship.

Pathways out of apprenticeships

Where the apprenticeship incorporates a formal qualification in the country's qualifications framework, people can progress to higher level qualifications. This is the case, for example, in Australia and in Germany, although articulation pathways are more common in some occupational areas than others; in Germany the

pathway is common in engineering. These qualification-based pathways are not related to employment. Higher education need not be something that happens after an apprenticeship. In France and India apprenticeships can include a higher education qualification and 'higher apprenticeships' are also a relatively new feature in England. It is also possible to move further along the employment-based path; for example in Turkey, graduating apprentices become journeymen with further apprentice-like arrangements. Completion of an apprenticeship is, in some countries, a precondition for employing or supervising an apprenticeship. In some countries, e.g. Germany, it is expected that some apprentices will progress to senior management positions in companies.

PARTICIPATION BY INDIVIDUALS

The make-up of the apprentice profile in a country rarely reflects the make-up of the working population. Women are almost always in the minority in apprenticeships, disproportionately to their labor market participation. England (54% of apprentice commencements) and then Australia (44% of apprentices in training) and Germany (41% of commencements) have the highest proportion of women in apprenticeships, with France at 31%. Several countries have only between 10 and 25% female participation, with Canada the lowest at 17%. Indonesia is reported to be predominantly male but no figures are available; and the different Egyptian schemes are also male-dominated. Several countries are reported to have introduced past or present initiatives to increase the proportion of women, but in general the gender distribution seems to reflect the gender distribution in the relevant 'apprenticeable' occupations, which are often dominated by men. For example in Canada only 3% of apprentices in building and construction trades are women. Generally, women predominate in service industry apprenticeships such as hospitality, aged care and women's hairdressing. In Germany, for example, only 10% of female apprentices, compared to 57% of male apprentices, are in 'production' occupations, whereas females predominate in 'service to people' occupations (2011 figures). Service industry apprenticeships have been areas of rapid growth in some countries recently, while in other countries they have always been recognized as 'apprenticeable' occupations. In some countries there is a belief among some stakeholders that the jobs undertaken predominantly by women are associated with inferior versions of apprenticeships.

Minorities and disadvantaged people

The US has a strong emphasis on participation by minorities, and it is currently over 40%. South African data show that non-white people are well-represented in apprenticeships (72% compared to 90% of the 15-64 population); a significant change from the former situation where apprenticeship was a white-dominated system, but it is still an under-representation. In Germany there are 'apprentice mentors' to assist disadvantaged young people find apprenticeships. In Australia, Group Training Organisations, while not focusing on disadvantaged people, tend to have a focus on helping disadvantaged young people. In South Africa, apprenticeship has been identified as a useful tool to combat unemployment, with 82% of apprentices unemployed before commencement, compared with 56% of the parallel 'learnership' pathway.

In relation to people with disabilities¹, the following data were provided for the proportion of apprentices with a physical or learning disability: England, 8%, Germany 2.2%, Australia 1.5%, and France 1%. The following types of special arrangements were identified:

ARRANGEMENTS FOR APPRENTICES WITH A DISABILITY	
Special schemes for apprentices with a disability	<p>England – Diversity in Apprenticeships projects</p> <p>France – People aged over 26, who are normally ineligible for apprenticeship, can undertake one if they are disabled, and can take longer to complete.</p> <p>Germany – extra funding for young apprentices with disabilities, for training and employers.</p> <p>US – Office Department of Labor toolkit to help young people with disabilities enter apprenticeships.</p>
Extra support for apprentices with a disability	Australia – supplied by training providers and Group Training Organisations
Admission requirements that can preclude people with a disability	<p>Egypt – There is a physical examination (but candidates can be admitted if the disability does not affect the particular occupation)</p> <p>India – Apprentice Act provides for a physical examination.</p>

¹ These data were collected separately and do not necessarily appear in the country case studies.

Countries identified as having no special provisions include Indonesia and Turkey.

ATTRACTIVENESS TO APPLICANTS

The relative attractiveness of apprenticeships to applicants varies across the countries and within the countries. In some instances the strong 'culture' that has developed in some industries means that these apprenticeships are seen to be more 'attractive' to potential applicants. This culture is bound up with the age and history of the industry, and its 'status' within the society.

A number of the countries report a difficulty in attracting good quality applicants. This is the case both in Australia and Turkey; in the latter country the perceived status of apprenticed occupations is low and there are ways to bypass the existing legal requirements of the apprenticeship system. In Turkey the lack of attractiveness of apprenticeships is compounded by the fact that entrants tend to come from the lower socio-economic groups, frequently are early school leavers, or have lower aspirations for further education and training. In contrast, Germany, with its very old traditions of apprentice training and its extensive legislative protections of both the employers and the apprentices, is regarded as offering attractive apprenticeships to its entrants, although the true picture is more complex, being heavily sector-dependent with marked differences between industry, crafts and trade apprenticeships. Large companies have hundreds of applications for places, but small companies in less attractive sectors (e.g. butchers or waiters) struggle to find apprentices. There are also geographical differences within countries in the ease with which companies can attract applicants or with which applicants can secure positions.

Similarly, in England the perceived status, and hence attractiveness of apprenticeships, varies with the sector of industry. Where there is a strong tradition of craft apprenticeship, occupational identity is stronger amongst apprentices and the attractiveness of the apprenticeship is higher to possible entrants. Similarly in Egypt the attractiveness of an apprenticeship is linked to the type of occupation, with tourism and catering heading the list. In this country, as in a number of the case study countries,

there have been a number of concerted initiatives to improve the status and credibility of apprenticeships in recent years.

A lack of compulsory certification in some trades has created disincentives to create apprenticeships

e.g. Canada. In India apprenticeships are not generally attractive as they involve a long period of study and work, they are manufacturing-oriented, employers pay poor stipends, and the social status of the apprentice is low. The fact that there are no clear pathways for articulation into further study is also an impediment.



This section provides an overview of the detailed apprenticeship arrangements in the eleven case study countries.

EMPLOYMENT STATUS

In almost all countries, apprentices are formally employed. In other words, a person cannot become an apprentice unless he or she has gained a job from an employer. Thus the system depends on employers being willing to offer jobs, or 'apprentice seats' as they are called in India. There may be minimum working-hours provisions; for example in England, the minimum weekly employment is 30 hours except where people cannot work those hours (e.g. some people with disabilities). In two countries – Egypt and South Africa – there are variants on apprenticeship where the participants are based in educational institutions and have periods of work placement or internship. In Australia, and more recently in England, third party employment is a feature of some apprenticeships: Group Training Organisations (in Australia) and Apprenticeship Training Agencies (in England) recruit apprentices and assume the role of an employer. The apprentices are then sent to host employers. The advantage of this arrangement is that an employer can 'return' apprentices if no longer able to provide them with work.

TRAINING PROVIDER

A training provider or school is involved in almost all cases. Generally training can be undertaken at a public training provider funded by the government or at a range of other training providers. For example in Canada the training might be at a public college, a private training provider or a union training centre; in France, the centres (known as CFAs) may be run by private organizations/bodies, companies or chambers. Similar options exist in other countries. Those countries with apprenticeships in their higher education system (England and India) involve training at a university. In Australia, companies and other organizations can be registered as a training provider and provide the 'off-the-job' training for their apprentices or trainees in-house. These in-house registered training providers are known as 'Enterprise RTOs' (Registered Training Organisations). In some countries there were reported issues associated with the quality of training at some training providers; quality issues were associated with both public and private providers.

Usually, apprentices are released from their jobs to attend sessions with the training provider, and typically this is for one day a week (e.g. Turkey) or equivalent time in block periods; generally apprenticeship legislation formalizes

the provision of training by a training provider (e.g. Indonesia). In many cases the period for which off-the-job training runs is less than the term of the apprenticeship; for example in Egypt the 'PVTD' apprenticeship scheme has on-the-job training only in the third year of three, while the first two years are predominantly off-the-job. In some countries (England and Australia, for example) training is allowed in some cases to be almost entirely on the job, although a training provider must oversee the formal training. Generally the latter arrangements are viewed as somewhat problematic, and England has recently introduced minimum off-the-job hours.

LENGTH OF TRAINING CONTRACT

The length of training contracts varies quite considerably. Generally countries have ranges. Ranges can be small (e.g. 2-3 years in Germany) or may be large (6 months-4 years in India). Lengths vary significantly across occupations. In some countries (Australia, England and the US) longer periods of 3-4 years apply for 'traditional trades' (construction and manufacturing) while shorter periods apply for service industries such as aged care. Shorter-term apprenticeships are sometimes criticized in these countries. In Australia, the newer apprenticeships, known as 'traineeships', are always shorter than traditional apprenticeships. In Turkey apprenticeships are always either two years or three years depending on the occupation, and where the apprentices have completed the full secondary education, terms are always halved. In some countries apprenticeships can be shortened if the apprentice has completed all required learning. The normal range across countries is between 1 and 4 years except for the shortest term in India.

QUALIFICATIONS

Usually there is a qualification that can also be obtained through other routes, although the qualification can be specific to an apprenticeship program (as in Canada). Qualifications are described at different levels on countries' systems, but where EQF equivalences were given they are at 2 (Turkey) and 3 to 7 (France). In two

cases (Canada and South Africa) there are no formally described qualifications, but instead trades tests were mentioned. In South Africa the trades tests are national, managed by a body known as INDLELA, and in Canada they are provincial but there is an interprovincial examination, known as the Red Seal, in 53 occupations covering over 80% of apprentices.

TYPES OF LEGISLATIVE AND ADMINISTRATIVE FRAMEWORKS/ NATIONAL HARMONIZATION/NATIONAL-REGIONAL INSTRUMENTALITIES

Every country reports complex regulatory, administrative and legal frameworks. Often responsibility for apprenticeship is shared among different ministries, typically a Ministry of Labour or Manpower, and a Ministry of Education, and very often there are differences among states, provinces or other regional jurisdictions. In Germany, responsibility is shared between the national government and the Federal States, while in France responsibilities are devolved to a local level. Systems can be hybrid: in the United States for example there is a federal Office of Apprenticeships, and 26 states have States Apprenticeship Agencies which assume some of the roles of the Office of Apprenticeship, while stakeholders in states without such agencies deal exclusively with the national Office. National harmonization is a feature of some recent attempts at reforms, so that stakeholders can be assured of equivalent competency of 'graduating' apprentices and so that apprentices and apprentice graduates can move freely within national borders to practise their occupation. In countries where differences remain, one way of dealing with the problem is at least to provide stakeholders, including would-be apprentices, with accurate data on the different jurisdictions. In Canada this is done via the so-called 'Ellis chart' which shows the features and provisions of apprenticeships in the different provinces.

There is generally an Apprentice Act (e.g. in India) or part of a broader labor code (e.g. in France), at the national level, that sets the framework for the system. It makes

regulatory arrangements for length of contact, employment, and may register apprenticeship occupations. Typically, national bodies manage the occupational standards (e.g. Skills Councils), the qualifications frameworks, and sometimes trades tests, if there are any. For example in South Africa the National Artisan Moderation Body oversees artisan training and assessment, which can be carried out either within or outside the apprenticeship system. In England a recent Act, the Apprenticeship, Skills, Children and Learning Act, has set out minimum standards for apprenticeship which are overseen by the National Apprenticeship Service, formed in 2009. Sometimes the arrangements in national Acts and bodies are apprenticeship-specific and sometimes arrangements are shared with other parts of the VET system.

SOCIAL PARTNERS (TRADE UNIONS, INDUSTRY GROUPS, CHAMBERS) AND THEIR ROLES

Industry/employer groups and trade union/employee groups play varying roles in national apprenticeship systems. It seems that these engagements operate in tandem, i.e. if employers are deeply involved, so are trade unions. In countries such as Germany, employers (through a national body, the Kuratorium der Deutscher Wirtschaft für Berufsbildung) and trade unions (through the DGB and also through national bodies of individual unions) are intimately involved with the operation of the apprenticeship system at the national level as well as locally through Chambers. A similar system operates in Turkey where the employer group TESK is active at the national level while at the local level there are local employer groups overseeing apprentice quality. These groups themselves are overseen by union groups at the provincial level. In France, the social partners design and update relevant qualifications and standards through the sectoral Professional Consultative Commissions. Also in France, local Chambers are involved in developing and approving their apprentices' 'liaison books', where training is recorded. Agencies, where they exist, have significant trade union representation. In Germany, works councils at the company level have input into firm-level arrangements. In some countries, either employer groups (e.g. Egypt, Canada) or union groups (e.g. United States), operate or 'sponsor' their own apprenticeship schemes. While trade

unions are weak in the US, over half of apprentices are in schemes with union involvement. In Indonesia, trade unions remain uninvolved with apprenticeships reportedly because of fears about exploitation; this concern also exists in India. In South Africa it is reported that the formal apprenticeship system is identified with the previous apartheid regime and exclusion practices by white trade unions, although greater participation by black people is now presumably removing this impression. In Turkey the Vocational Education Councils provide the platform for social partners to participate and to provide advice to the government departments. The Turkish Confederation of Tradesmen and Craftsmen represents 90% of the enterprises in Turkey, and where there is no apprenticeship offered officially through the government, the Ministry of National Education (MONE) tradesmen are responsible for training, assessment and certification. Similarly in Germany there is a strong integration of apprenticeship into the labor market and this means responsiveness to the needs of industry as the world changes. There is engagement of all employers in all industrial sectors and a strong engagement of social partners.

At an operational level, the extent to which third parties have a role to play in apprenticeships is different in each of the case study countries. In some instances the various stakeholders are involved both in the implementation of the apprenticeships and curriculum development through various groups such as Skills Councils (or their equivalent), unions, employers, and representatives of the various government departments concerned with apprenticeships and trainers. These collaborations work with differing levels of effectiveness in different countries. In some cases the existence of multiple stakeholders in the form of different government departments with different portfolios of responsibility can create gaps in the administration and effectiveness of the system.

Given the complexity of the arrangements that are in place for the implementation of apprenticeships the principle that there should be collaboration and communication between the stakeholders is an important one. In some countries this works effectively and in others it does not. Sometimes there is fragmentation not only at a government level but also at the level of the practical interactions related to the progress of the apprentice. It is also the case that in some instances the agreements between the

parties is quite complex and can be a deterrent to the employment of apprentices.

COMPLETION/RETENTION RATES

There seems to be great variation in completion rates. In some cases there is not much reliable data, but wherever either official data or survey data are available, there seem to be two groups of countries, with high and low rates of completion.

TPOLOGY OF COUNTRIES IN RELATION TO COMPLETION RATES

High rates of completion – 80% plus	Egypt, France, Germany, Turkey
Low rates of completion – around 50%	Australia, Canada, United States

It is interesting to note that the low-completion countries include those with both large and small apprenticeship systems.



Two issues are discussed here: the amount of wages or allowance paid to apprentices by employers, and the amount of funding provided by the government to support apprenticeships. There are large variations among countries in both of these matters.

TYPOLOGY OF EMPLOYMENT STATUS OF APPRENTICES

Apprentices paid as employees	Australia, Canada, England, France, Germany, South Africa, US
Apprentices paid, but not as formal employee	Turkey
Stipend/allowance only	Egypt, India, Indonesia

Among the countries that pay apprentices as employees, the US has relatively high wage rates while, for example, France has low wages that are set as a proportion of the monthly national minimum wage, the portion depending on age and year of apprenticeship. In some countries (e.g. South Africa, Australia), the wage differs among occupations and is linked to pay rates for that occupation. In Turkey the apprentice receives not less than 30% of the minimum monthly wage. In most cases, wages can be higher if negotiated through sectoral or company bargaining agreements. In the countries that pay stipends only, apprentices have their national insurance payments and similar ('social contributions') paid for them, and in the case of Indonesia, transport as well. In almost all cases the employer pays the wages (in India the government makes a part-contribution for higher level apprenticeships), but in some cases social contributions are paid by the government. Generally the cost of training at the training provider is borne by the

government, although in the case of the US, sometimes the cost has to be borne by other parties, and in Egypt the EFBCC (Employers' Federation) scheme in the building industry is financed entirely by the Federation. In England there is a plan, not yet enacted, to make apprentices aged 25 and over pay their fees to the training provider.

There are some incentives for employers. In Australia, England, France and South Africa, employers receive financial incentives for employing an apprentice. In Australia, some is paid up-front and some on completion. Canada (Ontario as an example) pays an incentive to companies when they register to become eligible to employ an apprentice. In other countries companies receive exemption from payroll taxes, the cost of providing social contributions for apprentices, or other concessions or exemptions. These payments and concessions are provided by national State/province or local government; in France they are funded by an 'apprentice tax' on all employers except individual professional firms (i.e. independent professionals). In South Africa there is a voluntary levy and only those firms who participate can access apprenticeship grants.

Canada (Ontario) pays direct financial incentives to apprentices, for progression and completion. In other countries some minor payments such as tools allowances are reported. Again these may be paid by different levels of government.

It should not be forgotten that governments generally contribute financially to apprenticeships by funding, fully or partly, the off-the-job training provided to apprentices.



Occupational coverage of apprenticeships is determined by a range of factors in each of the eleven case study countries. These include the history and traditions associated with apprenticeships, the organization of the apprenticeship system, and the ability of the system to respond to changing demographics, economic conditions and employer demands, and the exigencies of globalised markets. It is also the case that the use of the apprenticeship system varies between the countries. In some countries such as India and Indonesia, the system is used to help address a deep and profound skills deficit. In these instances apprenticeships may also be used to address the issues of economic development and global competitiveness. It may also be the case that an expansion of the apprenticeship system may be thought of as partially solving the raft of issues that have arisen in some countries as a consequence of large rises in youth unemployment or under-employment. All these motives are sometimes simultaneously present in considerations and policy decisions about the organization of the particular apprenticeships system.

THE RANGE OF OCCUPATIONS COVERED BY APPRENTICESHIPS

The table on the next page (Table 1.1) attempts to depict how, in each of the participating countries, these vocational disciplines match with the existing arrangements for occupational coverage provided by apprenticeships. The table has been derived from the case studies using the vocational categories specified in the UNESCO-UNEVOC (2004): Hangzhou Declaration – Vocational Disciplines.

Country experts were asked to indicate whether these areas were major, minor or ‘average’ areas for apprenticeship in their countries, in their formal systems. Compiling this table created some difficulty, as in many cases the country experts noted that the discipline areas did not match the occupational classifications in their own countries. The Declaration itself provides examples for each area (which were provided to the country experts), but these examples seemed to be limited and it was sometimes difficult for the country experts to judge the areas in which to place their apprenticeship occupations. The most difficult area seemed to be ‘business and administration’ which contained ‘services’ as an area. This seemed, for example, to be the only location for occupations such as hairdresser and beauty technician (which contain large numbers of apprentices, for example in Australia, England and Turkey). The shortcomings of this classification seem to point to a broader difficulty in comparing apprenticeship systems across countries, which, to some extent, relates to the problem of changing industrial structures within most countries and the fact that classification systems are structured around prior industrial structures. It should be noted also that the UNESCO-UNEVOC classification was developed in relation to VET teacher-training. Despite all these drawbacks, the table provides some useful information, albeit limited.

The detailed information within each country case study provides further insights into the range of occupations covered by apprenticeships. The range of formal occupational areas covered by apprenticeships varies from between 40 in Indonesia to over 1000 in the United States. However, these figures are somewhat

TABLE 1.1 CURRENT OCCUPATIONAL AREAS IN THE FORMAL APPRENTICESHIP SYSTEMS IN CASE STUDY COUNTRIES 2012, USING VOCATIONAL DISCIPLINES AS SPECIFIED IN THE UNESCO-UNEVOC (2004): HANGZHOU DECLARATION

Area	Australia	Canada	Egypt	England	France	Germany	India	Indonesia	South Africa	Turkey	United States
Business and Administration	✓ major	✓ minor	✓ minor	✓ major	✓ major	✓ major	✓ minor	✓ major	✓ minor	✓ major	✓ minor
Production and Manufacturing	✓ medium	✓ major	✓ major	✓ major	✓ major	✓ major	✓ major	✓ major	✓ major	✓ major	✓ major
Civil Engineering	✓ medium	✓ major	✓ minor	✓ major	✓ major	✓ major	✓ minor	✓ major	✓ major	✓ major	✓ major
Electrical and Electronic Engineering and Information and Communication Technology	✓ major	✓ major	✓ major	✓ average to major	✓ major	✓ major	✓ minor	✓ major	✓ minor	✓ major	✓ minor
Engineering and Energy Process	✓ minor	✓ minor	-	✓ average	✓ major	✓ major	✓ average	✓ minor	✓ major	✓ major	-
Health Care and Social Care	✓ medium	✓ minor	✓	✓ average	✓ major	✓ major	✓ minor	✓ minor	✓ medium	-	✓ minor
Education and Culture	✓ minor	✓ minor	-	✓ minor	✓ average	✓ major	✓ minor	✓ minor	-	-	✓ minor
Leisure, Travel and Tourism	✓ major	✓ average	✓ very limited	✓ major	✓ average	✓ major	✓ average	✓ major	✓ minor	✓ major	-
Agriculture, Food and Nutrition	✓ minor	✓ minor	-	✓ minor	✓ average	✓ major	✓ minor	✓ minor	✓ minor	✓ major	-
Media and Information	✓ minor	✓ minor	✓ very limited	✓ minor	✓ major	✓ major	✓ minor	✓ minor	✓ medium	✓ major	✓ minor
Textile and Design	✓ minor	✓ minor	✓ average	✓ minor	✓ average	✓ major	✓ minor	✓ major	-	✓ major	-
Mining and Natural Resources	✓ minor	✓ minor	✓ very limited	✓ minor	✓ average	✓ major	✓ minor	✓ major	-	-	✓ minor

misleading as they need to be balanced beside the number of apprenticeships that are actually available in each of the case study countries. For instance, despite the large number of occupational areas covered in the US, many cover only a small segment of jobs in the relevant occupation, and apprenticeship is not common in most of the twelve specified Vocational Disciplines.

Similarly in Canada the number of apprenticeships available represents less than 1% of the total National Occupational Classifications and 90% of apprenticeships

are clustered around the traditional trades such as construction, manufacturing and resource management. The range of jobs covered by apprenticeships also varies considerably with trade groupings, provincial location and gender.

In India, there are currently 404 occupational areas in which apprenticeships of different kinds are available. The majority of these are mostly urban and technical/manufacturing-oriented, and do not reflect the rural profile of small and micro businesses. At the other end

of the spectrum there is Germany with a strong and long apprenticeship system. In Germany the occupational coverage has been classified into three categories: industry, crafts and trade, and the system covers all of the 12 designated UNESCO-UNEVOC categories. There are strong links between the social partners, and this ensures a high level of responsiveness to changes in industry and a set of effective mechanisms for altering the occupational profile of apprenticeships training. A similar situation exists in Turkey, where the social partners participate in the planning, development and evaluation procedures through the Vocational Education Councils that operate at both the national and provincial levels. In England the government, rather than a consortium of interested stakeholders, decides which bodies are able to develop apprenticeships.

LICENSING AND ABILITY TO PRACTICE

The relationship between the completion of an apprenticeship and the ability to practise in the specified industry varies between the eleven case study countries. In countries with a strong formal apprenticeship system such as Australia, France, Germany or England, some occupations require the completion of an apprenticeship in order for people to be 'licensed' to practise their occupation. This is most common in certain of the traditional trades such as that of an electrician. A slightly different situation exists in Canada where occupations are classified as being compulsory or voluntary. Workers in a compulsory industry must usually be certified or registered as apprentices to practise in that occupation; by contrast, workers in a voluntary occupation need not be registered or certified to practise in that occupation, although a voluntary certificate may be used to indicate the competency of a worker. This is also the case in Germany. In the US, apprenticeships are set up to either meet or exceed state licensing and certification requirements. However, a problem arises since some state agencies do not automatically certify apprentices trained in other states. In Australia, in a slightly different form of regulation, employers in government regulated industries such as child care, aged care or the meat processing industry frequently offer traineeships, a form of apprenticeship, as a way of complying with government regulations relating to the accreditation of the employer to offer the service.

ADDING NEW OCCUPATIONS

This is a very current issue in many of the case study countries. The ability of the formal apprenticeship system to respond to changes, particularly in the structure of the economy and in technologies, has a profound influence on skill shortages in certain industries and the supply of trained labor to new and emerging industries. In some countries, such as the UK, very large new occupational areas have been accompanied by the creation of a virtually new apprenticeship system. In other countries the addition is incremental and ongoing, often through the social partners.

The relative 'ease' with which occupations can be added to the pool of existing apprenticeship occupational areas has an effect on both the credibility of the apprenticeship system and the flow of skilled and trained labor into new and emerging industries. The situation in some countries reflects a very different commitment to the activity of adding new occupations to the scope of apprenticeships on offer. In England for example there are now 200 apprenticeship frameworks with a further 118 listed as being developed. The political commitment to expanding apprenticeships has a practical expression in this process. This range of frameworks, along with the expansion into level 4 and 5 awards, means that apprenticeships are now, and will increasingly be, available in a greater number of jobs than ever previously was the case.

One of the complicating factors in adding new occupations to the apprenticeship offerings is the fact that the province, the state or a national organization, dictates occupational designations in some places. Reaching an agreement about the addition of new occupations can be complex, time consuming and not necessarily nationally consistent. In Canada for instance the provinces are driven primarily by industry, and individual differences reflecting geography are to be expected. In Indonesia the setting up of the Apprenticeship Forum that was meant to be operational in all 33 provinces, has had very uneven outcomes. In effect this means that there is no national apprenticeship system in place and there are multiple systems operating concurrently, which have some, but certainly not all, aspects in common.



The kinds of qualifications that are awarded and their portability and recognition, the existence or not of nationally or provincially recognized standards of competency, the process of curriculum development and the currency of curriculum vary a great deal across the eleven case study countries. This variation is contingent on a range of factors. In those countries such as Indonesia with a large informal economy, workers are trained by their employers for a specific industry, and for a specific employment purpose. Ninety percent of workers are employed in medium, small and micro enterprises and are trained in this way. Under such conditions curriculum, qualifications and explicit and documented competency standards are also informal. While a parallel and formal apprenticeship system does exist in Indonesia supported by a range of government ministries, there appears to be no evidence of a coherent system of apprenticeships. The monitoring of apprenticeships and aspects of the system like curriculum development are made difficult by decentralization and a lack of agreed policy for coordination. Under these conditions it is the employers who determine the levels of competency. In some cases official mechanisms do exist for collaborative curriculum-setting and refining. This is the case in Egypt where the model designed and implemented by the Productivity and Vocational Training Department (PVTB) is based on the idea that the development and monitoring of training curricula should be a co-operative activity between the department and the training company. However, the proliferation of private training providers and the

skill demands of the private sector employers have led to a decline in the number of people choosing this apprenticeship pathway.

At the other end of the spectrum in countries such as Germany, France, England and Australia there is a strong centralized system of apprenticeships with high degrees of regulation, though the regulations may be at different levels of government. This coherence is seen clearly in the processes that these countries have developed to ensure that the curriculum is relevant and current. In some cases the very strong ties between industry and the regulating bodies produce a process of curriculum 'maintenance' that ensures that what the apprentices are formally learning – both on the job and off the job – suits the current and emerging needs of industry. National accreditation, mutual recognition of the competencies that are to be achieved, and, in some cases, clear pathways for articulation into further education and training, contribute to both the credibility of the qualifications and the system. In Germany the currency of the curriculum is further ensured because the formal curriculum names the work-tasks that are typical for the industry area, and the enterprises have to create the individual program Vocational Profiles. This provides a great deal of industry-specific curriculum flexibility.

The currency of curriculum is a highly contested area of discussion in many of the case study countries, with employers often registering their discontent with the

training provided, with the scope of the curriculum and with the relevance of the apprenticeship skills to their particular industry or enterprise.

In countries where there is a high level of government regulation and coordination of apprenticeships there is also an accompanying national recognition and credentialing system in place. In France, for example, the *Repertoire National des Certifications Professionnelles* (RNCP) is the repository within the National Qualifications Framework where all qualifications are registered and updated. This does not, however, necessarily translate into uniform curriculum specifications: the outcomes or competencies

are specified and assessed, but the methods of delivery and the choice of pedagogy remains the responsibility of the training providers.

By contrast in India there is no active participation of chambers of commerce and industry, trade unions and associations in the Apprentice Training Scheme. Even the employer has a low level role to play, and this is the same in the curriculum revision and development. As a consequence apprentice training does not reflect current practices. As there is a compulsion in India for certain employers to take on apprentices, this seems unfortunate.



LEVELS OF PARTICIPATION OF ENTERPRISES

Figures are not readily available for the proportion of enterprises participating in apprenticeships. It is suggested that in countries where there is a large pool of informal apprenticeships the level of participation by enterprises of all sizes is quite high, but this is even more difficult to quantify than participation in the formal system.

While all of the case study countries have apprentices in private industry and commerce, there is less uniformity in the extent to which government departments and instrumentalities are allowed to, or do, employ apprentices. Clearly these variations can significantly affect the numbers of apprentices and of participating organizations, since some countries have large public services. The following data were provided from the case study countries².

AVAILABILITY OF APPRENTICESHIPS IN THE PUBLIC SECTOR

Apprenticeships available in government departments	Australia, England, Canada, Egypt only in nursing; France, Turkey (small numbers), United States only in occupations like fire service, corrections and the military
Apprenticeships available in government-owned instrumentalities e.g. utilities	Australia, England, Egypt, France, Germany, South Africa

In some countries, like Australia and South Africa, government and government-owned instrumentalities are seen as important in growing apprentice numbers.

WHO CAN EMPLOY APPRENTICES?

Apprentices can be employed by any industry or enterprise without any form of legal registration, in those countries that have a large informal apprenticeship system. In other countries with formal systems, there may or may not be regulations according to which companies can employ apprentices.

In most countries the formal apprenticeships system regulates the possible employment of apprentices, although this regulation is more or less strict, depending on the country, and may or may not be enforced. Different bodies are involved: chambers of commerce, official departments of government, and quality assurance agencies. The relative success of these activities is contingent on the amount of government and industry support that these groups and agencies receive. In Canada, for instance, there needs to be a certain number of qualified staff before industry or enterprise is eligible to recruit apprentices. Further to this, the Apprenticeship Act designates an occupation as an apprenticed trade or not, and thereby controls the possible employment of apprentices. In Australia, on the other hand, there are no specific regulations attached to the nature of the employers who can accept apprentices or trainees, but those who organize and oversee the apprentice/trainee contracts (Australian Apprenticeship

² These data were collected separately and do not necessarily appear in the country case studies.

Centres) are meant to confirm that supervision by appropriately qualified staff is adequate.

In some cases the qualifications and experience of the employer or certain employees are the determining factors. In France, for instance, the apprentice master must hold a qualification at least equivalent to that targeted by the apprentice and have prior occupational experience of at least three years.

In Canada, an apprentice works under the supervision of a qualified journeyman who is licensed to supervise apprentices. Similarly in Turkey, apprentices must be under the supervision of 'master trainers' who are responsible for monitoring their work-based development. A similar system applies in Germany. In these countries the master trainer must have completed an apprenticeship, higher level vocational training and a (short) course in pedagogy. In other countries such as India and Indonesia, the teaching workforce available to provide training is generally agreed to be, inadequate and this has an impact both on the quality of the apprenticeship learning and the perceived status of apprenticeships on general.

SUPERVISION RATIOS

Supervision ratios are specified in some countries and these may or may not be abided by. In the case of informal apprenticeships these ratios are determined by the size of the enterprise and the demand for particular skills and the availability of labor.

In other countries the supervision ratios are legally stipulated. For instance in Canada, the number of trained staff determines the number of apprentices who can be employed. Similarly in India the number of apprentice placements in each region is officially set and is determined on the basis of the prescribed ratio of apprentices to workers and the availability of training facilities.

RESPONSIBILITIES OF THE EMPLOYER, INCLUDING LEGISLATIVE RESPONSIBILITIES

The range of legislative responsibilities that employers have for their apprentices varies a great deal across the eleven countries. In some instances there are no

formal or employment contracts that protect the rights and conditions of the apprentice. Employers may offer some forms of social protection but this usually occurs after the apprentice has become a full-time employee. Employers in small, medium and micro businesses may have little interest and there is no compulsion to engage with legislative requirements even if they do exist. In Egypt, training contracts inside the formal apprenticeships system are not entered into until the third year of the apprenticeship and these are contracts between the apprentice and the training company.

In other countries the legislative and other responsibilities of employers are set out in a complex array of industrial laws. These laws may include the formal contract for apprenticeships that sets out the respective obligations and responsibilities of each party. The contract is usually registered with a government agency responsible for apprenticeships. The contracts are generally registered. In some places such as England, Canada, France and Australia, the formal signing of the contract entitles both the apprentice and the employer to government subsidies and incentives of various kinds. For instance in Canada, the signing of the contract may mean that apprentices may be eligible to receive Employment Insurance benefits.

INCENTIVES FOR EMPLOYERS

In some countries employers receive incentives from public authorities in the form of exemptions from taxation, payments for each apprentice recruited (for example France, Australia), payment of social security insurance, payment of a recruitment premium and a compensation for training provision depending on the size of the enterprise or the particular skill area. CFAs in France, for instance, benefit from public funding which covers part of their teaching and training. In Canada, there is an extremely high level of financial support to apprentices and their employers, although these vary across provinces and territories. These may take the form of tax credits, a signing bonus, and subsidies for the wages of apprentices. In England, the funding for apprenticeships has been reduced and this level for incentives are now related to the age of apprentices employed: the older they are the less government support is available. This represents a view that young people should have preferential access to apprenticeships.



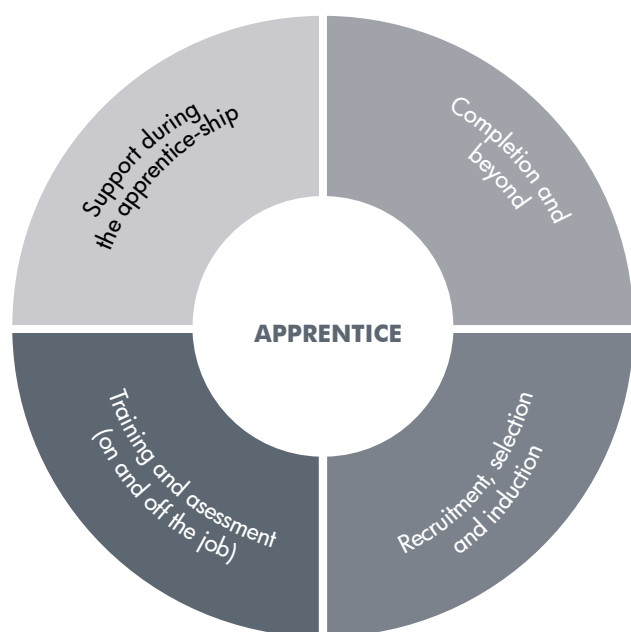
One way of organizing the description of apprenticeship arrangements in the case study countries is to analyze the various stages in the 'apprenticeship life cycle' using the diagram below as a guide to this description. The lifecycle concept was developed in an Australian research project on traineeships (Smith et al, 2010) and is designed to represent the processes that relate to individual apprentices entering, undertaking and completing their apprenticeships, incorporating all the people and bodies

that engage with those apprentices. It does not address the arrangements that sit outside these interactions. The four phases (Figure 1) are:

1. Recruitment/sign-up/induction.
2. Training delivery and assessment.
3. Support during the traineeship.
4. Completion and beyond.

As Figure 1 shows, the 'life cycle' has a number of phases, and the arrangements in each of these phases clearly demonstrate the differences among the country apprenticeship systems.

FIGURE 1.1 THE APPRENTICESHIP LIFE CYCLE



RECRUITMENT, SELECTION, INDUCTION AND CONTRACTING ARRANGEMENTS

Recruitment and induction in some countries is a detailed and important set of processes with the companies or enterprises spending time and energy on attracting apprentices who are sometimes screened for 'appropriateness of match' to the particular industry. Induction of apprentices in some countries is also a widespread practice and often this is undertaken to help ensure retention of apprentices within the relevant business.

In other countries recruitment is a process of matching an applicant with a particular employer and a panel or coordinating group at a local or provincial level may

carry out this activity. In most countries employers directly recruit apprentices based on their particular labor needs at any given time. In India, for example, the employer advertises to recruit apprentices or recruits using references from other parties. In Canada, the provinces and territories require apprentices to complete a probationary period before entering into an apprenticeship arrangement. Some countries have 'pre apprenticeship' programs, off-the-job programs which prepare people wanting to enter into an apprenticeship. The onus to find an employer then lies with the apprentice. Germany, Australia and Canada have such programs.

Contracting arrangements also differ markedly across the countries. In some instances formal legal and binding contracts between apprentices and employers are entered into at the beginning of the apprenticeship. Some of these may be in the form of employment contracts. For instance in Germany, from the moment at which the apprentice is contracted, he or she is considered an employee. The employer's duties and responsibilities are defined, as are those of the apprentice. In other countries there is either no contract, or a contract is not entered into until the apprentice has completed a period of employment within the business.

Australian Group Training Organisations take some of the onus off employers by performing the direct employment function and assuming the risk of keeping the apprentice employed for the period of the contract. They employ about 14% of Australian apprentices. They are therefore responsible for recruitment and induction, although employers, generally, also interview the candidates.

TRAINING AND ASSESSMENT

The proportions of on-the-job and off-the-job training that apprentices experience vary both in and between the countries. The quality of these two components of an apprenticeship can be variable. A lot depends on the context in which the apprenticeship is being carried out.

In a number of cases, training and assessment are determined and controlled centrally through the development of provincially or nationally agreed curriculum, frequently based on the articulation of competencies which have been developed with extensive

external input. For most of these cases assessment is a continuous process, as the apprentices progressively demonstrate the acquisition of skills and competencies – both on-the-job and off-the-job. In a number of cases this assessment is supplemented by a final examination that is external to both the training provider and the workplace supervisor/master. This examination is the last step in the accreditation of the apprentice to practise their trade.

In dual systems involving both on-the-job and off-the-job training, the training provider (which may be public, private or a confederation of employers) has a designated and discrete set of teaching tasks, and the on-the-job trainer is expected to provide an environment that is conducive to the learning of the apprentice. In dual systems such as in Australia, Canada, Germany and Turkey, a workplace supervisor may assess, or assist in the assessment of, the apprentice's competence at work against competencies that have been agreed. The training provider will attest to the apprentice's theoretical competence. Apprentices usually need to complete a prescribed set of hours on the job. The off-the-job trainer is sometimes closely monitored and accountable inside a legislative and audit environment, for example in Turkey. In Turkey, master trainers are in charge of undertaking the training of apprentices on the job and they must attend 40 hours of pedagogical training. In England, the educational inspectorate Ofsted carries out the inspection of 'work-based learning providers', and clearly this is more rigorous than in many other countries.

In both England and Germany, and to some extent in Australia, companies share apprentices in an effort to address the restrictions on training that come with a small-scale enterprise. Big companies sometimes work with smaller companies. Many large companies such as Volkswagen in Germany have established their own departments to deliver and assess training.

Assessment methods vary across the countries. In Germany, for instance, assessment is carried out by the Chambers that develop the tasks, supervise the process and guarantee the quality standards. All social partners agree. Or it may be company-specific. In other countries assessment is a mixture of on-the-job and off-the-job assessment, with each of the partners involved having

clear lines of responsibility and accountability. In the case of informal apprenticeships the employers sign-off that the apprentice is competent, with little reference to any outside standards or criteria.

In several countries apprentices receive a qualification within the country's national qualifications framework. This is not always the case. In Turkey, for example, a system is being implemented for legal accreditation of institutions that can examine and certify apprentices. Certification for apprentices varies between the countries. In Canada, for instance, where there are variations in the apprenticeship systems between provinces, certification is a problem. The individual province or territory will issue the Certificate of Apprenticeship. Then the candidate will sit for an external examination for the relevant trade qualification. In this case a national Red Seal program has set up countrywide standards that allow a journeyman to practise across the provinces. This means that industry has determined a common set of standards and competencies for a trade and that at least two provinces and/or territories have agreed on these standards. In India there is a Trade Test administered by the National Council for Vocational Training.

In some countries there are forms of documentation supported by legislation that encourage co-operation among the different stakeholders involved in the apprentice's progress. This documentation may include booklets or log books that enable the training provider and the employer to tailor the training in the different locations to best suit the apprentices, to link the on-the-job and off-the-job components of an apprentice's training and to open the progress of the apprentice to outside scrutiny by funding agencies or government department representatives.

SUPPORT

During the life-cycle of an apprentice, support from various sources may be available to increase the chances of the apprentice completing his or her term of contract, and to help assure that the skill level attained at the end of the apprenticeship is as high as possible. The 'dual' model

where apprentices receive training at or by an external training provider, in addition to the employer, helps in both respects.

External training not only broadens the outlook and the skill set of the apprentice, but also provides the apprentice with a peer group and other experts for support. Among the case study countries, France appears to make the support role of the training provider most clear, in the provision of a 'pedagogical-referent tutor' for each apprentice at the training provider. This person's role is that of a quasi-case manager. In Australia and England, the 'case manager' model is seen most commonly where apprentices are employed by Group Training Organisations (Australia) and Apprenticeship Training Agencies (England). Other models are apprentice masters in large companies with established and large-scale apprenticeship systems, or a committee made up of a group of employers/chambers and so on. It is likely that such models are based on assumptions that the apprentice is a young person who needs assistance adjusting to working life and socializing into the occupation at the same time as developing skills.

Where difficulties arise during an apprenticeship, there may be a government department to intervene or investigate.

COMPLETION AND BEYOND

Beyond completion, in some countries (e.g. Australia) it is common for completed apprentices to remain with their companies, but in others (e.g. India) it is not. There are also variations in the extent to which qualifications can be built upon, either through further training linked to the apprenticeship system (e.g. journeyman training) or through off-the-job qualifications.

In Turkey, a business can only, in theory, be set up where the owner has completed the 'Masters' qualification which is gained by completing the post-apprentice journeyman training. This not only proves the eligibility of the business to employ apprentices, but also acts as an incentive for people to undertake apprenticeships.

KEY ISSUES IDENTIFIED BY COUNTRY EXPERTS



The country experts were asked to identify their perceptions of strengths, weaknesses, current issues and policy developments in apprenticeship systems in the country about which they were writing. A summary of their responses is provided in Table 1.2 which can be found on the next two pages.

TABLE 1.2 KEY ISSUES NOMINATED BY COUNTRY EXPERTS

Country experts' views of their apprenticeship system's strengths, weaknesses, issues and policy developments

	Common to more than one country	Country-specific
Strengths	<ul style="list-style-type: none"> • Participation rate (Turkey, UK, Germany, Australia, France) • High retention/completion rate (Turkey, Germany, France) • Qualifications/credentials (Australia, Germany, US, Egypt, France) • Structure for small industry (Germany, UK 'Good' policy) • Wages paid to apprentices (several), sometimes as proportion of minimum wage • Engagement in system – stakeholders (Australia, Germany) • Superior/productive workers (Germany, Indonesia) • Employer benefits – productivity/recruitment/training/flexibility/retention (US, Indonesia, UK) • Graduate employment (Egypt, Germany, France) • Image/brand (Germany, Australia) 	<ul style="list-style-type: none"> • Opportunity extended to a greater age range (UK) • Contributed to skills pool/quality (Indonesia) • Meets business needs (Indonesia) • Instills company values (Indonesia) • Career development (Indonesia) • All people/industries (Australia) • Integration with labor market. (Germany) • Pragmatic approach for companies (Germany) • Specialist companies can work with others (Germany) • Companies support model/recruitment (Germany) • Established legal structure/regulations (Turkey) • Government provides insurance/cover • Best performing component of system. (France) • Progression through levels facilitated (France) • Facilitates transition school to work (France) • Sponsors recommend program (US) • Devoted stakeholders and staff (Egypt)
Weaknesses	<ul style="list-style-type: none"> • Pathways to higher education (Australia, Germany, Turkey, Egypt- under 'Issues') • High attrition rates for apprenticeships (Australia). For Germany and France high attrition for some sector/regions/participant groups only. 	<ul style="list-style-type: none"> • Parity between age groups (UK) • Equivalence across sectors/quality (UK) • Legislation contradicts/overlaps (Indonesia) • Some stakeholders not involved (Indonesia) • Training quality – on-the-job (Australia)

	Common to more than one country	Country-specific
	<ul style="list-style-type: none"> Female/minority/immigrant participation rates and barriers (Australia, Turkey, Canada) Government support (US, Egypt) Linkages with schools/school leavers/career guidance/awareness (US, Germany, Egypt, Canada) Bias towards university (Canada, US- under 'Issues) Differences in national/federal and state/provincial with regard to apprenticeships (Indonesia, Germany, Australia) Funding (UK, US) Complexity of system (Canada, US) Assessment issues – confidence, standardization (Australia, Canada) Variety of national schemes (Egypt, Turkey) 	<ul style="list-style-type: none"> Unevenness among occupational areas (Australia) Resistance by stakeholders to change (Australia) Attention to training at national policy level (Australia) Coordination – school/company weak (Germany) Insurance cover is not available for journeymen (Turkey) Scale of system (US) Limited resourcing (US) Employer attitudes (Canada) Administrative load (Canada) Inflexible (Canada) Lack of compulsory certification (Canada) Balancing quality, learning and flexibility (UK) Small size of schemes (Egypt)
Issues	<ul style="list-style-type: none"> Quality of candidates (Canada, Australia, Germany) Issues for small businesses (Canada, Indonesia, France) Equipment available (India, Turkey) Perceptions/status of apprenticeships (Turkey, Canada, India, Egypt, Canada, US) Impact of wages/income interruption (France, India, Canada) Under-represented groups – young women, Aboriginal people, minority groups (UK, Canada) Concerns about quality (Canada, UK) Impact of economic downturn/high unemployment/labor market (Egypt, Canada, Germany) Employer concerns and participation (Australia, Canada, US) Broken contracts/employment assurances (France, India) 	<ul style="list-style-type: none"> Coherent framework (Indonesia) Too much legislation (Indonesia) Opportunities for youth (Indonesia) Consistency of curriculum quality (Australia) Status across occupational areas (Australia) Value for money – government investment (Australia) Challenges by EU and government (Germany) Increase prevalence without becoming too academic (Germany) VET low priority (India) Teacher/trainer shortage (India) Does not cover service sector (India) Lack of vertical qualification mobility (India) Obsolete/inflexible curriculum (India) Lack of convergence between agencies (India) Formalize informal apprenticeships (Turkey) Monitoring/consulting system (Turkey) Mobility across provinces (Canada) Stakeholder partnership, not sole government responsibility (Egypt) Incorporating new forms of apprenticeship into standard apprenticeship system (UK, France, Australia)
Policy developments viewed as helpful	<ul style="list-style-type: none"> Government funding/incentives for apprenticeship initiatives (UK, Australia, US) Initiatives to address age/gender/ethnic issues (UK, France) 	<ul style="list-style-type: none"> Expansion of system- traineeships (Australia) Consistency in qualifications (Australia) Research/statistical collections (Australia) Coherent set of knowledge, skills, competences (Germany) Curriculum model – VET schools/industry (Germany) Assessing: A company-specific task (Germany)

Common to more than one country		Country-specific
Policy developments viewed as less helpful		<ul style="list-style-type: none"> • Development of standards – modular system (Turkey) • Policy – institutionalize modern apprenticeships (Egypt) • Gov recommendation – alternatives to employment ratios (Canada) • National body promoting apprenticeship system again (South Africa)
	<ul style="list-style-type: none"> • Confusion amongst stakeholders i.e. funding, certification, the system (UK, Australia, Turkey, South Africa) 	<ul style="list-style-type: none"> • State/Territory – divergence in policies/arrangements (Australia) • Law circumvents requirements for mastership certificates (Turkey) • Change in primary education – impacts on apprenticeships (Turkey) • Shortening/reducing of profiles (Germany) • ECVET (credit points, assessing of units) (Germany) • Funding for employers/initiatives (UK)



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Smith E., Comyn P., Brennan Kemmis R. & Smith A. (2009). *High quality traineeships: identifying what works*. Adelaide: NCVER.

UNESCO-UNEVOC (2004), *International framework curriculum for a master degree for TVET teachers and lecturers*, International Meeting on Innovation and Excellence in TVET Teacher Education, November 8-10, 2004, Hangzhou, China.

Country-specific references are provided in the individual case studies.

PART 2



Framework for a Model Apprenticeship System



The proposed framework draws together identified good practices from the eleven case study countries. The framework consists of:

- ▣ A set of principles under nine major headings.
 - ▣ A listing of possible measures of success under four major headings (engagement, quality, outcomes and public policy), and associated challenges.
 - ▣ Factors to be considered when expanding a country's apprenticeship system.
- ▣ Apprenticeships available in rural and regional as well as urban areas.
 - ▣ Clear pathways for school-leavers.
 - ▣ Pathways for disadvantaged people and for people without necessary entry qualifications.
 - ▣ Availability of off-the-job programs to facilitate entry to an apprenticeship.
 - ▣ Pathways into apprenticeship (and beyond) are clear and well-publicized in ways that reach all potential candidates.

PRINCIPLES

The following principles should underpin a model apprenticeship system. However, it is recognized that in practice not all countries could adopt all of these principles.

Occupational coverage

- ▣ Apprenticeships available in all industries.
- ▣ Apprenticeships available in a range of occupations, particularly those that are typically undertaken by women as well as men.

Participation

- ▣ Apprenticeships open to people of either gender and all ages.

National government structures

- ▣ National policy emphasis is both on training aspects and on employment aspects of apprenticeship.
- ▣ Good liaison between government agencies responsible for different aspects of the apprenticeship system.
- ▣ Where responsibilities lie with states and provinces as well as national governments, the relative responsibilities are well-defined and publicized.
- ▣ Rigorous qualifications that are regularly updated.
- ▣ Collection of appropriate data about apprenticeships.
- ▣ Systems make provision for apprenticeships in different geographical areas (e.g. rural as well as urban).

Stakeholders

- ▣ All major stakeholder groups (employers, training providers, employer groups and employee associations/trade unions are involved in the development and maintenance of apprenticeship regulation and structures.
- ▣ A commitment to collaboration among the various stakeholders.
- ▣ System for adding new occupations to the apprenticeship system according to specified criteria, with specific stakeholder bodies having responsibilities to notify new occupations.

Quality systems

Training providers

- ▣ Training providers that are subject to quality regimes including audits.
- ▣ Content of qualifications is viewable on the internet.
- ▣ Requirements for qualifications/training for teachers in training providers.
- ▣ Trade testing at the end of the apprenticeship that is managed externally to the enterprise and the training provider (e.g. national 'Red Seal' system in Canada and local examination board in Germany).

Employers

- ▣ A registration scheme for enterprises/employing organizations offering apprenticeships, with requisite criteria; proportionate criteria (i.e. less stringent) developed for SMEs, especially micro-businesses.
- ▣ Supervision ratios in companies, which are communicated and enforced as part of maintenance of registration.
- ▣ Requirements for qualifications/training for in-company trainers.
- ▣ On-the-job training subject to some form of overseeing.

- ▣ Continuing up-skilling programs for company trainers and teachers.
- ▣ Involvement of employer associations or groups and employee associations or trade unions at national and local level in apprentice systems.
- ▣ Employers should be able to apply for registration as a training provider for off-the-job component of apprenticeships.

Simplification

- ▣ Harmonization across jurisdictions to enhance mobility and improve understanding of systems.
- ▣ Consistency of contract periods (at least no more than two or three set lengths).
- ▣ Clear delineation of responsibilities of the employer, the training provider and the apprentice.
- ▣ Removal of parallel systems with the same country where feasible; or if not, clear communication processes.

Incentives

- ▣ Financial incentives for enterprises to participate, subject to monitoring of satisfactory performance including audits.
- ▣ Additional incentives for employers to employ disabled or disadvantaged people as apprentices.
- ▣ Public funding for training providers – wholly or partly funded for apprenticeship training – but could arguably be financed by student loans system.
- ▣ Discounted wages for apprentices (either a lower overall rate or non-payment while at off-the-job training), but within the discounted range, higher wages for mature-aged people.
- ▣ Payment of social contributions for apprentices by the State.
- ▣ Financial incentives to apprentices to complete their contracts and to employers who continue to employ their apprentices on completion.

Provisions for the apprentice

- ▣ Assistance in meeting entry requirements and/or learning support once employed.
- ▣ Employed status within an enterprise.
- ▣ An increase in pay over the period of an apprenticeship and a higher rate of pay on completion.
- ▣ A combination of on- and off-the-job learning with around 20% of time at a training provider.
- ▣ A chance to mix with apprentices from other enterprises.
- ▣ Attainment of a recognized qualification.
- ▣ A training plan within the company.
- ▣ Opportunities to experience different workplaces if in a limited environment.
- ▣ A 'case manager' to oversee progress in off- and on-the-job training (e.g. 'pedagogical referent tutor' in France).

- ▣ Opportunities to switch employers for good reason.
- ▣ A chance to progress further to higher level employment or self-employment.

Support for employers and apprentices

- ▣ Provision to enterprises of suggested workplace curriculum.
- ▣ Cohort management systems within or across enterprises.
- ▣ Support for small and medium enterprises, through structured arrangements, by specified bodies.
- ▣ Support for employers rather than punitive measures for non-compliance.
- ▣ Easily-available information about the system for would-be apprentices and employers (e.g. Ellis chart in Canada).
- ▣ Fall-back system for apprentices whose employer can no longer afford to employ them (e.g. GTOs in Australia or interim 'out-of-trade' arrangements).



These are presented in Table 2.1 under four major headings, with the success measures and challenges matched in the broad areas (not to specific points).

TABLE 2.1 MEASURES OF SUCCESS IN A MODEL APPRENTICESHIP SYSTEM, AND ASSOCIATED CHALLENGES

Measures of success	Common and specific challenges
Engagement <ul style="list-style-type: none"> • Proportion of workforce in an apprenticeship (e.g. 3% +) • Proportion of school-leaver cohort in an apprenticeship (eg 10% +) • Proportion of employers engaged in the system • Distribution across a range of occupations • Participation rates between the genders relatively equal (and women not confined to lower-level qualifications or lower status occupations) • Participation of minority groups and people with disabilities 	Engagement <ul style="list-style-type: none"> • Marketing to potential applicants can be a problem especially where VET has low status and/or some particular occupations have especially low status • Marketing to employers who have previously not engaged with the system • Adding new occupations can be lengthy and limit engagement • Gender stereotypes • Paying apprentices an appropriate wage to encourage individual engagement while not discouraging employers • Appropriate access for apprentices with disabilities/other disadvantage • Uneven geographical distribution of appropriate employment • Developing a registration system for employers
Quality <ul style="list-style-type: none"> • Expectations of the parties described and signed for • On the job employment experience is appropriate and rewarding for the apprentices • Effective pedagogical processes on the job • Effective pedagogical processes off the job • Calibre of 'graduates' • Industry acceptance of 'graduates' across the board (not just from particular employers) • Requirements for, and enforcement of, qualifications of teachers/trainers • Nationally-developed and current curriculum • Training and learning resources 	Quality <ul style="list-style-type: none"> • Developing registration and training systems for employers • Developing an appropriate contract that is acceptable to all stakeholder groups • Benchmarks for quality of employment and training experiences • Systems to measure/evaluate quality of employment and training experiences • Ability to recruit good teachers/trainers • Development of employers' skills in induction, training and apprentice management processes • Informal apprenticeship may be short-term and volatile

Measures of success	Common and specific challenges
Outcomes <ul style="list-style-type: none"> • Proportion of apprentices completing (e.g. 75% +) • Proportion of apprentices getting a permanent job with their employer • Proportion going on to higher qualifications within X period of time 	Outcomes <ul style="list-style-type: none"> • Effective but easily-used management systems within companies to improve completion • Sufficient rewards for completing apprenticeship, e.g. permanent work, higher pay, access to higher level qualifications • The VET system may lack higher level qualifications and/or higher education providers may resist articulation arrangements
Public policy <ul style="list-style-type: none"> • Value for money – cost of policy measures versus fiscal or social benefit • Involvement of industry at several levels • Industry reports adequate supply of skills • Proportion of 15-24 year olds in apprenticeships • Reduction in youth unemployment • Lower levels of skills shortage 	Public policy <ul style="list-style-type: none"> • Informal systems operate outside public policy purview • Adequate data collections on which to base policy • Young people may not be situated near to suitable employment • Employers may be resistant to recruiting disadvantaged young people to apprenticeships • Social aims of apprenticeship may conflict with skill demands of industry



This section briefly describes some factors to be considered when a country expands its apprenticeship system. This is an important issue as currently many countries are seeking to expand their systems owing to recent increases in unemployment due to the Global Financial Crisis (GFC). A number of successful expansion strategies were identified and are listed below:

- Promotion of the brand of apprenticeship by governments, particularly in countries where the status of apprenticeships is low.
 - Introduction of third-party employers (e.g. Group Training Organisations in Australia).
 - Promotion of apprenticeships as a valued school-leaving pathway with deep connections into secondary schools.
 - Education of secondary school and other careers staff about apprenticeships.
 - Strategies to increase participation by minority groups.
 - Pathways to higher level qualifications so that people do not feel the choice is final.
 - Broader and deeper engagement of stakeholders in system.
 - Encouragement through industrial relations or other systems for apprentice qualifications to form the basis of recruitment to jobs and/or be rewarded with higher pay.
 - Transparent and consistent counter-cyclical measures to address recessions.
- However, there are risks associated with rapid expansion. Experiences of countries trying to increase their apprenticeship rates suggest the following potential risks:
- A rapid increase can lead to quality problems.
 - Employers may be persuaded to participate without being fully aware of their responsibilities.
 - Completion rates may be low unless quality is properly managed.
 - Rapid establishment in new occupational areas without a tradition of formal training can lead to the risk of low-quality qualifications and workplace curriculum which can be hard to shift later, leading either to persistent negative perceptions of the occupation and the apprenticeship, or to rapid and confusing policy shifts to address the problem.
 - The establishment of 'differently-badged' systems should be avoided, as it can lead to the newer systems being viewed as inferior, and such perceptions are difficult to shift subsequently (examples: traineeships in Australia, 'modern apprenticeships' in England).
- Extensive stakeholder consultation and involvement can assist in reducing risk.

TABLE 2.2 WORK-BASED AND SCHOOL-BASED APPRENTICESHIP SYSTEMS**BASIC DIFFERENCES BETWEEN WORK-BASED AND SCHOOL-BASED APPRENTICESHIP-TYPE SCHEMES**

Mainly work-based	Mainly school-based
Training in enterprises $\geq 60\%$	Training at school $\geq 60\%$
Companies offer places	Training centres and students search for companies
Students actively search for places	
Work contract: Enterprise-Apprentice	Training agreement: School-Enterprise
Apprentice = Employee	Apprentice=Student
High share of financing by enterprises	Public sector main source of funding
Apprentice receives remuneration	Apprentice may receive compensation
Companies define training plan	Schools establish training plan

Source: European Commission (2012), *Apprenticeship supply in the member states of the European Union, Final report*. Luxembourg: European Commission

Establishment of a school-based system to increase numbers may be an appropriate strategy, and the two types of systems can be quite close. Table 2.2, from the European Commission report on apprenticeship supply shows the main points of difference (although this is a simplified comparison which does not reflect all the nuances we found in the country case studies).

However, the two great advantages of an employment-based system are as follows:

- ▣ The demand for the job is present (otherwise the employer would not participate).
- ▣ By paying wages, even a small amount, the employer is making a financial commitment to success.

PART **3**



Country Case Studies



Australia

Erica Smith



INTRODUCTION

Australia has a population of just over 22 million, which has experienced steady growth, primarily through migration. Approximately 150,000 people immigrate permanently each year, with a greater number of people on short-term visas for work or study. The population is gradually ageing, with nearly 14% currently aged over 65, 67% aged 15 to 64 and almost 19% aged 0 to 14 (Australian Bureau of Statistics, 2012). Australia is remote from other 'western' countries, except for New Zealand, and is increasingly becoming closer economically and socially to the developed and developing countries of Asia.

Australia's economy is currently strong, due to a mining boom which has been long-lasting. While Australia has always done well from mining, the current boom is unprecedented. However, some sections of the economy are not doing so well, leading to the term 'two-speed economy' and sometimes 'multi-speed economy'. For example, manufacturing (now Australia's fourth largest industry in terms of employment) has suffered from the Global Financial Crisis and the subsequent exchange rate movements; and retail, Australia's second largest industry, experienced a downturn following the 'second wave' of the GFC in 2011. Recently, health care and social assistance took over as the industry employing most workers (12% of national employment) (Department of Education, Employment and Workplace

Relations [DEEWR], 2012). Mining employs only 2% of the employed population, but its workforce, nearly all men, has grown by 75% in the past five years.

Australia's prosperity is not evenly distributed geographically; Western Australia and, to a lesser extent Queensland, are prospering as the areas where the minerals are mostly located. Workers who have completed traditional trade apprenticeships are particularly in demand in these locations. The south-eastern part of Australia – the most populous – is doing less well. Many thousands of workers fly in and out of the mining areas – which are mostly in remote locations – from all parts of Australia and even from overseas. In the prosperous States, other industries suffer from labor shortages as workers are attracted into higher-paying jobs in mining. More generally, regional and remote areas in Australia tend to have poorer labor market participation, with indigenous communities, located in remote areas of most States and Territories but particularly in the Northern Territory, being particularly disadvantaged. Approximately 2% of Australia's population is indigenous.

The labor force participation rate in March 2012 was 65.4% and unemployment was 5.1%, with 18.0% of the unemployed having been out of work for 12 months (Australian Bureau of Statistics, 2012a). Unemployment rates are higher among young people: in March 2012 24.5% of 15-19 year olds in the labor force were unemployed looking for full-time work.

However, only 56% of the 15-19 year-old population is in the labor force, most of these working part-time while at school. Thus the actual unemployment rate among all 15-19 year-olds is only 8% (Australian Bureau of Statistics, 2012b). There is a limited legislative framework related to age and hours restrictions for young workers, and many young people start formal part-time work aged 14 or 15, with most working part-time by Year 11 of schooling (Smith & Patton, 2011). There is a strong social security system with unemployment benefits available to all who need them, and separate and higher allowances for groups such as disabled people and single parents of young children. Forty-six percent of the labor force is female and 30% works part-time (DEEWR, 2012).

Australia's Vocational Education and Training (VET) system is large, with over 1.8 million recorded participants in 2010 (National Centre for Vocational Education Research, 2012a). Many participants study part-time and the full-time equivalent recorded student population is 655,800 which is slightly below higher education's 861,500 (NCVER, 2012). However, VET student figures include only VET activity that receives public funding, and therefore excludes many students. VET is overseen by the Commonwealth (national) Department of Innovation, Industry, Science, Research and Tertiary Education (DIISRTE) whose web site is at www.innovation.gov.au. However, States and Territories retain responsibility for managing major components of the system, including setting funding rates for VET delivery within their borders, and managing the public VET system which is delivered through 58 TAFE (Technical and Further Education) Institutes.

Australia has around 4000 registered private VET providers, the number of which has steadily grown due to government policies which have gradually opened up access to government VET funding beyond TAFE institutes, over the past thirty years. Collectively, public and private training providers are known as Registered Training Organisations (RTOs). Details of all RTOs can be seen at the website www.training.gov.au. Some private RTOs are commercial in nature, but many are non-profit and run by community and welfare organisations. In addition, around 250 companies and other organisations (enterprises) are registered as 'enterprise RTOs', able to deliver training and offer qualifications to their own workers (Enterprise RTO

Association, 2009). It is often stated that the advent of large numbers of private providers has led to lower quality in the VET system, and there have been documented cases of poor business practices and low-quality training delivery in some private providers, although there has never been a comparative study between TAFE and private providers. Teachers and trainers in VET are not required to have a qualification beyond a Certificate IV level in teaching and training, and this is often cited as something affecting quality in the system.

Statistical collections for the VET system in NCVER are managed by the National Centre for Vocational Education Research, which also manages research programs and many other activities (www.ncver.edu.au). The Australian 'training reforms' of the last 30 years have opened up access to VET to a broader group of Australian workers and students, primarily through the development of national Training Package (collections of competency standards gathered into qualifications) for all industry areas, while previously qualifications were only available in a limited range of occupations and industries (Smith & Keating, 2003). The development of Training Packages is one activity of the ten national Industry Skills Councils.

In Australia, general schooling is managed by the eight States and Territories. The years of schooling are Year 1 (aged 6) to Year 12 (aged 17), with each State/Territory having a year before year 1, with different names in different jurisdictions. Secondary schooling is usually from Year 7 to Year 12, with around three-quarters of students completing Year 12. The majority of young people attend government schools (known as 'public schools'), but there is quite a strong private sector, particularly in the States of Victoria and South Australia. There is very little specialisation among schools, except that a small number of senior secondary schools have a vocational focus; these were instituted recently by the Commonwealth (national) government as Australian Technical Colleges, and some States/Territories also developed this idea. Some have been successful and others not. Otherwise, vocational studies are offered in general schools.

Vocational studies in schools are now mostly related to the national VET system, and result in Certificate level

qualifications, with assessment overseen by a Registered Training Organisation. Some schools are Registered Training Organisations in their own right. 'VET in schools', as it is known, is mostly confined to Years 11 and 12 but sometimes starts earlier, particularly for at-risk students or low socio-economic status areas, because VET has been shown to be a powerful force for retaining young people at school until the end of Year 12. The attainment of senior school-leaving certificates has been shown to improve young people's labor market chances and has led to a National Youth Participation Requirement (instituted in 2010 and gradually being implemented through the States and Territories) for all young people to complete at least year 10 and participate in education, training or employment until age 17.

Approximately 30% of Australians who complete Year 12 of schooling enter higher education directly after schooling, or following a 'gap year'. The Commonwealth government, which manages higher education directly, is trying to increase higher education participation, particularly among young people from lower socio-economic backgrounds. Many Australians also enter or re-enter higher education as mature people, mostly studying part-time, including at a distance. The 41 universities are funded partly through Commonwealth payments for each student and partly through student contributions and, to a lesser extent, fees, for courses which are not government-funded; student contributions are underpinned by government-funded student loan systems known as HECS-HELP and FEE-HELP. (These loans are gradually being extended to the VET sector). There are also 150 private providers of higher education, mostly in niche areas. Some education providers, both public and private, are 'dual-sector', i.e. with both VET and higher education arms. The Commonwealth government recently formed an aim of bringing VET and higher education closer together, calling the combined sectors 'tertiary education and training'.

All sectors of education must comply with the Australian Qualifications Framework, which was recently strengthened to be more specific about learning outcomes at each level (Australian Qualifications Framework Council, 2011). The Australian Qualifications Framework covers Certificate I (level 1) through to doctoral level (level 10), with VET qualifications covering levels 1 to 6. Most VET

activity takes place at levels 3 and 4 (Certificate III and Certificate IV). There are regulatory bodies in the VET and higher education sectors; the VET body is known as the Australian Skills Quality Authority (ASQA) and was recently formed from eight different bodies in the constituent States and Territories. There is some debate about how strongly the previous State-based system has been able to ensure quality.

NATURE OF THE APPRENTICESHIP SYSTEM

In Australia the institution of apprenticeship is currently very strong. Twenty-five years ago, apprenticeships in Australia were confined to a defined number of occupations, mainly undertaken by male manual workers, but the advent of newer traineeships has expanded both the numbers of apprentices and the types of jobs which have what is called 'contracted training' associated with them.

In Australia, apprenticeships have several purposes, which are often inter-related. They develop skills for their industry and occupational areas; they help young people gain employment that has training attached to it; and they provide an umbrella for systematized training in companies. In 2011 there were almost 449,000 apprentices and trainees in training (NCVER, 2012b). This constitutes 3.7% of the working population of just over 12 million people. Apprenticeship in Australia began in a formal sense with the establishment of an English-style apprenticeship system, in the colony of New South Wales (Knight, 2012), and the legislative structures to support the system developed during the late 19th and 20th centuries.

The system remained relatively static until the mid-1980s, when traineeships were introduced. Traineeships expanded into many occupational areas that had not previously supported contracted training, such as retail, tourism and hospitality. In 1997 the traditional apprenticeship and the traineeship systems were brought together under the umbrella of the 'New Apprenticeship', now called 'Australian Apprenticeship', system, although in common usage they are usually referred to separately. It is sometimes difficult to provide accurate demarcation between the two groups. Table 3.1 provides an overview of the industry areas of apprentices and trainees in

training, together with the proportion of apprentices ('trade') versus trainees ('non-trade') in each industry. The table's industry groupings are based on the Industry Skills Council which oversees the relevant industry area.

TABLE 3.1 APPRENTICES AND TRAINEES IN-TRAINING BY INDUSTRY SKILLS COUNCILS, TRADE/NON-TRADE, AS AT 31 DECEMBER 2011, AUSTRALIA

Industry skills councils	Trades	Non-trades	Total
Agri-Food	16,000	10,920	26,920
Auto Skills Australia	25,450	2,970	28,420
Community Services and Health	2,260	28,960	31,220
Construction and Property Services	49,180	8,000	57,180
Electrocomms and Energy Utilities	32,780	150	32,930
Forest Works	70	780	850
Government	10	3,240	3,250
Innovation and Business	5,420	82,700	88,120
Manufacturing	41,610	11,990	53,600
Services	21,900	66,610	88,510
Skills DMC	4,900	4,850	9,750
Transport and Logistics	-	26,850	26,850
Total	200,510	248,450	448,960

Note: Most of the industry skills council names are self-explanatory, except for Skills DMC which services the drilling, mining and quarrying, and civil infrastructure industries.

Source: Derived from NCVER (2012b), p.17.

Table 3.1 shows that there are very large numbers of people in service and business traineeships, while in apprenticeships the largest numbers are in construction and manufacturing.

Following the expansion across occupational and industry areas, during the 1990s the system was also expanded to allow all ages of workers to access apprenticeships and traineeships. Also people on different types of employment contracts, including, in most cases, part-time and, under special circumstances, casual workers, including people still at school, became entitled to access the system. 'Existing workers' – i.e. those already employed in a company – are also allowed to change their employment status to become apprentices or trainees.

All Australian apprenticeships and traineeships have a qualification outcome; generally it is at Certificate III and IV level (i.e. levels 3 and 4 out of the AQF levels 1 to 10) although there are some traineeships at Certificate II level and a few at levels 5 and 6. Apprenticeships are generally three or four years in duration; some trades are shorter than others; for example hairdressing is generally three years while fitting and machining is four years. Traineeships are generally 12 to 18 months in duration. In all cases, contracts may be completed earlier if the qualification is achieved, and the Commonwealth government has introduced a range of incentives and schemes to try to reduce the training period. However, there is some resistance to this as many people believe that the extended period is necessary to attain full proficiency and, for young people, the necessary maturity to become an independent worker. Generally there is a minimum period for completion.

Apprentices and trainees in Australia must be employed. Their contract of training must be registered within three months of employment, with the relevant State Training Authority, and contains details of employment and of training. They receive wages according to the relevant industrial relations agreements: generally either a national or State 'award' or a company agreement ('enterprise agreement'). Such awards or agreements, particularly in traditional trades areas, may contain specific set rates for apprentices which increase with each year of the apprenticeship. In these, typically, first-year trades apprentices receive less than half the 'adult' rate, and this rate gradually increases. More generally, companies are allowed to pay a training wage, which is a proportion of the 'normal' wage, to recognize that approximately 20% of the learner's time is spent in training rather than working. While this is factored into the rates set by agreements or awards, in the majority of cases, companies do not reduce their trainees' and apprentices' wages to the minimum amount allowed. Many companies pay 'above award' rates to attract and retain apprentices and trainees. In some cases, companies employ most of their 'shop floor' workforce as trainees. This is common, for example, in meat processing; in other cases, commonly in fast food, companies use traineeships as a promotion route for existing workers to management (Smith, Walker & Brennan Kemmis, 2011).

Funding contributions are made to employers, to training providers, and to individual apprentices and trainees, to encourage participation. The Commonwealth government pays incentives to the employer, of \$ 4000 per apprentice or trainee, of which \$1500 is paid after six months and the remainder on completion. \$1.1 billion is spent each year on these incentives. These amounts are varied from time to time; for example, incentives were recently reduced for trainees at Certificate II level (except for people from designated disadvantaged groups); and for 'existing workers, incentives became weighted towards completion. In addition, workers are only allowed one qualification at each level, and must move 'up the qualification ladder' for subsequent funding. From time to time extra incentives are offered; for example during the early stages of the GFC additional Commonwealth incentives were offered to ensure that the supply of apprenticeships and traineeships was maintained. No specific regulation is attached to the nature of employers who may take on an apprentice or trainee, although in some States there are unofficial 'black lists'. In some trades, the industrial relations agreement or award, or legislation, formerly mandated a supervision ratio (i.e. the number of apprentices that one qualified tradesperson can supervise, in some trades this being one-to-one). Nowadays, requirements are less specified, but those who organize and oversee apprentice/trainee contracts are meant to confirm that supervision by appropriately qualified staff is adequate.

State and Territory governments provide funding for the training associated with the qualification. This funding is provided to the relevant Registered Training Organisation. Again there are particular rules which vary among jurisdictions. For example, in 2012 the Victorian government reduced funding for some qualifications for many 'traineeship' occupations to a point at which they are now unviable to deliver, while increasing funding for traditional apprenticeships. Finally, the Commonwealth government provides some extra incentives for individuals, mainly in traditional trades, such as tools allowances and living away from home allowances. Additional funding is also provided for some groups of apprentices and trainees such as indigenous people. Apprentices and trainees with a disability attract Disabled Australian Apprentice Wage Support, paid to employers, and there is assistance for tutorial, interpreter and mentor services

organized by the Registered Training Organisation. Currently the Commonwealth (national) government has a long-term project to improve 'harmonization' of apprenticeships across States and Territories.

Some companies offering traineeships do not claim the funding incentives, and, where they are enterprise RTOs, may also not claim the training provider funding. They are reported to find the system too complex to negotiate and prefer to remain independent of government funding. A recent and controversial report sponsored by the Australian government (Commonwealth of Australia, 2011) advocated removal of all employment incentives for traineeships, but its full provisions have not been enacted.

Retention of apprentices and trainees to the end of their term is seen as a perennial problem in the Australian apprenticeship system. Only just over half of apprentices and trainees, across the board, complete their contracts of training. The completion rates were formerly higher for traditional apprenticeships than traineeships, but are now about the same (although, of course, as traditional apprenticeships are much longer, the completion rate might be expected to be lower for apprenticeships). The attrition is generally accepted to be due to employment conditions rather than any problems with training. Completion rates vary considerably across occupations. Table 3.2 shows completion rates across a range of occupations, for those who started their apprenticeships or traineeships in 2006.

The completion rates are not quite as poor as these data show, as the recording systems do not currently allow for people who leave an apprenticeship with one employer and continue it with another. Putting this aside, it can be seen, for example, that hairdressers and food trades workers (i.e. chefs) have particularly low completion rates, while others, such as cleaners and care workers, are much higher. The former two occupations have more changes of employers than others (NCVER, 2011:8). The strong employment situation in Australia can be assumed to encourage 'job-hopping' and hence lower completion rates.

Figures are not available for the proportion of apprentices and trainees who continue working for the

same employer following completion of their contract of training. However, it is generally accepted that most do so, and indeed research shows that employers are very keen to retain the workers, having invested so heavily in their training. In some large organizations, the completing apprentices and trainees must apply for vacancies, but the companies hope to place them all (Smith et al, 2011).

OCCUPATIONAL COVERAGE

Apprenticeships and traineeships are available in a large range of non-professional jobs across the Australian economy. States and Territories 'declare trades', sometimes on the advice of Industry Skills Councils, as eligible for apprenticeships or traineeships, and thus eligible for the funding for off-the-job training. There may be some variations across the eight States and Territories.

TABLE 3.2 COMPLETION RATES (%) BY 2010, FOR APPRENTICES/TRAINEES COMMENCING IN 2006

Completion rates for 2006 starters	Completion rate (%)
Managers	51.6
Professionals	59.7
Technicians and trades workers	45.4
31 Engineering, ICT and science technicians	57.8
32 Automotive and engineering	50.8
33 Construction trades workers	45.3
34 Electro-technology and telecommunications trades workers	54.7
35 Food trades workers	27.3
36 Skilled animal and horticultural workers	46.8
39 Other technicians and trades workers	41.5
391 Hairdressers	37.5
392 Printing trades workers	57.1
393 Textile, clothing and footwear trades workers	47.6
394 Wood trades workers	42.6
399 Miscellaneous	52.7
Community and personal service workers	55.2
41 Health and welfare support workers	60.5
42 Carers and aides	63.9
43 Hospitality workers	45.5
44 Protective service workers	62.5
45 Sports and personal service workers	51.6
Clerical and administrative workers	55.9
Sales workers	44.1
61 Sales representatives and agents	46.0

Completion rates for 2006 starters	Completion rate (%)
62 Sales assistants and salespersons	44.0
Machinery operators and drivers	56.5
71 Machine and stationary plant operators	56.8
72 Mobile plant operators	55.0
73 Road and rail drivers	55.5
74 Storepersons	57.4
Laborers	49.7
81 Cleaners and laundry workers	61.7
82 Construction and mining laborers	46.5
83 Factory process workers	46.1
84 Farm, forestry and garden workers	51.7
85 Food preparation assistances	28.7
89 Other laborers	45.5
Total non-trade occupations	52.5
Total trade occupations	45.4
All occupations	50.2

Note: The job groups in bold type are large groupings. For the purposes of this table, some of the groupings have been expanded because they have significant numbers of apprentices and trainees.

Source: Derived from NCVER (2011), p.7.

Some occupations require the completion of an apprenticeship in order for people to be 'licensed' to practise that occupation. This is most common in certain of the traditional trades such as electrician. Licensing of some occupations is disappearing, e.g. hairdresser, although it is usually disestablished at a State or Territory level. There is no licensing associated with traineeship occupations, although regulation of employers may produce a quasi-licensing situation; for example, aged care and child care employers are required to have a certain proportion of workers with relevant qualifications. However, such qualifications could be achieved in an institution-based manner (i.e. based at a Registered Training Organisation), not necessarily through a traineeship.

Occupations where apprenticeships and traineeships are available tend to be at 'entry level' (Certificate III and sometimes II), but may be at higher levels and people may progress through successive apprenticeships or, more usually, traineeships. Traineeships are available at AQF levels 5 and 6 but uptake is limited (Knight, 2012). Credit transfer into higher education programs is rarely available directly from qualifications gained through apprenticeships or traineeships, but learners may progress into diplomas and then into degrees. This is less common in the traditional trades.

Apprenticeships and traineeships have variable status. In Australia there is a strong working-class culture and in this, apprenticeships in the traditional trades are seen as desirable. Completion of an apprenticeship is either mandatory or expected to get a career job in most traditional trades, such as construction. Nevertheless, many trades report difficulty in attracting good applicants (Smith et al, 2011). Traineeship occupations are generally seen, as less desirable. The reasons for this are contested and debated, and one reason may be that in the 1980s traineeships were viewed as a labor market program as well as a skill formation initiative. In general employers in the occupations typically served by traineeships do not demand completion of a traineeship from applicants for a mid-level position in the same way that employers expect applicants for a tradesperson vacancy to have completed an apprenticeship. This culture may change over time.

Because of the differences in history among occupations, occupational identity varies greatly. In the traditional trades, occupational identity is strong, while in traineeship occupations, organisational identity is more common. Two factors: resistance by traditional trade unions to the establishment of traineeships for non-specialist jobs in their occupational areas, and the lesser status of most occupations served by traineeships, seem to have affected the development of occupational identity in traineeships.

PARTICIPATION

There are few barriers for participation in apprenticeships or traineeships, apart from those created by the need to gain employment; in some industry areas (e.g. electrical) gaining an apprenticeship is highly competitive, while others (e.g. fitting and machining) find it hard to attract suitable applicants. In general, there is a 'recruiting' rather than 'selecting' situation in both apprenticeships and traineeships, due to the tight Australian labor market. Apprentices and trainees may be of any age or employment status. This has been a major change since the early 1980s, and currently 46% of commencing apprentices and trainees were aged 25 and over (NCVER, 2012b). In general, although males and females can apply for any job, occupations are quite gendered, with few female construction apprentices

and few males working as care industry trainees. The overall gender distribution is somewhat skewed to males, with, for example, 56% of commencements in 2011 being males (NCVER, 2012b). Apprenticeships and traineeships are only available to Australian citizens or others with a 'right to work' in Australia. There is no control by third parties such as trade unions over the entry of people into apprenticeships.

Young people can commence apprenticeships and traineeships while at secondary school; they need to work part-time to do this. Sometimes the apprenticeships and traineeships are linked to their school studies via 'VET in schools' qualifications, and known as 'School-based apprenticeships and traineeship'; sometimes they are undertaken individually and not linked to school studies. Of the latter, retail and hospitality are the most common industry areas.

In some trades, often where either the number or quality of applicants for apprenticeships has been low in the past, pre-apprenticeships have been introduced. These are short (3-6 month) off-the-job courses to prepare people for working in specific occupations. A number of issues have prevented these becoming as widespread or as effective as they might have been, but in some trades they are quite important. It has been suggested (Smith et al, 2011) that the pre-apprenticeship system could usefully be expanded to other occupations, particularly as they might improve retention because people who had done a pre-apprenticeship would be more familiar with the industry environment and the work.

TRAINING AND ASSESSMENT

The Australian system is based on the 'dual' system involving both on- and off-the-job training. A training provider has to oversee the delivery of training and assessment of competence for apprentices and trainees. Traditionally, apprentices attended a TAFE Institute on 'day release'. Nowadays, apprentices and trainees may, instead, attend on 'block release', learn by distance or on-line, or may be trained 'fully on the job', with a representative of a Registered Training Organisation (public or private), attending their workplace from time to time, to deliver training and carry out assessments. Or there may be a combination of these various modes of delivery. In some

States and Territories, Registered Training Organisations must prove a minimum level and frequency of training and/or contact to access funding. These rules recognize that 'fully on-the-job' training is generally recognized as inferior, with this view supported by much research (e.g. Smith et al, 2011). But even the quality of 'off-the-job' training has not been systematically researched.

Employers are also expected to provide an environment conducive to training and learning, and provide on the job instruction, but there is no legislated requirement for this. It has been argued (e.g. Commonwealth of Australia, 2011) that employers should 'register' to be able to employ an apprentice or trainee and be able to show evidence of training provision as part of this. The tradition of 'day release' and the setting of the national training wage, indicates that apprentices and trainees are expected to spend about a fifth or a quarter of their working week in reasonably formal training activities, including training provided by the training provider, but this is difficult to measure or police. In particular, in enterprise RTOs, it is commonly argued that learning and assessment is embedded in normal work practices (Enterprise RTO Association, 2009).

As mentioned earlier, the qualifications in apprenticeships and traineeships are almost always provided in national Training Packages; this system has been in existence for about 15 years. Training Packages are developed, and regularly updated, by Industry Skills Councils (see <http://training.gov.au/Link#AnchorIndustrySkillsCouncils>). Training Packages are primarily collections of competency standards, known as units of competency, and qualifications contain specified core and elective competencies. These must be achieved by apprentices or trainees enrolled in the relevant qualification. Training Packages are developed by the Skills Councils following wide consultations with the relevant industry and training providers (Smith & Keating, 2003) and must be approved by the National Skills Standards Council. The entire content of each Training Package is freely available for anyone to view, on the www.training.gov.au web site.

The Registered Training Organisation's teachers and assessors are responsible for assessment and there is no 'final examination'. State Training Authorities or other

bodies were formerly responsible for final examinations or other assessment but this practice has lapsed, as it was considered that national Training Packages should provide sufficient quality assurance. In some quarters, it is considered that standards have slipped as a result.

PARTICIPATION OF GOVERNMENTS AND OTHER STAKEHOLDER GROUPS (SOCIAL PARTNERS)

There are a number of regulatory arrangements associated with Australian apprenticeships and traineeships. Some of these have already been briefly mentioned. Contracts of training must be signed by employers, by employees (and by parents where the employees are aged under 18) and by the training provider (RTO). The contracts are registered with the State or Territory Training Authority. Employment incentives are supplied by the federal government on commencement and completion, and off-the-job training is funded by the State Training Authority. State Training Authorities and the federal government alike maintain regional and local offices where staff work to promote apprenticeships and, very importantly, to manage the quality of apprenticeships. Complaints from apprentices, and sometimes their parents, are handled by local offices of State Training Authorities. In addition to these long-established processes, apprenticeships are now promoted through school education systems (which in Australia are managed by state governments), because apprenticeships can be commenced on a part-time basis while students are still at school. Such arrangements have led to the establishment of new departments within State School Education Offices and a demand for secondary school teachers who are qualified to teach vocational courses.

There are a number of other major players in apprenticeships and traineeships. Two important players are Group Training Organisations (GTOs) and Australian Apprenticeship Centres. Group Training Organisations act as employers of apprentices and trainees, 'leasing them out' to host companies and thereby relieving companies both of the risk of taking on an apprentice for a lengthy period and of the paperwork associated with employing an apprentice. Most GTOs are not-for-profit and are often industry-based,

specialising for example in construction or hospitality apprentices, but some are run as generic commercial or community-based operations that service a range of industry areas in a particular geographical area. There are 180 GTOs in Australia, employing about 12% of apprentices and trainees. They receive a small amount of government funding as a contribution towards their operations, through the Joint Group Training Program scheme, whereby funding is allocated primarily on the basis on numbers of apprenticeships and traineeships commenced and completed. A GTO, as the employer of the apprentice, also receives the normal government employment incentive. GTOs also receive payments from the host employers, but this is usually only just enough to cover the wages that GTOs pay to the apprentices. Many GTOs employ specialized workers, for example, to handle welfare issues associated with their apprentices. They support and counsel apprentices and trainees, as well as providing pre-employment training for applicants who did not have sufficient employability skills. They help with access to literacy and numeracy support and to financial support services. In addition they provide professional development for employers, keeping them up to date with developments in the national training system and with industry developments.

Australian Apprenticeship Centres were set up in the mid-1990s to increase the number of people entering apprenticeships. The Centres market apprenticeships to potential employers and apprentices, manage the contract process, and make sure that appropriate employment and completion incentives are paid. They make employers aware of special incentives that may be available for employing apprentices from disadvantaged groups, e.g. indigenous or disabled people. Australian Apprenticeship Centres are also expected to have a role in making sure that the employer-apprentice relationship proceeds smoothly and to report any problems to the appropriate authority. Centres are currently contracted by the Commonwealth government department, DIISRTE, to provide these services.

Support services are being reviewed by a national working party, Issues being discussed include more mentoring for first year apprentices, arrangements for Australian Apprenticeship Centres, whether it is possible or desirable to regulate who is allowed to employ an

apprentice or trainee, and the relative distribution of apprentice-related activities between the Commonwealth government and the States/Territories. Also there is a move to 'harmonize' arrangements across the States and Territories.

In any discussions regarding changes to the apprenticeship system, representatives of these bodies, as well as employer associations, employer peak bodies and employee bodies (i.e. trade unions) are always involved, as are Registered Training Organisations, as they are all stakeholders in the system. Such discussions are normally held at a national or State rather than local level. Local employer groups (the equivalent of 'chambers') do not have a special role to play. It has often been stated that the system is overly complex and that employers are confused by approaches from multiple bodies and organizations. This issue has not been systematically researched.

Regulation of the system is provided by the Commonwealth Department and State Training Authorities. States investigate complaints from apprentices or trainees or issues raised by employers. Both levels of government institute and review relevant policies and employ operational staff to run the system and disburse payments as required. Regulation of the qualification-based training provided by the RTO is provided by the Australian Skills Quality Authority, as described previously.

MAJOR ISSUES AND LEARNING POINTS

Issues facing apprenticeships in Australia include

- Encouraging greater proportions of apprentices and trainees to complete their periods of training.
- Attracting sufficient and high quality applicants to positions as apprentices and trainees, particularly in trade occupations and specially in mining-boom areas.
- Continuing to encourage employers to participate.
- Improving the quality of curriculum for some qualifications and of training delivery by registered training organizations and by employers.

- ▣ Equalising the status of apprenticeships/traineeships across occupational areas.
- ▣ 'Harmonization' of arrangements across all States and Territories.
- ▣ Debates about 'value for money' from the various forms of government investment in the system.

Strengths of the system include

- ▣ The high participation rate.
- ▣ Engagement in the system by employers in all industry sectors.
- ▣ Strong 'brand recognition' of apprenticeships in the popular consciousness.
- ▣ Availability to all Australians, of whatever age and employment status, and in all industry/occupational areas.
- ▣ National competency-based qualifications whose details are accessible to all training providers.
- ▣ High level of interest and engagement from all stakeholders.

Weaknesses of the system include

- ▣ Continued low completion rates.
- ▣ Quality problems in training, especially where training is carried out mainly on-the-job with little off-the-job component.
- ▣ Unevenness in complexity and depth of qualifications at the same AQF level, among some occupational areas.
- ▣ Perceived lack of confidence in the assessment of competence.
- ▣ Resistance from some stakeholders to change in the system, making improvements difficult to negotiate.
- ▣ Low participation by women in traditional trades.
- ▣ Relatively poor pathways from traineeships to apprenticeships and from apprenticeships and traineeships to higher education.

- ▣ Insufficient attention at a national policy level to training, as opposed to employment, issues in apprenticeships and traineeships.

Helpful policy developments include

- ▣ The massive expansion of the system due to the introduction of traineeships.
- ▣ The willingness of governments to fund the employment and training of all apprentices and trainees for many years.
- ▣ The development of national consistency in qualifications through Training Packages.
- ▣ A large body of research and statistical collections on apprenticeships and traineeships, due to the presence of the NCVER.

Unhelpful policy developments include

- ▣ Confusing, although often well-meaning, changes to financial incentives available to employers and Registered Training Organisations.
- ▣ Decisions made by States and Territories which create divergences in apprentice and training policies and arrangements.

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INTRODUCTION

The Canadian economy has become more knowledge-based over time, leading to an increasing demand for more college- and university-educated workers; this has led to a low risk of unemployment for graduates. Large-scale access to colleges and university has led to what the OECD describes as a strong 'academic bias' in upper secondary education (OECD, 1999). This has led to some problems in recruiting people into vocational study, at a time when there is a demand for skilled workers. The website *Working in Canada* reports that the Canadian Chambers of Commerce has predicted skill shortfalls of 163,000 in construction, 130,000 in oil and gas, 60,000 in nursing, 37,000 in trucking, 22,000 in the hotel industry and 10,000 in the steel trades, over the coming decade (CCOC, 2012).

While the federal government has a role in promoting apprenticeship at the national level and in maintaining inter-provincial standards to ensure labor mobility, the responsibility for education, apprenticeship, and certification lies with the provinces. This has resulted in a multiplicity of approaches to administering apprenticeships. Effectively, there is not so much a national apprenticeship system in Canada as 13 provincial and territorial apprenticeship systems which have some, but not all, aspects in common. The Interprovincial Standards Red Seal Program provides the national overlay of these systems, developing occupational standards to be used in common by all provinces and territories. These standards allow for effective harmonization of apprenticeship training and assessment in each province and territory. Federal, provincial and territorial governments work in collaboration to administer the Red Seal Program.

A key development in the last few years has been the amendment to the Agreement on Internal Trade (Chapter 7 – Labour Mobility) which guarantees labor mobility and obliges provinces to recognize individuals on the basis of qualifications issued by a Canadian

jurisdiction. While it has not had an impact on the numbers of trades seeking Red Seal status, the Red Seal continues to be valued as a recognized standard of excellence. In addition, there have been drives to recognize the qualifications and credentials of foreign workers and put in place common standards to facilitate this, along with efforts to encourage provinces and territories to collaborate to harmonize qualification systems.

NATURE OF THE APPRENTICESHIP SYSTEM

The Canadian Apprenticeship Forum defines an apprenticeship as 'an agreement that is signed by the apprentice, the employer, and the apprenticeship authority (office) of the province/territory where the apprentice and the employer work' (CAF, 2012). Apprentices have to find employment as an apprentice and the employer then acts as a 'sponsor' (although there is an employer incentive; see later sections) and the employer provides the workplace portion of the training. There is a requirement for employers to have a certain number of qualified staff before they are eligible to recruit and train apprentices, and the number of trained staff dictates the number of apprentices an employer can appoint.

Generally, apprenticeship consists of both periods of work 'on-the-job' and periods of 'in class' instruction. In most jurisdictions, these periods alternate. The 'in-class' (or academic release) period to provide technical training usually ranges from around four to ten weeks per year (with the norm being 6 to 8). While the nominal duration varies by program and can last 'from 2 to 5 years or more' (according to CAF), due to work demands competing with time required for technical training, the average time to complete has been around five years. Technical training can occur at a college, a union training centre, a private trainer, or online. Where technical training interrupts the on-the-job portion of apprenticeship, apprentices may be eligible to receive Employment Insurance benefits (federal government responsibility) during this training period.

After fulfilling the on-the-job and in-class requirements, the apprentice can challenge the certification exam for their trade. In most provinces and territories, the certification exam that is used is the Interprovincial Red Seal Examination, based on the common Red Seal standard. After passing this summative exam, the individual becomes a certified tradesperson (also known as a 'journeyperson'). Certificates of qualification bearing a Red Seal are automatically recognized across Canada, as the Red Seal Program has been the primary vehicle for interprovincial mobility for over 50 years. However, more recent amendments to the Agreement on Internal Trade (Chapter 7 – Labor Mobility) allow for recognition of trade certification issued by any Canadian jurisdiction by any other jurisdiction.

Note that the actual training regime varies from jurisdiction to jurisdiction and trade to trade. The CAF website states: Apprenticeship training works in a similar way to driver's license training: each province/territory has its own government apprenticeship office that oversees apprenticeship training and certification for that province/territory. Furthermore, the requirements for becoming a fully-qualified tradesperson ('journeyperson') in your province/territory may be completely different than the requirements for becoming a fully-qualified tradesperson journeyperson in the same trade in another province/territory. Therefore, if you would like more information about apprenticeship training in your province/territory contact your provincial/territorial government apprenticeship office.

Source: CAF website: www.caf-fca.org

The CAF website considers the factors affecting the 'in-class' and on-the-job portions of an apprenticeship and notes that this depends upon several factors:

The order in which you complete the on-the-job and in-class portions of your apprenticeship training may depend upon:

- ▣ Your trade
- ▣ The region in which you live
- ▣ The current labor market (whether or not there is a shortage of skilled workers in your trade)

- ▣ The province/territory in which you live – among other factors.

For example, in some provinces/territories (and in some trades) you may be required to complete a probationary period or pre-apprenticeship program before you begin the on-the-job portion of your apprenticeship training. In other provinces and territories (and in other trades) you may be required to complete all or part of the on-the-job portion of your apprenticeship training before you begin the in-class portion of your apprenticeship training.

Furthermore, in some provinces/territories (and in some trades) you may have the opportunity to choose when, where and what subjects you will take for the in-class portion of your apprenticeship training. In other provinces and territories (and in other trades) you may have little or no choice: you may need to take mandatory courses for your trade and/or you may need to take courses in a different location than your home town or city.

The only way to be certain of these things is to check the training and education requirements for your trade in the province/territory where you will work.

Source: CAF website: www.caf-fca.org

There are provisions for certification for those who do not pursue formal apprenticeship. These candidates are considered Trade Qualifiers (TQ), and they must demonstrate to the certifying jurisdiction that they have adequate experience in the scope of the trade before challenging the certification examination. In some but not all jurisdictions, apprentices may opt out of the academic release (in-class) part of the program and challenge the final examination independently (i.e. without completing the off-the-job training program). This requires that they discontinue their status as an apprentice and challenge the exam as a trade qualifier. Within the Red Seal trades, some 40% of those undertaking the final examination are trades qualifiers.

Provinces and territories have mechanisms to support Prior Learning Assessment and Recognition (PLAR) for apprenticeship, so that experienced employees can demonstrate their knowledge and/or skills and receive exemptions from the academic portions of the program;

however, again, these mechanisms vary between provinces and territories.

In addition, some provinces and territories require apprentices to complete a probationary period before entering into an apprenticeship agreement. Some colleges and training institutions offer 'pre-apprenticeship programs' to equip apprentices with the skills or preparation needed for apprenticeship training. However, even if an individual enrolls in a pre-apprenticeship program, they still need to find an employer to hire them as an apprentice before they can complete all of the training requirements for the apprenticeship.

The **Ellis Chart** gives details of the programs available by occupation and province/territory and the format or requirements of each program across the 13 provinces and territories. The Ellis Chart is available at: <http://www.ellischart.ca/>. As an example of the ways in which programs may vary, Table 3.3 (at the end of this case study) displays the apprenticeship requirements for a construction craft worker, taken from the Ellis Chart.

While, in general, the number of designated trades (trades in which apprenticeships are available) has been increasing, the number of designated trades varies from province to province. Some trades may be 'designated' in one province/territory, but not in others. The Ellis Chart indicated that, overall, in 1997, apprenticeship programs were available in 160 trades; by 2012 this had grown to approximately 300 (an 88% increase). Some of that expansion was the result of apprenticeship training being introduced into new sectors of the economy such as 'high tech' industries, film and motion picture, and aerospace. Occupations in sectors that are not new, *per se*, but have recently had apprenticeship programs designated as a training option include early childhood educator and personal support worker in Ontario. However, such developments have taken place in just single jurisdictions to date and consequently have not been included within the Red Seal Program (because there are no interprovincial standards requirements for a trade designated in a single jurisdiction).

In each province and territory, trades are assigned either 'compulsory' or 'voluntary' status. If a trade is designated 'compulsory', it may only be practiced in that jurisdiction by

certified tradespeople or registered apprentices. Industry committees, in partnership with their respective provincial or territorial government, determine which trades are compulsory or voluntary. Apprenticeship programs are available in both compulsory and voluntary trades.

ASSESSMENT

Typically an apprentice works under the supervision of a qualified journeyman who is licensed to supervise apprentices. The supervisor will assess the apprentice's competence at work against the agreed standards for work (competencies) within the occupation. An apprenticeship program has been completed once the apprentice has attended all the technical training sessions, worked the prescribed number of hours on-the-job, met the required competencies, and passed all required exams. The provincial/territorial government may then issue a Certificate of Apprenticeship. Once the apprenticeship is complete, the individual can then take the certification examination, and if successful, would be issued the Certificate of Qualification. If the Red Seal exam has been adopted as the certification exam, a distinctive Red Seal endorsement will also be placed on the provincial/territorial certificate.

Certification assessment varies across the provinces. The Red Seal Program sets country-wide standards and allows a journeyman to practice across provinces. The designation of a trade as Red Seal by the Canadian Council of Directors of Apprenticeship (CCDA) comes at the request of industry and is made when sufficient demand exists for this designation across jurisdictions. Once Red Seal designation is approved, a common set of standards and competencies for a trade is developed through the National Occupational Analysis (NOA) and validated by those jurisdictions where the trade was been designated Red Seal. The CCDA, whose membership comprises each provincial apprenticeship director and federal government Human Resources and Skills Development Canada (HRSDC) representatives, administers the Red Seal Program.

In most provinces, the Interprovincial Red Seal Examination serves as a final assessment and the Red Seal endorsement is affixed to the provincial/territorial certificate. The examination is based on the validated

National Occupational Standards (NOA). It has a fixed 70% pass mark, and provides an endorsement to the provincial/territorial certificate. To date, 53 trades have been designated Red Seal by the CCDA and around 80% of apprentices are registered in Red Seal trades. However, this still leaves many apprenticeship trades without interprovincial standards. In 2010, over 60% of graduates in Red Seal trades obtained the Red Seal endorsement.

NUMBERS OF APPRENTICES

The number of individuals registered in apprenticeship programs has more than doubled over the last decade, going from 160,690 apprentices in 2000 to 327,339 total registrations in apprenticeship programs at the end of 2010. When adding to this, the number of apprentices who have completed or dropped out of their program in 2010, the total number of apprentices registered during 2010 goes up to 430,452. Amongst these, the largest occupational groups were electricians, at 66,120; carpenters, at 51,516; automotive service technicians, at 45,429; and plumbers, pipefitters and steamfitters, at 44,835. Overall there was a 5.2% increase in total number of apprentice registrations and a 9.1% increase in new apprenticeship registrations between 2009 and 2010.

Between 2000 and 2010 apprenticeship registration expanded faster than the growth in the proportion of the labor force aged 15-44. Apprenticeships' share of post-secondary education enrollments also increased, going from 12.6% in 1998 to 20.7% in 2009. The Careers in Trades website points to similar factors influencing take-up of apprenticeships to those seen in the UK:

Another big benefit of apprenticeship training is that debt loads after completion of apprenticeships are much lower since an apprentice 'earns while they learn'. For example, a university graduate may make \$30,000 in their first year of work but they will leave school with an average debt of \$19,500 (one in seven actually have debts of more than \$25,000). An apprentice might make \$28,000 their first year but will not have to contend with a \$20,000 debt.

Source: Careers in Trades <http://www.careersintrades.ca/media/default.asp?load=faqs04>

Apprenticeship registration varies considerably by trade groups, provinces and gender; and because the trades are differentially represented across the 13 provinces growth and decline of apprenticeships therefore also varies across the provinces. For example between 2000 and 2010 growth in apprenticeships was strongest in Prince Edward Island (9.6% per year), followed by Quebec and Ontario (8.4%), British Columbia (7.9%), Yukon (7.7%), Alberta (7.1%), Manitoba (6.7%), Saskatchewan (5.7%), Nova Scotia (3.0%), and New Brunswick (2.0%). Decreases occurred in the Northwest Territories (-2.0%) and Newfoundland and Labrador (-4.0%).

The number of completions has grown year on year. Completions increased by 6.9% overall between 2009 and 2010, with completions in Red Seal trades increasing by 9%. Some 84% of all completions are in Red Seal trades. The overall completion rate is estimated to be around the 50% mark (Desjardin & Paquin, 2010).

Several factors have been identified as impacting new registrations and completions. Chief amongst these is the economy. Because apprentices have to be employed, any economic downturn can lead to a decrease in recruitment of apprentices and an increase in apprentice redundancies. Apprenticeship registration is therefore highly cyclical and is inversely associated with the unemployment rate. In a Statistics Canada national survey of apprentices in 2007, the main reason for dropping out of apprenticeship cited by apprentices was not enough work or insufficient income. The Forum of Labor Market Ministers has indicated that economic conditions continued to act as a barrier to completion in 2009.

FUNDING

The Canadian Federal Government invests quite substantially in apprenticeships. van Walraven (2005) noted that public expenditures allocated to apprenticeship training accounted for around 80% of all fiscal incentives for employer-sponsored training in Canada, even though workers receiving apprenticeship training accounted for only a small proportion (1-2%) of the adults who received employer-sponsored training. Van Walraven (ibid) estimated that public subsidies in Canada amounted to some \$1,288 Canadian per registered apprentice, considerably more than in the United States, where the

comparative sum at that time was \$195 (Sharpe & Gibson, 2005).

The Canadian federal government provides a range of grants and funding incentives to support apprentices:

- Apprenticeship Incentive Grant: In the Red Seal trades, once the first and second year levels are completed, many apprentices are eligible to receive the \$2,000 Canadian Government Apprenticeship Incentive Grant (AIG) from the federal government for completing level 1 and 2 of the schooling block.
- Apprenticeship Completion Grant: A \$2,000 cash grant for completing the entire apprenticeship.
- Trades Person Tool Deduction: Apprentices and Journey persons can deduct half of their yearly tool purchases up to \$500 per year.
- Tuition Tax Credit: For examinations taken in 2011 and subsequent years, the tuition tax credit will include certain examination fees paid to take an occupational, trade or professional examination.

Source: <http://www.mentorworks.ca/blog/government-funding/government-incentives-for-hiring-training-skilled-workers/>

In addition to the federal apprenticeship grants, the provinces and territories also provide a range of support to apprentices. Some of these are aimed at those trades not designated Red Seal and complement the federal funding for the Red Seal trades.

Apprentices may be eligible to receive income support during periods of in-school apprenticeship training through Employment Insurance (EI), provided they have worked enough hours and satisfy the other eligibility requirements. The federal government provides this support through funds transferred to the provinces for this purpose. In 2002, this payment amounted to some \$28.4 million dollars.

The Canadian government also provides a range of support for employers of apprentices. However, many of these are administered through the provinces and therefore grant availability varies widely across Canada.

Taking Ontario as an example the following benefits are available to employers who have been certified to train an apprentice in a specific trade:

- Apprenticeship Job Creation Tax Credit: Up to \$2,000 per year for the first 2 years of an apprenticeship.
- Apprenticeship Employer Signing Bonus (AESB): Employers can receive a business funding grant of up to \$2000 for registering their business to hire and train apprentices according to Employment Ontario's Job Matching, Placements & Incentives Program.
- Apprenticeship Training Tax Credit: Businesses can receive up to \$40K or 35-45% of the apprentice's wages and benefits for the first four years of an apprenticeship (10K/year).

OCCUPATIONAL COVERAGE

Occupational designations for apprenticeship are determined by the provinces, driven primarily by industry. There are advisory bodies for apprenticeship programs in each of the Canadian provinces; these generally include an apprenticeship board, which is responsible for advising the appropriate minister on policy, and sectoral committees composed of labor and employer representatives, who advise the board on apprenticeship policy, particularly the content of apprenticeship programs.

The number of occupations in which apprenticeships are available is less than one percent of the total National Occupational Classifications (NOC) occupations and approximately half the number available in more extensive apprenticeship systems such as the German system. Of this limited number, approximately 90% of registrations are seen in 75% of trades in 'traditional' areas such as construction, manufacturing and resource industries (Schuetze, 2003).

In many jurisdictions, designated occupations are classified as either compulsory or voluntary. Workers in a compulsory occupation must be certified or registered as apprentices to practise in that occupation; by contrast, workers in a voluntary occupation need not be registered

or certified to practise in that occupation, although a voluntary certificate may be used to indicate the competency of a worker (OECD, 2002).

PARTICIPATION

Women have been registering for apprenticeships in increasing numbers and now make up over 13% of all apprentices and 16% of new registrations. They comprise 12% of new registrations in Red Seal trades and 26% of new registrations in non-Red Seal trades. However, participation remains strongly gendered. While women comprise over 63% of registered apprentices in the food and service trades they comprise less than 3% of registered apprentices in the building construction trades. In all trade groups except for 'miscellaneous' and food and service trades, female registration comprised less than five per cent of total registrations (Sharpe & Gibson, 2005; Apprentice programs in Canada, 2012). In other words, while more women are entering apprenticeships they remain concentrated in traditional occupations.

Unlike the situation in Europe, apprenticeship in Canada has been largely an adult program, although this is starting to change. In contrast to other forms of post-secondary education, the median age of apprentices is between twenty-seven and thirty. Sharpe and Gibson suggest that this makes apprentices more vulnerable to interruptions because of employment instability than students in other forms of post-secondary education or the younger apprentices in other countries.

There is a relatively poor completion rate. For the period up to 2005 only around half of apprentices completed their studies (Desjardins, 2010). This is in large part attributed to the comparatively older age of apprentices, first, because this means that many apprentices already have family and financial responsibilities before taking on an apprenticeship; and secondly because apprentices generally have significant work experience that makes them employable even if they do not complete. Only a small proportion of apprentices start the program immediately or shortly after completing high school; 80% or more start at a later age, and typically following some other education, employment, or a combination of both.

At the end of 2000 there were 160,689 apprentices and the median age of new apprentices was 25 years while that for all apprentices was 28 years. However, by the end of 2010 registration on apprenticeship programs had reached 327,339 with the biggest increases being observed among youth under 20 (+203%) and adults over 50 (+306%). This jump has been attributed to the influence of province-sponsored initiatives aimed at encouraging high-school students to consider apprenticeship training for their post-secondary education. Despite this, in 2010, the mean age of all apprentices was 27 years. By 2010, the median age for registrants in Red Seal trades was 24 for males and 22 for females, and the median age for apprentices completing in Red Seal trades was 28 for males and 25 for females.

There have been some projects aimed at facilitating the move from school (directly) into apprenticeship programs (i.e., rather than making the move after some years in employment), such as the Ontario Youth Apprenticeship Program (OYAP) for high school students entering apprenticeships. Students register in the apprenticeship system while in their last semester at school and complete their level 1 certificate while still in high school.

BODIES CONTROLLING APPRENTICESHIPS

Provincial and territorial governments are responsible for apprenticeship training, and legislation governing apprenticeships within each province and territory designates an occupation as an apprenticeship trade or not and sets out the standards and conditions of training for specific trades (e.g. curriculum, accreditation, certification, and methods for registering apprentices). Employers, employer associations or unions can request that an occupation be designated as an apprenticeship trade (OECD, 2002).

Apprenticeship authorities exist in every province and territory. Their role is to administer trades training and they are involved throughout the apprenticeship process. Apprentices and employer sponsors officially register with the apprenticeship authority and, throughout the apprenticeship, the training provided must adhere to the standards set up by the province or territory. At the end of the training, the apprenticeship authority

administers the examination process and issues the Certificate of Qualification from the province or territory. The apprenticeship authority is also the body to which individuals with prior experience or learning should apply for assessment and/or certification without an apprenticeship, to determine whether their previous work experience and training can be counted towards the apprenticeship, although not all schemes allow this. This route is becoming increasingly important for foreign trade workers who wish to be assessed on the basis of their existing experience and qualifications.

Many of the provincial governments reformed their apprenticeship systems from around the mid-90s to 2005, including revision of their statutory framework. Reform was focussed on making apprenticeship policies industry-driven, and shifted responsibility away from legislative regulation towards control by sectoral committees composed of employer and labor associations. Sharpe & Gibson (2005) claim that the increased flexibility and improved content in apprenticeship programs arising from these changes has led to greater employer participation. However, again there are differences between the provinces. For example Ontario introduced tax credits amounting to 25% of apprenticeship wages, as well as allowing the accreditation of apprenticeship certification to count towards college diplomas and vice versa. British Columbia reduced the administration requirements of apprenticeship programs and modularized their apprenticeship programs into smaller components (Sharpe & Gibson, 2005).

TRAINING AND ASSESSMENT

Apprenticeship combines on-the-job experience with technical training, and leads to certification in a skilled trade. In general around 20% of the training is technical, taking place in college (or similar) and 80% of the training is on the job. The training period for apprenticeship can last from two to five years (depending on whether or not the apprentice can accumulate the required hours of work in the trade or receives credit for related job experience) and spends most of the apprenticeship period in the workplace with the rest being spent in off-the-job training.

The off-the-job classroom-based training has traditionally taken the form of block release in which the apprentice

is released for a short period of classroom training (between around 4 to 10 weeks at a time, normally 6-8). However, increasing numbers of colleges and training providers are experimenting with different types of training delivery in response to the difficulties employers report in releasing employees for training. For example, some colleges now offer six weeks of on-line learning followed by two weeks at college. In Alberta, a particularly acute labor shortage has seen some colleges set up teaching facilities on work sites.

PARTICIPATION OF GOVERNMENTS AND OTHER STAKEHOLDER GROUPS (SOCIAL PARTNERS)

The Canadian constitution largely assigns responsibility for education and social policy to the provinces and responsibility for economic policy to the federal government. Criticism that early vocational streaming effectively differentiated students based on class and therefore served to reinforce existing inequalities led to the de-streaming of education in the 1960s but at the same time led to the subsequent marginalisation of vocational education (Taylor, 2003). More recently there have been provincial initiatives aimed at integrating apprenticeships into secondary schools, where apprentices accumulate learning experience through summer work, while completing secondary education (Sharpe & Gibson, 2005).

Apprenticeship is the responsibility of a single government agency in each province except in Quebec: in that province, occupations in the construction industry are the responsibility of the Commission de la Construction du Québec while other designated occupations are the responsibility of the Apprenticeship Directorate of Emploi-Québec. In other provinces and territories, the ministries or departments responsible for education, labor and training have been responsible for administering apprenticeship programs with programs usually administered under the direction of a Director of Apprenticeship. However, in British Columbia and Saskatchewan 'arms length' development agencies have been established while in Ontario the College of Trades will be the 'arms length' agency responsible for apprenticeships.

In most of the provinces and territories Boards or Commissions are responsible for setting overall policy direction and for recommending required legislation or changes in regulations. These bodies are typically made up of appointed industry management and labor representatives. The apprenticeship system is generally supported by a network of advisory committees composed of employer and employee representatives from each skilled trade (OECD 2002). The relevant bodies to contact in each of the 13 provinces/territories are available at: http://www.red-seal.ca/c.4nt.1cts@eng.jsp?#contact_

Each of the jurisdictions has implemented formal PLAR processes for establishing equivalency to prescribed academic entrance standards. Some jurisdictions have introduced secondary school apprenticeship programs, which enable students to complete the educational requirements for graduation while acquiring paid workplace-based experience in a skilled trade or occupation. Apprentices (other than in Quebec) typically receive the classroom training-component of the program on a block release basis. Some jurisdictions have introduced, on a pilot basis, individualized technical training as an alternative (OECD, 2002). Brooks (2011) has reported on a trial in Ontario of an approach to improving on-the-job experience, learning and assessment, based on a review of approaches taken in the US, England and Wales involving multi-employer cooperation.

MAJOR ISSUES AND LEARNING POINTS

Mobility across provinces and territories was one issue for apprentices (or, more accurately, for qualified journeypersons following completion of their apprenticeship) and the Red Seal program was established to provide greater mobility across Canada for skilled workers. The Red Seal endorsement is a major innovation and strength which allows qualified tradespersons to practise their trade (without writing further examinations) in any province or territory in Canada in which the trade is designated. While the Agreement on Internal Trade now allows for labor mobility for provincially/territorially certified workers, the Red Seal is a well-known and credible signal of trade competence with employers in Canada. However, at present, it is restricted to a subset of

trades, those designated for apprenticeship in numerous jurisdictions, where there has been demand from industry for this designation. The differences in the systems and requirements in the 13 provinces and territories are perceived by government to be a strength of the Canadian model, allowing jurisdictional systems to meet their own specific needs. However, it effectively means that there is no uniform approach to apprenticeship, and until the Agreement Internal Trade was amended, there were issues around mobility of workers in non- Red Seal trades.

The Canadian Apprenticeship Forum identified a group of generic barriers that constituted a fundamental set of obstacles that are experienced in different ways by members of particular groups. These groups include women, Aboriginal people, persons with disabilities, visible minorities and immigrants. Immigrants, who constitute a growing percentage of Canada's labor force, were included, because they face specific barriers associated with their immigrant status. These generic barriers have been grouped into nine categories, each reflecting a particular aspect of supply or demand conditions for apprenticeship: as elsewhere, a negative perception of the trades is often cited as a barrier to participation in apprenticeships. Trades are considered by young people and their parents to be second-class career options with poor wages, unstable employment and little possibility for career advancement. The secondary education system also has an academic bias, such that provides more encouragement and preparation for entry to university rather than apprenticeships. Consequently, employers often lament the quality of apprenticeship candidates. Negative employer attitudes to apprenticeship are also believed to be a fundamental barrier, with lack of a training culture and poor human-resource planning on the part of many employers contributing to this and resulting in an absence of positions for apprentices as well as a relatively low level of support for apprenticeship training³. Brooks (2011) commented that the Canadian apprenticeship system is complex and has a high administrative load; is inflexible; has little standardisation regarding supervisor assessment of apprentices in work;

3 For information on negative attitudes to apprenticeships see also: Canadian Apprenticeship Forum (2010), 'Growing Canada's Skilled Workforce: A summary of CAF-FCA's 'Transitioning to Apprenticeship for Youth' dialogue', <http://www.caf-fca.org/en/forum/images/Summary%20-%20November%202010.pdf>

and can be expensive, especially for smaller employers, in part because of the loss of productivity during the off-the-job training periods.

Similar issues affect the uptake of apprenticeships to those seen in other countries. For young women, socialization and gender stereotyping of occupations further affects attitudes. For Aboriginal people, cultural, educational and social factors combine to make apprenticeship a low-profile, second-best career option. Lack of information and awareness of trade occupations amongst guidance staff as well as potential applicants and their families is another barrier. The absence of role models is a particular issue for young women, Aboriginal people and members of visible-minority groups. Discrimination and sexist practices have also been identified as barriers. Employers fear that the benefits of apprenticeships do not outweigh their costs while apprentices can find the income interruption encountered during required periods of technical training a significant financial burden, despite government aid. Economic downturns inhibit the recruitment of apprenticeships and can lead to apprentice redundancies. There are issues in the quality of people presenting for apprenticeships and concerns about the quality of training provision. Lastly, SMEs have complained about the rigid ratios for apprenticeship fixed by the provincial government. Regulations required employers to have a certain number of qualified staff before they are eligible to train apprentices. For example, an electrical company had to ensure that they had at least three 'journeypersons' on site before they can train one apprentice. Almost one third of SMEs reported that such ratios are a major obstacle to apprenticeship training. In 2007 the Canadian Federation of Independent Business (CFIB) recommended that the Minister of Training, Colleges and Universities develop alternatives to the apprenticeship employment ratios. They also recommended that until that happened, the Minister should suspend or alter the ratios to deal with the current tradesperson crisis while maintaining quality training programs (Andrew & Petkov, 2007; Petkov, 2008; Debus, George & Petkov, 2008; Versace, 2008). In response to these criticisms many of the provinces and territories have now reviewed supervision arrangements (Personal communication, 2012).

Finally, there is a large variation in the numbers of compulsory (i.e. Red Seal) and voluntary trades across

the provinces and territories. There are no compulsory trades in British Columbia and 23 in Alberta. In Quebec there are five. While an earlier study revealed that some people believe that a lack of compulsory certification in some trades has created a disincentive to create apprenticeships (CAF, 2004) more recent work by CCDA reported that apprentices are equally likely to complete irrespective of whether they are undertaking their studies in a compulsory or voluntary trade (Hurrell, 2010).

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TABLE 3.3 APPRENTICESHIP TRAINING PROGRAM: CONSTRUCTION CRAFT WORKER NOC (7611)**Please note that the abbreviations for the provinces use the Canada post standard**

Part A General Information													
Province	NL	NS	PE	NB	QC	ON	MB	SK	AB	BC	NT	YT	NU
Journeyman Certification Only (Yes/No) Click 'Yes' for more information	Yes	Yes	No		No	No	Yes	No	No				
Apprenticeship Term – Years and Hours – Min/Max hours			2 (4000)		3000	2880	2 (1800)	2 (1200)	1 (2000)				
Part A - General Information: Education/Entrance Requirements													
Province	NL	NS	PE	NB	QC	ON	MB	SK	AB	BC	NT	YT	NU
Prior Learning Assessment and Recognition (PLAR) Available (Yes/No) Click 'Yes' for more information			Yes		No	Yes	Yes	Yes	Yes				
Apprenticeship Accreditation Process Available (Yes/No)			Yes		No	No	Yes	Yes	Yes				
Apprenticeship Technical Training Required (Yes/No)			Yes		No	Yes	Yes	Yes	Yes				
Training Delivery Methods – Block Release (BR); Individualized (I); Both (B)			BR			BR	BR	BR	I				
If Block Release:	No. of Periods/Total Weeks		2/10			2/16	2/16	2/8					
	Total Theory Hours		400				266	150					
	Total Shop/Lab Hours						294	150					
If Individualized:	Total Hours												
	Day/Hour Release												
	Fixed Entry/Open Exit												
	Flexible/Distance Education												
	Other								X				
Pre-Employment Training – Compulsory (C); Voluntary (V); Not Available (NA)	NA	NA	NA		NA	NA	V	NA	V				
Train-the-Trainer Program for Journeymen Supervising Apprentices (Yes/No)	No	No	No		No	No	No	No	Yes				
Ratio – Journeyman/Apprentice – Indicate Actual Ratio or Variable (V)							1:1	1:2	NA				
Journeyman Certification Available – Compulsory (C); Voluntary (V); Not Available (NA)	V	V	V		NA	V	V	V	V				
Part B – Curriculum Resources													
	NL	NS	PE	NB	QC	ON	MB	SK	AB	BC	NT	YT	NU
Occupational Analysis – National (N); Province/ Territory (P/T); Both (B); Not Available (NA)	N	N	P/T		B	P/T	N	N					
Province/Territory Skill Profile Chart (Yes/No)	No	No	No			Yes	Yes	No	Yes				
Apprenticeship Program Outline (Yes/No)	No	No	Yes			Yes	Yes	Yes	Yes				
Apprenticeship On-the-Job Training Standards/ Record Book (Yes/No)	No	No	Yes		No	Yes	No	Yes	Yes				
Province/Territory Journeyman Course Outline(s) – Upgrading (UG); Updating (UD); Both (B); Not Available (NA)	NA	NA	NA		NA	NA	UG	UG	NA				
Modularized Learning Resource Materials (Yes/No)	No	No	Yes		No	No	Yes	No	No				
Part C – Assessment/Examination Resources													
	NL	NS	PE	NB	QC	ON	MB	SK	AB	BC	NT	YT	NU
Province/Territory In-School Level Practical Examinations (Yes/No)	No	No	No		No	No	Yes	No	No				
Province/Territory Level Written Examinations (Yes/No)	No	No	Yes		No	No	Yes	Yes	Yes				
Province/Territory Journeyman Examination(s) – Written (W); Practical (P); Both (B); Not Available (NA)	NA	NA	NA		NA	W	W	NA	W				

Source: <http://www.ellischart.ca/>



INTRODUCTION

In January 2011 'Egypt has undergone dramatic change. Grievances over lack of opportunity and inclusion led to a revolt that resulted in change' (World Bank, 2012). The change, with all its negative and positive impacts, is ongoing and expected to last for some time. The current transitional stage will end soon, after the successful election of a President of the Republic of Egypt. Egyptian youth aspire for a positive and democratic role in society, which is hindered by high rates of unemployment and underemployment. These have been the main drives for the revolt. While education law has already been amended earlier this year, apprenticeship regulations are still the same. It is hoped that a modern apprenticeship status will be developed and institutionalized as a part of the anticipated change in the near future.

Egypt's population amounts to 81.121 million with 31.73% below 15 years old. Total GDP in 2010 reached US\$ 218.894 (280.920 current US\$), GDP growth rate was 5.1% and 10.1% inflation (last official figures for 2010). Egypt's economic strategy is diversifying its economy and encouraging foreign investment and better technology. One in five citizens is living below the national poverty line; this figure is doubled (43.7%) in rural Upper Egypt. With post-revolution transitional uncertainties a growth rate of only 2-2.5% is forecast for 2012.

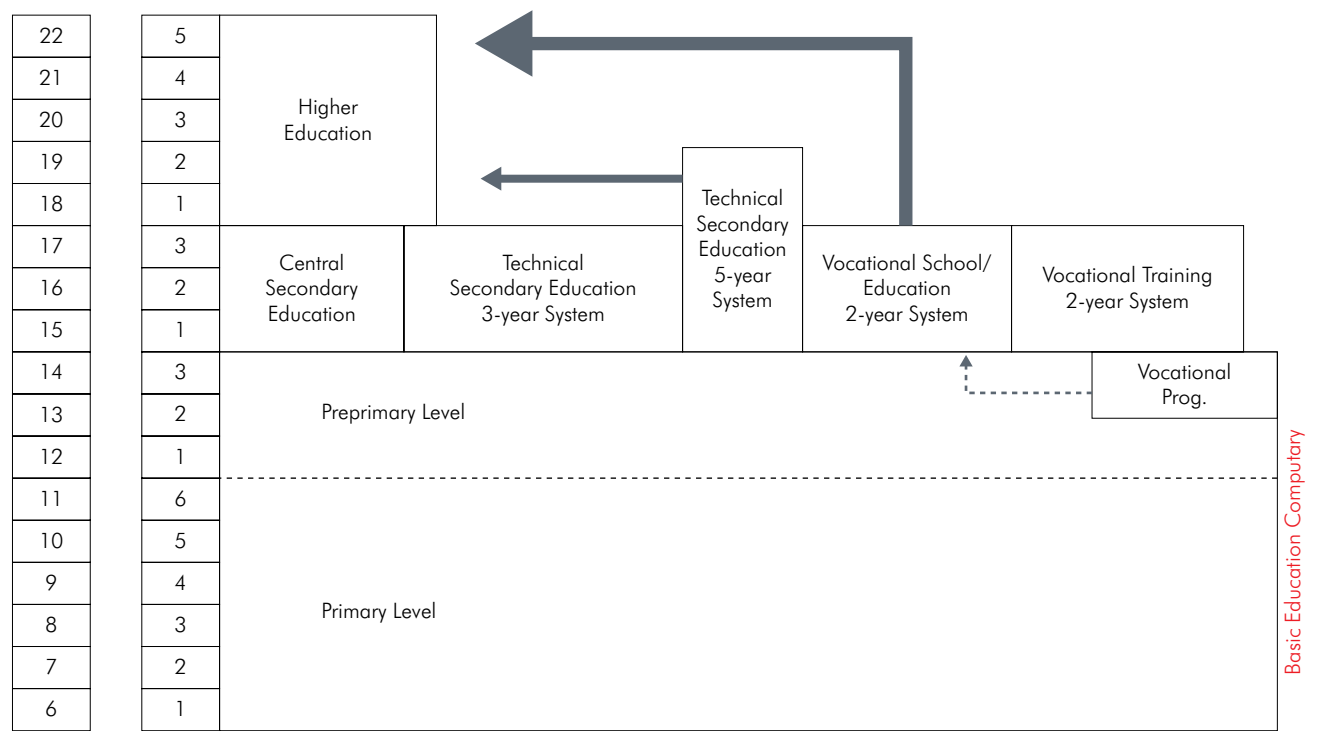
According to the LABORSTAT site of the International Labour Organization (ILO), in 2008 the Egyptian labor force amounted to 22.506 million, with 18.41 million males and only 4.465 million females. National Central Agency for Public Mobilization and Statistics (CAPMAS) estimated the work force at 25.353 million in 2009, with 22.975 million employed and 2.378 million unemployed (CAPMAS, 2010). Youth unemployment is more than double that of adults (estimated at 24% vs. about 12% adults' unemployment, while official aggregate unemployment in 2010 was 8.7%). Total female unemployment is triple that of males (19.3% for

females vs. 5.6% for males in 2008). Even years before the January 2011 revolution, job creation has been continuously lagging behind the growth in the number of job-seekers. Yet, employers frequently claim that they do not find appropriate skills among job-seekers, which indicates the need for more modern apprenticeship training. At present, unemployment is expected to remain around the 12% range, with a significant potential upward risk. Unemployment is relatively higher for those with medium and advanced levels of education (or high-skilled). Thus the share of high-skilled unemployment in total unemployment is higher, on average, than the share of high-skilled Economically Active Population (EAP) in the total EAP (International Labour Organization, 2011).

The educational system in Egypt consists of a Basic education stage (6+3) followed by 3 years secondary (general and technical tracks). Post-secondary education (public and private) is offered through Technological Colleges, Institutes and Universities. Modern apprenticeship schemes are in principle, with minor exception, a part of, or equivalent to the secondary stage. Net education enrollment ratios amount to 95.8% in primary, 77.6% secondary and 30.4% tertiary (ISCED 5 and 6). Yet, a substantial number of primary school age children are out of school (198.836 children) feeding informal apprenticeship and child labor. Primary completion rate is 98.5%, but the quality is questionable. Youth (15-24) literacy rate is 84.9% and school life expectancy, primary to tertiary, is 11.7 years. Enrollment in Technical Secondary Schools (TSSs) alone amounts to about 2 million students. Numerous ministries and agencies are offering technical education or vocational training in several modalities including apprenticeship. Figure 3.2 presents a graph of the education system:

NATURE OF THE APPRENTICESHIP SYSTEM

For more than half a century several Egyptian bodies continued to establish modern apprenticeship schemes but these schemes have never been integrated,

FIGURE 3.1 EGYPTIAN APPRENTICESHIP SYSTEM


Source: MOE, PSPU

articulated or even regulated as a national system. Each scheme is regulated through the official decree of establishment, be it a presidential, ministerial or other. A private or non-governmental apprenticeship scheme would also require such a decree if their diplomas/ certificates are to be endorsed by the government. It should always be remembered that in a culture that values educational certificates based on the number of schooling years, the level of qualifications/certificates granted, as well as the possibility of accessing tertiary education, influence the image and status of education/ training programs, including apprenticeship. To meet the legal requirement for awarding a certificate equal to the secondary school certificate, the duration of most modern apprenticeship schemes (including those run by education and industry ministries as will be detailed later) are three years after passing the basic school certificate (9-years). Modern apprenticeship is perceived by some as an alternative to secondary schools and a possible back door entry to tertiary education. Other than some professional occupations, like physicians and lawyers, there is no mandate to complete work-based training to be eligible for employment in any of the skills'

fields. The attractiveness of any apprenticeship is more linked to the type of occupation involved than any other factor, with tourism, catering, electronic, industrial, and construction ranked in order of attractiveness. It is widely believed that introducing Long-life Career Guidance (LLG) would indeed assist in mitigating many of these cultural obstacles that hamper enrollment in apprenticeship. Several studies have been undertaken on introducing LLG along with capacity-building of officials and other stakeholders. A policy paper was drafted in 2010, but the January 2011 revolution forced the postponement of many developmental activities, including the CG one. It is hoped that the issue will come back on the priority list of the 2nd Egyptian Republic's government.

In the absence of a 'national system', this case study is, separately, presenting the description and analysis of each of the four major apprenticeship schemes in Egypt. Three of the schemes are offered by governmental bodies: 1) the Productivity and Vocational Training Department (PVTB) of the Ministry of Industry, 2) a dual education program by the Ministry of Education (MoE), and 3) a joint program with mainly public sector

companies also offered by the MoE. The fourth scheme is offered by an employers' organization, the Egyptian Federation for Building and Construction Contractors (EFBCC) where the federation is also playing the role of intermediary (Badawi, 2009). What is common for the four schemes is that; a) completing basic education is a prerequisite for admission, b) duration, with some particular issues in the case of EFBCC, is three years and c) graduates are granted either a technical secondary school certificate (for MoE programs) or the same level diploma (for PVTD program). Arrangements for certification of the EFBCC scheme are yet to be endorsed by competent authorities. With modern apprenticeship diplomas, graduates are qualified as level 3 'Vocational' workers, but usually referred to as technicians to improve the image and encourage enrollment. Also a pilot scheme is about to take its shape under the umbrella of the Ministry of Manpower and Migration (MoMM), through a component of a project implemented by ILO-UNICEF and WFP, funded by USA Department of Labor and Canadian CIDA. The main objective of the project is to combat child labor and reduce school dropouts; the apprenticeship component is attempting to transform child labor into a modern apprenticeship scheme.

APPRENTICESHIP SCHEME 1: THE PVTD

While traditional, mainly informal apprenticeship has been known in Egypt for thousands of years, 'modern' apprenticeship was only introduced in 1956 when the Productivity and Vocational Training Department (PVTD) was established, affiliated to the Ministry of Social Affairs and later to the Ministry of Industry. The dual function of the department and putting vocational training and productivity in its title reflect a clear vision of the anticipated role of apprenticeship. The main objective was establishing that the apprenticeship scheme was to provide the newly adopted national policy of industrialization with a competent work force. Selecting the apprenticeship modality for qualifying the would-be industrial workers reflects a prevailing trust in the modality. Solely funded by public budget, PVTD continued its focus only on industrial specializations according to the needs of large public sector companies for about half a century. This modern form of apprenticeship was very successful, particularly because the majority of industrialization i.e. factories and compounds were public sector companies

affiliated to the same Ministry. PVTD used to annually survey company needs and enroll new apprentices to meet those needs. Annual intake used to be relatively limited, reaching about 8000 annually while the served sector employed about 2.5 million (comprising occupations in domains 2, 4, 5, 11 and 12 according to the UNESCO Hangzhou document [UNESCO, 2004]). On-the-job training is provided as full time during the 3rd year of training. Although training contracts are signed between the apprentice and the training company in the 3rd year of study, the role of PVTD in organizing this process makes it more of a placement than a contract as classified by Smith '*in training-provider-based apprenticeships, on-the-job training takes place in work placement rather than as a formal employment contract*' (Smith, 2010). Companies are paying the apprentice a small stipend, not as a percentage of the minimum wage, in addition to facilities in kind, such as transportation and work clothes, recreation, social and sportive events, etc. PVTD funds the two years of center-based training. Completion rate of the program used to be in the range of 90% and graduates employment rate close to 100%, making it a good choice for a range of basic education graduates. Another factor contributing to the status of this scheme is that the diploma granted to graduates has the same official privileges as the secondary school certificate, e.g. reduction of the army drafting period. The 1990s and the last decade of the privatization policy in Egypt resulted in reducing the labor force in privatized companies and created new challenges for the PVTD. To be able to maintain acceptable efficiency, PVTD started training programs for the private sector and competitiveness became an issue. As a public sector institution, PVTD does not have enough decision-making power over issues such as salaries and incentives, or charging training fees from apprentices. These limitations are hampering its chances to compete with private sector training providers. New management in many privatized training companies stopped their cooperation, while a good percentage of newly established companies are small enterprises with little, if any, commitment to apprenticeship. Lately, PVTD reduced its apprenticeship intake and is giving more weight to short-term training and advanced technology courses. As Egypt is witnessing a transition from a youth-led revolution to a more democratic country, it is premature to assess the long-term impact of these trends on the future of the PVTD apprenticeship scheme.

In 2007, the total number of PVTD apprentices, in the three years, amounted to 22035 with 2235 females and 19800 males; all within the 15-18 year-old category. Enrollment was 8187 in the first year (7577 males and 610 females), 7275 in the second year (6413 males and 862 females) and the third year enrollment was 6574 (5811 males and 763 females). Only third year apprentices sign contracts with the training company. As mentioned earlier, PVTD programs do attract a segment of basic education graduates. Admission is organized, mainly by the PVTD in coordination with training companies.

The 3-year program is divided into institution-based learning and training for the first two years and company-based training in the 3rd year. Off-the-job learning, offered by the training center, consists of theoretical and practical learning (513 hours of theory in the first year and 864 hours of practical, 405 hours theory and 864 hours of practical in the second year and 216 hours theory during the third year). The one year work-based training includes one day of theory in the training center for 36 weeks. Company training lasts for 44 weeks, each for 5 days. Training curricula is designed and monitored in cooperation between PVTD and the training company. Curriculum covers general subjects, general technology and occupation-specific technology. PVTD organizes its own annual final examination for all third year apprentices over its 54 centers covering all regions of Egypt and has the results endorsed from the Minister of Industry, granting the diploma.

Governmental budget is the primary source of finance. While the PVTD is administering the program and liaising with other bodies, the Government is granting graduates' certificates. Employers' organization (Egyptian Federation of Industries) and the Egyptian Trade Union Federation are members of the board of PVTD, along with other representatives.

APPRENTICESHIP SCHEME 2: THE DUAL EDUCATION INITIATIVE (MoE)

The dual education program is one of two apprenticeship schemes offered by MoE. Implementation started as a pilot project in 1995, with technical assistance from Germany according to an agreement signed earlier in late 1991.

Expectations from that project were very high, the issue was treated as a top priority, the cooperation agreement was signed by the two head of states (Kohl and Mubarak) at that time and the initiative carried their names (Mubarak - Kohl Initiative or MKI). The initiative was designed to link Technical Secondary Schools (TSSs) to the economic sectors through a dual arrangement very similar to that applied in Germany, but customized to legal and social realities on the ground in Egypt. Improving relevance and quality of TSSs programs is the main objective of this initiative. Pilot implementation was started, and is continuing in partnership with the Investors' Associations in new industrial cities and their Investors' Unions, which contributed to its success. Enrollment only represents a tiny percentage of students in a limited number of occupations in selected governorates. Compared to the annual intake of above 600,000 students in the TSSs, the dual education program absorbs only a fraction of one percent of the TSSs' enrollment. It was envisaged that with the positive impact of the project on students and enterprises, the model will improve itself and replace the fully school-based modality applied in TSSs. After almost 20 years of very slow expansion, the figures show that the intended impact is still far from being realized. Almost 106 out of over 1600 TSSs are offering one or more dual system program. According to the dual education initiative information pamphlets, 80% of the graduates receive work offers in their training company but only about 50% are employed because a good percentage of graduates prefer to continue their tertiary or university education. Students sign training contracts with their training companies for the total duration of training; three years. Companies pay a small stipend to the student, in addition to transportation, clothes and other in-kind incentives. Off-the-job learning is provided by the TSS and covered by the school budget. Ratio of completion of the program is very high, and it does attract better-achieving students. Companies contribute to guiding students during the admission period and in selecting appropriate candidates. They also contribute to adjusting the study curriculum and assign the mentors.

Eighteen occupations are, at present, covered by the program – all industrial, except one administrative. All occupations are of 3-year duration, leading to technical secondary school diploma, giving a good social status to graduates.

The total number of enrolled students, all in the secondary school age category, grew from 6000 in 2000-01 to reach 16000 in 2006 and 23200 in 2011-2012. The number of training specializations was 8 in 2001 and increased to 18 in 2011-12. Out of the 23200 apprentices in 2012, female enrollments amount to 3200 representing less than 14% of the total enrollment. Being mostly industrial occupations, as well as the nature of work-based training contributes to the limited female participation phenomenon. This program is very attractive being under the MoE and leading to the same certificate as its school-based program. Almost one third of the graduates continue tertiary and university education. Training companies contribute to acquainting applicants on the system and participate in selecting trainees. They also organize visits to preparatory schools and students' visits to companies to raise awareness on that modality.

On- and off-the-job learning are blended during the 3-year program, with two days in the school and four days in the workplace. Off-the-job learning is executed in the participating TSSs for school-based programs. On-the-job training is offered in the training company supervised by a specialized body (Regional Units for Dual System 'RUDS') affiliated to the employers' organization cooperating as a main stakeholder (Investors' Association in industrial cities and their union at national level). Training curricula is designed and monitored in cooperation between the MoE and the training company. Third year students sit side by side with their school-based program mates for the same national examination leading to the TSS Diploma (equivalent to general secondary education certificate). In addition, they receive a certificate from the intermediary body, mainly employers' organizations, for their on-the-job acquired skills. The Arab-German Chamber of Industry also issue similar certificates for the 'on-the-job training' acquired skills.

The Government covers the cost of education offered by the school, while training companies take care of company training and students' costs. The role of the employers' organization is active at local and national levels. They also utilize the resources (human and physical) available in schools and workplaces to offer in-service specialized training for member companies, helping in increasing productivity, while creating an extra source of funding to be used as incentives.

APPRENTICESHIP SCHEME 3: JOINT SCHOOL INITIATIVE (MoE)

The MoE is also running 12 'Joint' Technical Schools and 9 secondary ones for 3-year and 3 advanced ones for 5-year programs. Joint schools are established and run according to the needs of a specific company or body, according to a standard legal agreement. Current schools are industrial (9 schools), informatics (1), fishing (1) and restoring monuments (1). This type of cooperation started in 1972 with the Ministry of Transportation (railways and river transportation occupations) and extended to a number of public sector companies and governmental bodies. Many joint schools are established within the premises of the cooperating company or as a part of the company training centre. The number of trainees is matched to the needs of the participating company, making it a very limited initiative compared to the huge enrollment in TSSs. Joint schools are either three years leading to a TSS diploma, or 5-years programs called advanced technical and leading to a higher diploma equivalent to community college certificates. As in all other secondary school programs, admission is limited to students who successfully completed the 9 year basic education. Specializations and curricula are jointly designed and implemented between MoE and the company/body. Students sit for a national diploma examination before graduation with a 3 or 5 year diploma, according to their program. Students sign contracts with the company for the full duration of the program and in many cases, almost all graduates are offered contracts in the same company.

Training occupations are related to participating company/body's needs. Programs offered are preparing for level 3 or 4 of the occupation levels (called technician and first technician respectively, but practically they are skilled/vocational laborer and technician respectively).

The total enrollment of the scheme amounted to (3999) apprentices in 2012, with 241 females and 3758 males. Enrollment by level reached 2786 in the three year program and 1231 in the 5-year program. Contracts are signed for the total duration of the program (3 or 5 years). The scheme is attractive for the same reasons mentioned in the dual scheme above. In addition, this scheme includes the 5-year program that leads to a

diploma equivalent to community college degree. The regulatory and technical role of training company in this scheme is clearer, in particular when the school is already hosted by the company.

Training and examination arrangements for the scheme are very similar to those of the dual education scheme. In both schemes, training arrangements are flexible to allow a say for the training company, but the final examination is part of the central examination organized, for other school-based program students, by the MoE. In this scheme, practical training in the company is certified by that company as an additional certificate to the MoE diploma.

Financing arrangements are also similar to those of the dual system. The training company covers the cost of their on-the-job training and that of the trainee, while MoE (the school) covers other costs. In some cases where the training company does host the school on its premises, they also cover its costs, not including salaries of staff.

APPRENTICESHIP SCHEME 4: EMPLOYERS' FEDERATION (EFBCC)

EFBCC's scheme (For further details kindly see Badawi, 2009) is regulated and administered by the employers' organization in building and construction (Egyptian Federation of Building and Construction Contractors). The main objective of the scheme is to ensure faster and better skills development in some of the building and construction occupations, compared to the prevailing informal apprenticeship in that sector. The scheme also mitigates unemployment of youth, in particular those coming from families of construction workers. The construction sector is characterized with its special working environment and seasonality. The scheme is focused on promoting enrollment, enhancing cooperation between training enterprises, offering off-the-job learning, providing some career/vocational guidance to apprentices and certifying them. A unique feature of the scheme is the flexible monitoring system, mobilizing apprentices between enterprises to ensure wider acquisition of occupational skills in a sector characterized by seasonal work. Another unique feature is that the scheme is designed, implemented, monitored, evaluated and graduates are certified by the Federation

of contractors, not governmental bodies. Although the number of apprentices is very small relatively to the size of employment in this sector, it is a breakthrough to have a modern apprenticeship program in a sector dominated by very low educational achievers and illiterate workers trained mainly through informal apprenticeship.

The scheme offers training in selected occupations that are socially accepted, like a secondary school status. Occupations vary according to the needs of companies. The scheme primarily targets, but is not limited to, youth in the families of construction workers and their friends. Focusing on this target group is also promoting occupational identity.

All apprentices are males, which is also the case of employment in these occupations. Construction occupations are, in general, not attractive for the youth, that is why the scheme is primarily targeting construction workers' sons and relatives/friends.

The Federation is offering necessary off-the-job training in cooperation with the vocational training centers of the Ministry of Construction and New Communities (TOMO HAR). Graduates' qualifications/certificates are issued by the Federation and well received by its member contractors. The Federation, jointly with training companies, covers the cost of training as well as that of the apprentice, with no governmental role, so far, in financing, regulation, training or testing and certification.

A PIPELINE APPRENTICESHIP SCHEME: COMBATING CHILD LABOR

It is hoped that the apprenticeship component of the multi-donor initiative to combat child labor will succeed in designing and putting in place a practical scheme that would be sustainable and could be replicated without the donor funds. The initiative is implemented by three UN Agencies (ILO- UNICEF and WFP), building on a previous project implemented by the same three UN agencies. The previous project lasted for 5 years, but its apprenticeship component started too late and while it led to a good foundation it did not reach the objectives. The current initiative also covers more governorates and larger numbers of children with the

Ministry of Manpower and Migration (MoMM) the national counterpart in the project.

MAJOR ISSUES AND LEARNING POINTS

Modern apprenticeship in Egypt is facing a number of problematic issues that, if properly treated, would promote this important modality of education and training. The focus here is on issues that could solve major weaknesses of the current status of apprenticeship. **First**, the lack of regulations for a national system, leaving current schemes as 'Isolated Islands'. A lesson learned from Australia's experience is that success of their apprenticeship system came as a result of the active role of the government: '*This success story has been the product of very conscious planning by the federal government including the introduction of new agencies to promote apprenticeships and manage their quality*' (Smith, 2010). **Secondly**, with current high rates of unemployment, and many already skilled workers available; there is a need for incentives to encourage companies to participate in training apprentices (at present there are no such incentives). **Thirdly**, the absence of career guidance services deprive youth from learning about this modality, leaving them with a negative picture of informal apprenticeship. **Fourthly**, apprenticeship should be seen as a link in the LLL chain, opening channels with other and higher types of education. **Fifthly**, the prevailing culture of considering education and training the sole responsibility of the governmental sector needs to be changed towards full and equal partnership with all stakeholders. In spite of the small size and fragmentation of current apprenticeship schemes in Egypt, they have some points of strength. Schemes' sustainability, in spite of minimum governmental support, devotion of stakeholders and staff, high rates of graduates' employment, apprenticeship graduates are paid higher than mates from institution-based education/training and recognition of its qualification by employers and the government are among the main strengths.

Although coming too late and too little, policy developments to institutionalize modern apprenticeship

in the MoE, Mubarak-Kohl and Joint TSSs, are paving the way for more comprehensive approaches to this modality. These developments are also, to a certain extent, influencing the image of apprenticeship as a viable education modality. It is not unusual to see a university graduate who started in the dual system of the MoE, a positive signal to students and families that must be promoted and encouraged.

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INTRODUCTION

At the time this report was written there was a poor economic situation, with the UK believed to be in 'double dip' recession. There was large-scale unemployment⁴ and just under a million young people were not in employment, education or training. The Government continues to invest in vocational training and has declared its intention to increase the numbers of individuals in apprenticeships. The amount of funding available for apprentices aged under 19 has been enhanced in order to increase the number of training places available, but at the same time funding for individual learners aged above 19 was being reduced and ways of encouraging co-investment were being sought.

Apprenticeship is defined by the Skills Funding Agency as 'a job with an accompanying skills development programme as defined by the Specification for Apprenticeship Standards in England (SASE) and approved by the relevant Issuing Authority'. Individuals typically move into an apprenticeship shortly or sometime after conclusion of compulsory schooling. At present compulsory schooling ends at age 16, but from 2013 the Raising of the Participation Age legislation (RPA) will require young people to continue in education or training until the end of the academic year in which they turn 17, and, from 2015 until their 18th birthday. Under the RPA legislation apprenticeships will constitute one of the approved education and training routes for those leaving school at 16.

Note that the apprenticeship system in Scotland and Wales differs from that in England. This case study describes the situation in England.

NATURE OF THE APPRENTICESHIP SYSTEM

The English Apprenticeship system has a very long history. It originates in the Guild system when a master

craftsman would employ a young person and instruct them in their craft, after which the individual would expect to spend a period of time as a journeyman. In later centuries, as the engineering, shipbuilding, plumbing and electrical sectors developed, apprenticeships expanded into these emerging industries and by the mid 1960s there were around 240,000 apprentices. At this point an apprenticeship could last up to seven years, with apprentices undertaking a mixture of on-the-job training (usually, although not always, from their supervisor) and off-the-job training, usually at a technical college (latterly, colleges of further education).

However, by the 1960s concerns were already being voiced about the effectiveness of apprenticeships, with questions being particularly focused on the extent to which apprenticeships sufficiently prepared young people for employment. Criticisms centered, primarily, on the fact that the approach to learning paid more attention to time-serving rather than to the outcomes attained in terms of skills and employability. There were concerns, too, that they had failed to embrace new and expanding occupations. Alongside this, the decline of manufacturing in the UK from the early 1980s resulted in many fewer apprentice vacancies. By 1990 the number of young people in apprenticeships was estimated to have fallen to just 53,000. The rising proportion of post-16 participation in full-time education and a lack of public funding for Apprenticeships also served to exacerbate the decline. However, one key issue to which commentators have pointed as being particularly instrumental in the process of decline was the effect of introduction of the Youth Training Scheme and Youth Training program for individuals who might otherwise have done an Apprenticeship; the quality of provision for these programs was often questionable. These programs contributed to a poor perception of vocational training generally, and difficulties continue to this day in persuading much of the population that apprenticeships are a credible route to qualification for employment.

⁴ Although unemployment was lower than might be expected in such circumstances, due to factors such as widespread part time working.

Since 1990 there have been several attempts to raise the quality and credibility of apprenticeships alongside an expansion of apprenticeship frameworks into new areas of work, such as hairdressing and business administration, and an increasing focus on inclusion and the addressing of gender and ethnic segregation. In 1995 apprenticeships were redesigned and rebranded as 'Modern Apprenticeships'. The changes also led to attainment of a National Vocational Qualification (NVQ) being the *only* qualification attained during an apprenticeship. Prior to 1995 there had been very little knowledge content specified for NVQs⁵. Although knowledge played a larger role in these qualifications post-'95, nonetheless there was no requirement to specify any sort of minimum curriculum based on this (knowledge was still largely deduced through observation of performance plus questioning). This therefore led to further disquiet regarding the quality of training that was being provided during an apprenticeship. It should also be noted that at this time apprenticeships were not subject to the regulatory requirements that formed the basis for quality inspections for other school and college programs.

Since then there have been several waves of reform aimed at improving the quality and appeal of apprenticeships:

- In 1998, the Training Standards Council (subsequently the Adult Learning Inspectorate) took on responsibility for inspection of work-based learning providers, with responsibility for inspection being transferred to Ofsted in 2007.
- Level 2 apprenticeships were introduced in 2000 (until then they had been available only at Level 3). Level 2 is roughly equivalent to 5 General Certificates of Secondary Education, the examinations typically taken in school at age 16. Level 3 apprenticeships are usually assumed to be equivalent to 2 Advanced Level examinations (examinations usually taken at age 18).

5 Miller (1999) noted at the time, 'years of complaint...were needed before the word 'knowledge' was introduced into the descriptions of different levels of award. The early definitions of NVQ award levels (from 1986) defined levels 2 – 4 as indicating 'competence in a broad range...of work activities.' It was not until the updating of the NVQ Criteria and Guidance in 1995 that these definitions were amended to read 'competence which involves the application of knowledge in a broad range...of work activities'.

- In 2000, the Learning and Skills Council (LSC) took on responsibility for the funding of apprenticeships from the Training and Enterprise Councils (this subsequently transferred to the Skills Funding Agency in 2010).
- The technical certificate was introduced in 2003/04 to explicitly require theoretical knowledge from apprentices (and, implicitly, structured off-workstation training).
- The apprenticeships family was again re-branded in 2004; 'Modern' was dropped from the title and they became Apprenticeships (Level 2) and Advanced Apprenticeships (Level 3).
- An apprenticeships 'blueprint' was introduced in 2005 to provide updated guidance for Sector Skills Councils (independent, employer-led, UK-wide organizations charged with encouraging increased employer investment in skills) on how to define their apprenticeship frameworks (LSC, 2005).
- The National Apprenticeship Service (NAS) was launched in April 2009. The NAS has overall responsibility for the delivery of apprenticeships in England and is ultimately accountable for the national delivery of targets and co-ordination of the funding for apprenticeship places. It is also charged with bringing about growth in the number of employers offering apprenticeships and with overcoming barriers to the growth of the program. It is also responsible for promoting apprenticeships and their value to employers, learners and the country as a whole.
- The Specification of Apprenticeship Standards for England (SASE) was introduced in January 2011 through the Apprenticeships, Skills, Children and Learning (ASCL) Act and states minimum requirements for programs (BIS, 2011). This replaced the Apprenticeship Blueprint. This set out the new legal requirements for apprenticeships such as payment by employers from day one and minimum number of teaching hours (280).

Sources: www.apprenticeships.org.uk and <http://repository.excellencegateway.org.uk>

The efforts to return apprenticeships to their former status as a high quality training option continue today. At a

2012 conference on The Future of Apprenticeships, the Head of Programme Development at the National Apprenticeship Service noted that 'Quality is improving and good but pockets of bad practice still exist'. The government has recently undertaken a review of apprenticeships and the results will be published a few weeks after submission of this case study. Leaks reported in the British press suggested that the report will conclude that the apprenticeship system remains 'blighted by a host of image, access and quality problems that present a 'huge challenge' to encouraging more small companies to take on [apprentices]' (Hurley, 2012) and that amongst the 15 recommendations likely to be contained within the report, it was predicted that one will be that employers be given 'ownership of the funding' (Hurley, 2012).

The latest funding initiative is the introduction of Advanced Learning Loans for learners aged 24 and above from 2013/14. These will be available for learners studying at Level 3 or above, including QCF Certificates and Diplomas, Access to Higher Education, A-Levels (the senior school-leaving certificate) and Advanced and Higher Apprenticeships. The loans will be available to learners to meet the tuition costs of their courses.

CURRENT STRUCTURE OF APPRENTICESHIPS IN ENGLAND

Competence based awards (known as National Vocational Qualifications – NVQs) and, in Scotland, SVQs) remain the central qualification within an apprenticeship to this day. There has also been a determined attempt to address adult basic skill deficits within apprenticeships, with a requirement since 2003/04 for apprentices to attain 'Key skill' units as part of their program⁶, and the SASE now specifies the expected attainment levels in key skill or equivalent subjects. For example, a Level 2 apprentice should either have (upon entry) or attain (by completion) one out of the following range of eleven numeracy qualifications.

6 Apprentices are exempted if they can demonstrate having attained equivalent levels of literacy and numeracy at entry (e.g. through existing GCEs in Maths and English, or equivalents); in fact, many providers have made literacy and numeracy levels an entry/selection pre-requisite, thus solving this problem at the outset.

Following earlier concerns regarding the failure of NVQs to enable a young person to build a coherent body of knowledge and the findings of the Cassels report (2001) that apprentices in some sectors were not acquiring any new knowledge above and beyond that gained in everyday work, in 2005 the government introduced a requirement that every apprenticeship should include a knowledge-based Technical Certificate as well as an NVQ. In order to be awarded an apprenticeship an individual had to complete an NVQ, have or attain key skill units or equivalents and complete a technical certificate. However, in 2007, the government dropped the requirement for the technical certificate and required apprenticeship frameworks only to demonstrate how the knowledge-based element formed part of the mandatory NVQ.

Since then the SASE has introduced minimum levels of off-the-job and on-the-job Guided Learning Hours (GLH). However, disparities remain between sectors regarding how the knowledge component is defined and delivered⁷. As Fuller & Unwin observed in their submission in early 2012 to the Public Accounts Committee's examination of adult apprenticeships, while this means that 'some apprentices (notably in sectors such as engineering) will attend college on day-release to study for a separate and substantial knowledge-based qualification (sometimes referred to as a Technical Certificate) as well as an NVQ....for most apprentices, the 'knowledge element' as stated above will not involve participation in a recognized off-the-job course. It will either be embedded in the NVQ or, if it is separate, will lead to an award with very limited recognition, currency and value. In the NVQ model, at Level 2 and 3, knowledge will be assessed as part of the observation of task performance by the assessor asking questions ... and through the inclusion of statements of evidence in the candidate's portfolio' (Fuller & Unwin, 2012). It is unclear at present the extent to which the SASE requirements are serving to improve the knowledge component of apprenticeships.

The SASE now also specifies the need for all apprenticeships to contain a 'Personal Learning and

7 The Blueprint says 'The knowledge element may, or may not be integrated with the competence element at the discretion of the Sector Skills Councils, Sector Bodies and their employers.' (p.12).

Thinking and Skills' component (PLTS) comprised of the following:

- a. Independent enquiry
- b. Creative thinking
- c. Reflective learning
- d. Team working
- e. Self management
- f. Effective participation.

The SASE guidance also states that any proposed apprenticeship framework must specify where achievement of the PLTS is located within the Apprenticeship framework, either within a qualification or elsewhere, and how achievement is to be evidenced.

LENGTH OF PROGRAM

There have been concerns that some NVQs could be attained in too short a time period, suggesting they were insufficiently challenging and did not add significantly to national skill levels. There is now a requirement for a minimum number of guided learning hours (known as GLH) a year for all apprenticeships, although there remains no minimum length of training period as such. For example, the SASE states that 'An Intermediate Level Apprenticeship framework must specify the number of GLH that an apprentice must receive within 12 months of starting a framework. This must be a minimum of 280 GLH. 'Despite the earlier criticisms of some NVQs as being too easy to attain, the key factor dictating the duration of many Level 2 and 3 apprenticeships is the length of time required for the individual to be assessed for all of the units within the NVQ. In response to this rules have been introduced to ensure that from August 1st all Apprenticeships will have to last at least 12 months. For some Level 3 awards and, in particular for higher apprenticeships, (see following section) the associated learning program may be the factor that dictates minimum length of study.

APPRENTICESHIP LEVELS

Originally apprenticeships were available only at Level 3, at a time when there were only four defined levels of

qualification and employment. A Level 2 apprenticeship was then introduced for those without the appropriate existing qualifications to fit them for direct entry to a Level 3 (viewed as equivalent to 'Advanced' level qualifications taken at age 18 by those who remained in full-time education). Since then, 'Higher apprenticeships' have been introduced. The following definitions of apprenticeships at Levels 2, 3 and above are given on the apprenticeships.org.uk website.

Intermediate level apprenticeships: Apprentices work towards work-based learning qualifications such as a Level 2 Competence Qualification, Functional Skills and, in most cases, a relevant knowledge-based qualification.

Advanced level apprenticeships: Apprentices work towards work-based learning such as a Level 3 Competence Qualification, Functional Skills and, in most cases, a relevant knowledge-based qualification.

Higher apprenticeships: Apprentices work towards work-based learning qualifications such as a Level 4 Competence Qualification, Functional Skills and, in some cases, a knowledge-based qualification such as a Foundation Degree.

Source: www.apprenticeships.org.uk

Although the definition points to a foundation degree (a two-year sub-Bachelor's qualification) as being the typical knowledge qualification that would be delivered within a higher level apprenticeship, it should be noted that much of the discussion at present concerning higher apprenticeships focuses on the potential for incorporating full degrees and masters' programs. A spokesman for the National Apprenticeship Service recently stated that the major growth areas for apprenticeships would be at academic Level 3 and above - especially Higher Apprenticeships (Level 4 and 5) (Marsh, 2012).

The SASE gives details of the basic qualifications that can be used to assemble higher apprenticeship frameworks; for example:

A Higher Apprenticeship framework at Level 5 must identify either:

- a. A competencies qualification at Level 5 and a separate technical knowledge qualification, each of which must carry at least ten credits on the QCF.
- b. An integrated qualification at Level 5 which combines competence and technical knowledge elements which are separately assessed, each of which must carry at least ten credits on the QCF.
- c. A competencies qualification at Level 5 which must carry at least ten credits on the QCF and a separate Foundation Degree or HND or HNC to meet the requirement for a separate technical knowledge qualification.
- d. A Foundation Degree at Level 5 which combines competence and technical knowledge elements where the competence element is at least 50% of the Foundation Degree and where at least 50% is delivered through on-the-job training. Where the competencies qualification is a Foundation Degree, it must be endorsed by the Awarding Higher Education Institution as at least 50% competence-based.

Source: Specification of Apprenticeship Standards for England.

A recent press release indicated that the second round of the £25 million higher apprenticeships initiative would see 4,230 placements funded in jobs such as airline pilots, lawyers, accountants and engineers. Participants would be studying for degree-level qualifications during the apprenticeship (BIS, 2012).

DELIVERY AND FUNDING OF APPRENTICESHIPS

It should be clear by this point that there is no single model for the delivery of apprenticeships in England. Rather, the focus remains on outcomes. If an attempt were to be made to describe a 'modal' delivery model, it would be along the following lines:

- Employment as an apprentice, with some on-the-job development provided by the workplace supervisor

(most often) or (less often, and mostly in larger establishments) by the training/learning and development manager/department.

Provision of off-the-job training/learning input provided by a college, work-based learning provider, charity, Group Training Agencies or university with (in some cases) a formal test that counts towards the awarding of a technical diploma or similar (or examinations in the case of higher apprenticeships).

Competence-based assessment against occupational standards (contained within an NVQ) mostly at the apprentice's place of work or (less often) within a GTA or agreed Realistic Work Environment, such as a training restaurant or hair salon.

Each apprentice must have a 'registered training provider'. There are currently 1,100 registered providers in England, and employers can register as training providers. The apprenticeship itself must adhere to one of the (currently) 200 apprenticeship 'qualification framework' areas. The full list of frameworks can be viewed at: <http://www.afo.sscalliance.org/frameworkslibrary/>.

Age

Until relatively recently, apprenticeships were a young person's training route. They were primarily available to those aged 16-25 (see also section on Young Apprenticeships), with apprentices aged up to 19 being offered full funding. While there is no strict linkage between age and level of apprenticeship (so it is possible, for example, for an appropriately-qualified 16 year-old to enter directly into a Level 3 apprenticeship) in practice a majority of apprenticeships undertaken by 16 and 17 year-olds are Level 2 awards, while it is more common for apprentices aged over 18 to be registered on Level 3 awards. From around 2005 onwards there were experiments with offering adult apprenticeships, and apprenticeship is now viewed by the Government as an 'all age program'.

In recent years funding for apprenticeships has been reduced, so that while the government now funds 100% of training costs for apprentices aged 16-18, this reduces to 50% for those aged 19-24 and 40% for

those aged 25 and above (age relates to age at start of program). At present employers and/or apprentices are expected to pay the remainder of the fee but there are currently plans to make all apprentices aged over 24 who wish to undertake an apprenticeship at Level 3 or above pay for themselves.

Employment status

Since 2011 the Apprenticeship Act has required all apprentices to be working under a contract of employment with an employer and paid a wage in line with National Minimum Wage regulations. Individuals must be employed for a minimum of 30 hours, except in situations where the learner cannot do 30 hours and in these cases (which are unspecified but likely to be due to a disability or long-term health condition) the minimum is over 16 hours.

In earlier iterations of the apprenticeship model some apprenticeships were gained through full-time study and apprentices were not employed. These were called Programme-Led Apprenticeships but were disliked by many SSCs, employers and other bodies and this route has now been discontinued. However, a problem with the requirement for all apprentices to be employed is that, if they are made redundant, they cannot continue their studies and lose the opportunity to gain a qualification as well as losing their job, although recently it has been agreed that apprentices may continue for six months in certain circumstances. A relatively new development, in part designed to address this problem, but also to support small employers in offering apprenticeships, has been the introduction of Apprenticeship Training Agencies (ATAs). Employers may be unable to offer an apprenticeship for several reasons: because they do not work across a sufficiently wide range of environments to support assessment of all the activities required for the NVQ; because of short term restrictions on employee numbers; or (for those new to apprenticeships) uncertainty about the value of involvement. The Apprentice Training Agency acts as the apprentice's employer and places them with a succession of host employers across the duration of their apprenticeship, allowing the apprentice to gain experience in a range of employment settings. Each host employer pays the ATA a fee for the apprentice's services which is based on the wage agreed with the host (and

which is at least the minimum Apprentice rate⁸) and the ATA management fee. If the host employer finds that they are unable to retain the apprentice then the ATA will find alternative employment for the apprentice, meaning that they can continue and complete their Apprenticeship. To help ensure quality of these arrangements the National Apprenticeship Service (NAS) has recently introduced an ATA Recognition Process and a National Register of Approved ATAs. More detail about ATAs can be found at http://www.apprenticeships.org.uk/Employers/Steps-to-make-it-happen/~/_media/Documents/NAS-ApprenticeshipTrainingAgencyFramework-02April2012.ashx

From the 1960s onwards, employers in the same industry (especially within the engineering sector) and based in the same local area started grouping together to form Group Training Agencies (GTAs). These have become very successful in assisting employers in delivering apprenticeships. In some cases the young person is recruited by an employer to an apprenticeship, but is then seconded full-time to the GTA premises to undertake at least some of their learning full-time. They then move to the employers' premises at the point at which they have sufficient skills to commence employment, with the assessor then visiting them on site as with other apprenticeships.

ACCESS TO APPRENTICESHIPS

Although the Programme-Led Apprenticeship route was discontinued because of concerns about the quality of this route, nonetheless there may be occasions on which it may be optimal for a learner to start on a learning program prior to employment. In particular this may be where learners have additional support needs. For this reason the government introduced the Access to Apprenticeships pathway to a full Apprenticeship, for which the learner is not required to be in employment on the first day of their learning. While learners on this pathway are not categorized or counted as an 'apprentice', they will nonetheless work towards the elements of an Apprenticeship Framework with the Access to Apprenticeship pathway and the Apprenticeship being delivered in one continuous program; 10,000 places

⁸ This will be either the minimum wage for an apprentice as specified by the National Minimum Wage legislation as set by HMRC, or the minimum wage agreed for an apprentice in a specified sector, such as engineering, which may be considerably more.

are available on this pathway. In order to be eligible for Access to Apprenticeships the individual must be:

Aged 16 years or more but not 25 years or greater on the day they start, and Be assessed and able to fully participate in an Intermediate Level or Advanced Level Apprenticeship, and

Either:

- i. Be defined as Not in Education, Employment or Training (NEET) for the whole of the preceding 13 weeks or more prior to start date.
- ii. Assessed and eligible for Additional Learning Support (Additional Learning Needs [ALN], Additional Social Needs [ASN] or both).

ADULT APPRENTICESHIPS

As indicated above, apprenticeships were initially viewed as a qualification for young people entering the workforce. Around 2005 SEMTA and some other Sector Skill Councils explored whether adults (primarily existing employees) could be 'fast-tracked' through apprenticeships. Less funding is given for these learners as it is assumed that they have more experience than other starts. In the case of SEMTA they reported that existing workers were motivated and hard working and were more likely both, to complete the program and complete it in a shorter period of time than younger apprentices.

Since then successive skills White Papers have set out the government's intentions to expand the availability of adult apprenticeships, to the extent that older apprentices are now a significant proportion of all new registrations. Fuller and Unwin (2012) suggest that around 40% of apprenticeship starts in England are aged 25 and over and go on to report that 'The most recent full year figures (2010-11) show that the number of 25+ starts had grown six-fold to 180,000. Currently, 54,000 (30%) of the 180,000 [apprenticeship starts] were over 45 years old and nearly 4,000 were aged 60 or above.'

A great number of these are 'conversions', that is, people who were already employees and whose job title has been changed to apprentice. Fuller and Unwin comment that the minimal requirements of the SASE mean that many of these

individuals gain little by way of skill uplift; although they are called apprentices they may be undergoing a process of assessment and credentialing rather than learning. These individuals would previously have been considered 'work-based learners' and questions have been raised in earlier evaluations of the extent to which those individuals actually learn anything, as opposed to being assessed for what they can already do (Hillage et al, 2005). There is some debate, therefore, whether individuals in such a situation should be viewed as 'apprentices'.

NUMBERS

Table 3.4 shows the numbers of apprentice commencements (known as 'starts') at levels 2, 3 and 4 for the years 2009/10 and 2010/11. It can be seen that there are roughly twice as many starts at level 2 than at level 3. At the moment higher apprenticeships constitute just a small proportion of all starts.

TABLE 3.4 APPRENTICESHIP COMMENCEMENTS BY LEVEL

Level	2009/10	2010/11	Increase
Intermediate level (2)	190,500	301,100	58%
Advanced level (3)	87,700	153,900	75%
Higher (4)	1,500	2,200	47%
Grand total	279,700	457,200	63%

Source: Based on 'Accessing funding – delivering the vision of apprenticeships' (Marsh R, 2012).

In earlier years there were severe problems with retention and completion across almost all sectors and frameworks. Apprenticeship completion rates have improved significantly recently. Some 171,500 people successfully completed an apprenticeship in 2009/10 compared to 143,400 in 2008/09; completion rates were 74% in 2009/10 compared to 37% in 2004/05. In particular, the increased attention to selection has led to quite rapid improvements in completion and attainment rates. It is hard to conclude anything other than that inspection of training providers has led to improvements in delivery and thus attainment too.

OCCUPATIONAL COVERAGE

There are now 200 apprenticeship frameworks available with a further 118 frameworks listed as being under development. This range of frameworks, along with

the expansion into Levels 4 and 5 awards, means that apprenticeships are going to be available in a greater number of jobs than ever was the case previously. As just one such example, there is now an apprenticeship available in Management. Fuller and Unwin (2012) have expressed concerns that much of the expansion of apprenticeships has been in occupational areas in which there is no requirement for a technical certificate (see also the comment on developments in Adult Apprenticeships), with some two thirds of adult apprenticeships in England being at level 2. Table 3.5 sets out the total starts in the twelve most populated apprenticeship sectors in England. Fuller and Unwin (2012) note that the figures for adult apprenticeship commencements in part account for the fact that service sector apprenticeships dominate the apprenticeship statistics, with the top three 'sector frameworks' for apprentice starts in 2010-11 accounting for about a third of all starts registered.

Perceived status of apprenticeships varies with sector and tradition. In engineering, shipbuilding, construction and other sectors with a tradition of craft apprenticeships the apprenticeship 'brand' remains strong; elsewhere they appear to have less credibility both internally and to external commentators (such as Fuller & Unwin, 2012). Occupational identity is in line with this; where there is a strong tradition of craft apprenticeship, occupational identity is stronger amongst apprentices.

TABLE 3.5 SECTOR 'TOTAL STARTS' (COMMENCEMENTS) IN THE TWELVE MOST POPULATED APPRENTICESHIP SECTORS IN ENGLAND 2010/11

Sector	Total starts
Customer Service	53,970
Health and Social Care	53,720
Retail	41,410
Business Administration	38,900
Hospitality and Catering	29,810
Management	29,790
Children's Care, Learning and Development	27,410
Engineering	18,330
Active Leisure and Learning	17,650
Hairdressing	16,450
Construction	15,590
IT and Telecoms Professionals	12,030
Vehicle Maintenance and Repair	9,060

Source: Table One, Fuller & Unwin, (2012), based on Data Service statistics.

While there are requirements for possession of certain qualifications in order to work in certain sectors (for example, in high-risk sectors such as gas installation, maintenance and testing) it is the qualification (and in some cases CPD requirements) that is mandatory, not the route to gaining the qualification (i.e. the apprenticeship).

PARTICIPATION

As already noted, adult apprenticeships are now common. There are no restrictions on gender although many sectors nonetheless remain strongly segmented for historical reasons; in other words, patterns of entry to apprenticeships by males and females reflects existing gender profile of the sector or occupation. No external bodies control the entry of people into apprenticeships.

PARTICIPATION OF GOVERNMENTS AND OTHER STAKEHOLDER GROUPS (SOCIAL PARTNERS)

The UK government decides which bodies are able to develop apprenticeships and their role in the developmental process. The current situation is described below.

The content of each apprenticeship is designed by Sector Skills Councils, Sector Bodies and their employers in accordance with the design principles of the Apprenticeship Blueprint (LSC, 2005). The Blueprint provides the specification for Apprenticeships and will be used by Sector Skills Councils to design and revise apprenticeship frameworks. Development involves the following bodies:

- ▣ **Proposer:** An organization that has an idea for an apprenticeship framework but does not necessarily want to develop one, is encouraged to work with the relevant Sector Skills Council (SSC) to develop an appropriate framework.
- ▣ **Framework developer:** The organization that will develop the framework for submission to the issuing authority.
- ▣ **Issuing authority (SSC/UKCES commissioned body):** The organization appointed by the Secretary of State in England to issue apprenticeship frameworks for a particular sector.

Awarding bodies typically apply for approval to offer the relevant constituent qualifications. This may be independent or in partnership with a SSC or SSB or a professional association. In recent years National Skill Academies have been instrumental in identifying the need for apprenticeships in new areas.

In the last year or so the Department for Business Innovation and Skills has required the TUC, the peak body of trade unions, as a condition for receipt of its Union Learning Fund, to support the introduction and expansion of apprenticeships. There is emerging evidence (Stuart, Cook, Cutter & Winterton, forthcoming) that this support encourages both the enculturation and attainment of apprentices.

OTHER ISSUES

Despite the developments described above, much of the discourse over the past 15 years has continued to focus on the key question of how to improve the perceived quality, credibility and standing of apprenticeships. This is in turn linked to a perceived lack of parity of esteem between vocational and academic awards, which continues to trouble politicians and educationalists alike; this is considered to be a key factor impeding greater uptake of apprenticeships.

There have been some initiatives based on an 'apprenticeship-like' model aimed at young people within compulsory education. 'Young Apprenticeships' were available to 14-16 year-olds for around five years, offering the opportunity to gain a limited number of NVQ units during quite extensive work placements; while they were popular there were problems with combining the extensive work placement activities with the mainstream school timetable (Newton et al, 2006 and 2007). The program was wound up two years ago.

MAJOR ISSUES AND LEARNING POINTS

The problems of recruitment, retention and completion have been largely addressed. However, there remain long-term problems with perceptions of quality which have historical roots, and for which reason will probably still take some time to resolve.

There remain significant issues around gender segregation in some apprenticeship frameworks, but these largely reflect existing patterns of segregation within the sector. Despite increasing awareness of these issues there has been very slow progress in increasing engagement with under-represented groups. There have been several funded research and development programmes aimed at counteracting segregation, but while these do, generally have some impact in terms of increasing engagement from under-represented groups, there is only occasional evidence of sensible practices being mainstreamed into provider activity. The changes reported are often of the order of only 1 or 2% within a limited geographical environment and often not cumulative (i.e. do not build on existing progress). Providers also reported that competition between institutions can constrain collaboration to address such issues (Newton et al, forthcoming).

With the recession affecting young people disproportionately highly, various publicly funded schemes have been set up in order to retain/increase the number of apprenticeships and to provide incentives for firms not yet offering them to engage in the process. These vary across the countries of the UK and include:

- An 'Adopt an Apprentice' Scheme in Scotland which was launched in 2009, for apprentices who had been unemployed previously, and offered employers a grant of £2,000 (Scottish Government, 2009).
- The 'ReAct' and 'ProAct' programmes in Wales (National Assembly for Wales, 2011), which offer a maximum subsidy of £2,500 for people who have been made redundant and who start suitable training, including apprenticeships, and offer additional support for employers (co-financed by the European Social Fund).
- The English Government has launched a £1 billion 'Youth Contract' to provide half-a-million new employment opportunities for 18-24 year-olds, including incentives for businesses to take on more apprentices, funded through NAS and the Department of Work and Pensions. This initiative includes an Employer Incentive in England ('Apprenticeship Grant for Employers of 16 to 24 year-olds'; NAS 2012b) to help eligible employers to offer young people employment through the

apprenticeship programme. In its current design, the programme intends to provide 40,000 apprenticeship grants to small to medium sized employers who take on new apprentices (£1,500 from 2012, down from £2,500 previously, when the grant was restricted to 16-17 year-olds).

Note also that in some industries, such as construction, a levy system helps spread training costs across larger and smaller employers in a sector with high labor mobility. This aims to ensure sufficient supply of trained workers and access to training for both large and small business.

There remain problems in balancing the need to ensure quality and provide a coherent learning experience with the flexibility that is demanded by employers. Funding remains an issue.

STRENGTHS OF ENGLAND'S APPRENTICESHIP SYSTEM

The 2009 OECD Review of Vocational Education and Training (OECD, 2009) concluded that 'The English Apprenticeship system is flexible and allows for tailor-made training solutions for employers and this remains its inherent strength'. It is clearly also a point to note that the opportunity to undertake an apprenticeship is now being extended to a greater age range than before, addressing some of the inequities seen within the working population. However, there are questions about the extent to which older people are genuinely receiving parity of treatment in terms of the apprenticeship experience available to them.

WEAKNESSES OF ENGLAND'S APPRENTICESHIP SYSTEM

There remain, in addition to issues of parity between different age groups continuing problems with equivalence across sectors and quality in some sectors. This does not help in addressing the continuing problems with how these awards have been and are perceived.

POLICY DEVELOPMENTS THAT HAVE BEEN HELPFUL/UNHELPFUL

While a range of initiatives such as the Apprenticeship Grant for Employers has helped encourage more

employers to try out the employment of an apprentice, nonetheless reduction of funding remains an issue for employers. This is exacerbated by confusion amongst employers regarding the various streams of funding available. A range of initiatives aimed at addressing gender and ethnic segregation have had varying amounts of success but wider impact is restricted by the unwillingness of government agencies to support the central promotion of such initiatives; and little drive to make providers mainstream initiatives once project funding ends.

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INTRODUCTION

France is the second largest economy after Germany within the EU (the fifth in the world after the USA, China, Japan and Germany) in terms of its nominal Gross Domestic Product of 2,582.5 billion US dollars (1,931 billion Euros) (IMF, 2010). The French economy is primarily a service economy: in 2009, the tertiary sector occupied 75% of the workforce, while the primary sector (mainly agriculture) only represented 2.9%, and the secondary sector (mainly industry) 21.7% (INSEE, 2011). The French economy is also occupying an increasingly important role in international trade, especially within the European Union. With over 65 million inhabitants in January 2010, France constitutes the second largest country after Germany in the EU in terms of the size of its population. Of them, 25.7% are under the age of 20 years and 22.6% are at least 60 years old. In 2009, the active workforce represented 28.3 million, of which 25.5 million were occupied in different sectors of the economy (47.5% of them were women). The overall rate of unemployment reached on average 9.1% in 2009 (9.4% for women and 8.9% for men). With an unemployment rate of 24.6%, the young people aged 15-24 years old were the most affected age group (INSEE, 2011).

In 2009-2010, the total number of pupils, students and apprentices enrolled in different public and private institutions of the educational and training system reached 15 million, representing an overall schooling rate of 23% of the whole French population. An increase of 1.0% was achieved in comparison with the previous academic year 2008-2009 (INSEE, 2011). After the pre-schooling provision in nurseries for children aged 3-5 years, the compulsory education starts at the age of 6 and lasts for ten years. The number of pupils following their primary and lower secondary education in 2009-2010 was 9.7 million. At the age of 11/12, the pupils are transferred from primary school to comprehensive lower secondary colleges. On the completion of this lower secondary cycle of four years, the pupils going for upper secondary education may opt for a range of

routes: general, technological or vocational education within upper secondary colleges called 'lycées'. They may also opt for apprenticeship within apprenticeship centres called CFA (Centres de Formation d'Apprentis). This upper secondary cycle lasts from two to three years depending on the duration of the targeted qualifications. At the higher education level, the students can also opt for academic or vocational routes, including apprenticeship. About 3 million students and apprentices were enrolled in the upper secondary vocational education and training and 2.3 million in higher education during the academic year 2009-2010 (INSEE, 2011; MEN-MESR, 2011; Steedman, 2010).

NATURE OF APPRENTICESHIP SYSTEM

Apprenticeship is the second basic component of the Initial Vocational Education and Training (IVET) system. Its major aim is to facilitate young people's transition from school to work by allowing those aged between 16 to 26 years old (and over 26 years for handicapped people) to obtain certification-based professional qualifications by continuing their IVET through a combination of on-the-job practical training within the enterprises and off-the-job training courses within accredited apprenticeship training centres called CFA (Centres de Formation d'Apprentis). There were 424,742 apprentices following their apprenticeship program during the academic year 2009-2010 (MEN-MESR, 2011) representing 1.65% of the occupied workforce of 25,692,000 working individuals in 2010 (INSEE, 2011).

These CFAs provide polyvalent and specialized off-the-job training to apprentices in all vocational and technological domains leading to the same vocational certifications awarded by the school-based IVET on both:

- ▣ The upper secondary level starting from the EQF level 3 (ISCED 3) such as the CAP (Professional Aptitude Certificate) and the BEP (Vocational Studies Diploma) to EQF level 4 (ISCED 4) such as the Bac. Pro. (Professional Baccalaureate).

- And the higher education from EQF level 5 (ISCED 5) to EQF level 7 (ISCED 6) such the BTS (High Technician Diploma), the DUT (University Diploma in Technology), the Professional Bachelor's and Master's degrees, and the engineer's diploma.

Since the Social Modernisation Act n° 2002-73 of the 17th January 2002, all these qualifications are registered and updated within the NQF repertory called RNCP (Répertoire National des Certifications Professionnelles) (CNCP, 2010a & 2010b).

This dominant network of the apprentice training centres (CFAs) is reinforced by that of the 'Training Units of Apprentices' (UFA-Unités de Formation d'Apprentis) which are connected with the local public institutions for training called EPLE (Etablissements Publics locaux d'Enseignement) and EPLEA (Etablissements Publics locaux d'Enseignement Agricole).

All CFAs are establishments set up through an agreement either between the State (for the national recruitments centres) or between the regional authorities' councils and the CFAs' managing bodies. Thus, in terms of their agreed on status, there are three types of CFAs (MEN-MESR, 2011; CEDEFOP, 1999):

- Private CFAs managed by professional unions, associations and other organisations (including enterprises) which possess the necessary means and competences for training provision within their own sectors of activity. They are the dominant category in terms of the number of the managing organizations as well as the beneficiary apprentices.
- CFAs managed by public bodies other than the State such as the local authorities' CFAs, the Chambers' CFAs (CCI-Chambers of Commerce and Industry, CMA-Chambers of Trades and Crafts and the Chambers of Agriculture). They constitute the second largest type of apprenticeship providers of off-the-job training in terms of apprentices although they come third after the local public CFAs if the number of their management bodies is taken into consideration.
- Public CFAs linked traditionally to the State ministries such as the Ministry of National Education, the

Ministry of Higher Education and the Ministry of Agriculture. They also have a relatively large financial and pedagogical autonomy as they are locally managed apprenticeship providers either by EPLE (local public educational and training providers), EPLEA (local public educational and training providers in agriculture), or the local authorities/regional councils or by higher education institutions/providers.

Whatever their status, the CFAs are classified by the Labour Code as alternative (?) vocational training providers vested with the mission of public service provision. Consequently, the CFAs benefit from public authority funding which covers part of their pedagogical functioning.

Historically, apprenticeship development in France goes back to the period of the medieval guilds with their strict hierarchy of apprentices, journeymen and craftsmen. At the beginning of the last century, the Astier Act (25 July 1919) marked the first effective direct intervention of the French State by giving the local authorities the responsibility of organizing compulsory vocational training courses for 14 to 17 year-old apprentices in the industrial companies.

This was followed by the introduction of the apprenticeship tax of 0.20% on the total wage bill (Finance Act of 13th July 1925) and the creation of apprenticeship guidance offices within the chambers of trades and crafts (Walter-Paulin's Act- 10 March 1937). Following the social partners' inter-professional agreement (16 May 1961), the apprenticeship training centres were created under the acronym CFA (Centre de Formation d'Apprentis). Then in 1971, the Guichard's Act (n° 71-576) formally established apprenticeship as part of the IVET system. On 7th January 1983, the Decentralisation Act (n° 83-8) extended the regions' role in connection with apprenticeship organization and funding, followed by extending the access age limit to 26 years. Since the Séguin's Act (23 July 1987), the range of qualification levels obtained through apprenticeship has been extended from EQF level 3 (ISCED 3) to 7 (ISCED 6). A decade afterwards, apprenticeship was opened within the non-industrial and non-commercial public sectors (Act n° 97-970 - 16 October 1997) (CEDEFOP, 1999).

The Social Modernisation Act of 17 January 2002 provided new guarantees mainly connected with working duration, security and the remuneration of the apprentices. Then apprenticeship was extended through the creation of 'Junior Apprenticeship' for younger people as young as 14 years of age (Act n° 2006-396 on 'equality of chances' - 31 March 2006).

In accordance with the French Labour Code, the apprentice has a contractual status similar to that of an employee. It is signed between the apprentice and the employer for a duration equivalent to the required period for obtaining the targeted qualification (usually from 1 to 3 years). In terms of this apprenticeship contract and in conformity with the articles D 6222-26 and D6222-27 of the Labour Code, the monthly salary paid by the employer to the apprentice is generally (in the absence of more advantageous collective bargaining agreement) a percentage of the minimum guaranteed wage (SMIC- Salaire Minimum Interprofessionnel de Croissance) in France. This percentage varies according to the apprentice's age and the year of the undertaken apprenticeship as described in the following general pay structure applicable to a SMIC of 1,398.37 Euro at the 1st of January 2012 (Table 3.6).

TABLE 3.6 MINIMUM MONTHLY PAY RATES FOR APPRENTICES IN FRANCE			
Apprenticeship year	Under 18 years old	18 to 20 years old	21 years and over
First year	25% (€349.59)	41% (€573.33)	53% (€741.14)
Second year	37% (€517.40)	49% (€685.20)	61% (€853.01)
Third year	53% (€741.14)	65% (€908.94)	78% (€1090.73)

This salary is fully exempted from the payment of social contributions and not subject to revenue tax within the limit of SMIC (Salaire Minimum Interprofessionnel de Croissance).

The employers receive financial incentives from the public authorities in the form of exemptions and support for the recruitment through apprenticeship. Concerning the exemptions, they are dependent on the nature and size of the recruiting firm. Craft firms or companies with less than 11 employees are fully exempted from the payment

of social contributions and fiscal taxes. As for companies with more than 10 employees, they are exempted only from the payment of the general social security insurance. The employers also receive two types of financial support from the regional authorities: recruitment premium and a compensation for training provision (Decree n°96-493, 6 June 1996). The supporting premium of 915 (maximum) is paid to any company with 20 employees for a confirmed apprenticeship contract of two years at least, leading to the qualification level of CAP, BEP (EQF level 3=ISCED 3) or Bac Pro. (EQF level 4=ISCED 4). The compensation for training is paid for any employer recruiting one or more apprentices irrespective of the level of provided training. It amounts to 1000 Euro minimum per academic year.

On the whole, as apprenticeship integrates within the IVET system, it is financed by the State, the regions and the enterprises. In this connection, the off-the-job training within the CFAs is usually secured through two basic sources: the apprenticeship tax and the regional apprenticeship fund. These two sources are completed by transfers from the alternating vocational training fund and the European Social Fund (ESF) (cf. also CEDEFOP, 1999):

- ▣ **Apprenticeship tax:** With the exclusion of freelance professions ('professions libérales') and agricultural occupations, this tax is levied on all enterprises undertaking industrial, commercial, craft and service activities, irrespective of their size. This tax amounts in total to 0.5% of each enterprise's gross wage bill for enterprises with less 250 employees and 0.6% for those with over 250 employees.
- ▣ **The regional fund for apprenticeship:** At the regional level the regional council manages the funds for apprenticeship and CVT (*FRAFP – Fonds Régional de l'Apprentissage et de la Formation Professionnelle*) which is maintained by, in addition to the regional council's own resources, those financial resources transferred by the State in conformity with the principle of transferring the necessary funds to accompany the transfer of responsibilities to regional authorities concerning VET and apprenticeship.
- ▣ **Transfers from the alternating vocational training fund and the ESF:** Funds collected by the joint

funding collectors and managers for financing off-the-job vocational training can be used to finance the operational expenses of the CFAs contracted by the State or the regions. Up to 35% of these collected funds can be used in accordance with the sectoral collective agreement.

PARTICIPATION AND OCCUPATIONAL COVERAGE

During the academic year 2009-2010, 424,742 apprentices were on apprenticeship contracts at different national qualification levels (MEN-MESR, 2011). Of them, 255,075 (60.1%) remain dominantly directed towards the technico-professional fields in the production sectors, followed by 167,790 apprentices (39.5%) in the service sectors and related professional fields, leaving only about 0.4% for core disciplines (such as mathematics and sciences, human sciences and law, literature and arts, whose weight is relatively increasing over higher education levels). However, there is a contrast between upper secondary apprenticeship at NQF Level 5 (EQF 3=ISCED 3) and 4 (EQF 4=ISCED 4) predominantly undertaken within the production sectors (with 67.4%) and higher education apprenticeship (from NQF Level 3=EQF Level 5 to NQF Level 1=EQF Level 7/8) mainly taking place in the services sectors (with 61%).

These apprentices are distributed over the French five-level-NQF and sectors of activity as follows (MEN-MESR, 2011):

- 209,767 (49.4%) at Level 5 (EQF Level 3): over two thirds of them within the production sectors (72.3%), predominantly in civil engineering–construction, process and mechanical industries.
- 111,900 apprentices (26.3%) at Level 4 (EQF Level 4): 58% of them are also concentrated in the production sectors, mainly in mechanical and process industries and civil engineering – construction. The service sector employs the remaining 42% basically in services to persons and in business services (commerce and management).
- 59,532 apprentices (14.0%) at Level 3 (EQF Level 5): 60.7% of them within the service

sectors mainly in business services (commerce and management).

- 17,387 apprentices (4.1%) at Level 2 (EQF Level 6) largely within the service sector (74.3%), especially in commerce and management services.
- 26,156 apprentices (6.2%) at Level 1 (EQF Level 7) predominantly in business services, engineering (including mechanical and multi-technology engineering), ICT and then construction.

At all levels, female apprentices are always in the minority (31.3%) in apprenticeship, but their share is growing (up to 0.3 points between the two academic years 2008/2009 and 2009/2010). It remains that apprenticeship in the production sectors is predominantly gender-biased in favor of male apprentices (90.9%). However, female apprentices are dominant in services to individuals and in business services (commerce and management (MEN-MESR, 2011)).

TRAINING AND ASSESSMENT

Apprenticeship is an alternation-based training between on-the-job training with an enterprise and off-the-job training courses within an apprenticeship centre (CFA). About 60% to 75% of the apprentice's contractual time is spent in 'on-the-job-training' within the enterprise. The follow-up of the apprentice, during the whole duration of workplace training, is undertaken by an apprenticeship master (maître d'apprentissage) who could be the head of the company or a qualified worker. In any case, the appointed master has to meet the following qualifying requirements:

- Holding a qualification equivalent at least to that targeted by the apprentice.
- Or having a prior occupational experience of at least three years in the targeted field of apprenticeship, or having acquired two years of supervisory experience including pedagogical and tutoring skills and competences.

The 'off-the-job training' is handled by the apprenticeship centres (CFAs) which are generally run by private organisations (49.9%), the chambers (such as chambers of crafts and trades, chambers of commerce and industry

and chambers of agriculture) (27.9%) and the public institutions (15.6%) (MEN-MESR, 2011). The in-CFA training time is shorter than that at the workplace as it continues on average for a minimum 25% to 40% of the contract duration. Two thirds of this time spent within the CFA (at alternating intervals with those of on-the-job training) is devoted to general subjects (such as French, mathematics, modern language, history-geography, physical education and sports) and technical/vocational education (such design, technology, etc.). The remaining third is dedicated to practical education and training in the domain of targeted qualifications.

For the whole duration of the apprenticeship contract, a pedagogical-referent tutor is appointed for the apprentice by the person in charge of the pedagogy and training program in which the apprentice is enrolled within the CFA. According to interviewed stakeholders (especially CFAs), this tutor takes the responsibility of the follow-up of the apprentice's training and progress within the CFA and the enterprises through the coordination and follow-up instruments, namely the following documents (cf. also CEDEFOP, 1999):

Liaison document: It is drawn up at the regional level at the instigation of the regional/local Education Authority Directorate (Rectorat) which is responsible for setting up a working group for each type of certification which can be obtained through the apprenticeship training. This group is composed of representatives of the CFAs, the vocational trainers and expert-consultants. The established liaison document specifies the competences and skills which the apprentice has to acquire during his/her apprenticeship training. It allows the apprenticeship master to carry out regular assessment of the progress in the apprentice's acquired vocational knowledge, skills and competences.

Liaison book: It is usually created by the CFA in collaboration with the concerned sector body: chamber of commerce and industry/chamber of trades and crafts/chamber of agriculture. It contains identification information concerning the trainee, the training time-table, planned visits to the enterprise, and detailed training program units and their contents (including implementation follow-up sheets)

within the training centre and within the enterprise. This book is extremely useful for coordination and follow-up; as a control instrument it has the following uses:

- ▣ It enables the apprentices to link the practical training they receive in the enterprises with the general and technical training they undertake at the CFA. It also allows them to prepare better for their examinations.
- ▣ It is used as a source of reference for monitoring the progress achieved by the apprentices at both the CFA and the enterprise's levels.
- ▣ It allows the apprenticeship master and the CFA trainers to link the practical and theoretical knowledge as they can easily see and follow the individual progress made by each apprentice.
- ▣ It is also used by the apprenticeship inspector who advises the apprenticeship masters and monitors training progress within the enterprise by looking at the control books during his/her visits to the company, and when talking to the concerned apprentices and their follow-up supervisors and tutors.

CFA-check-up sheet

It is designed and used to establish a link between the CFA and the enterprise. It has the following advantageous uses:

- ▣ It allows the apprentices to make notes about their workplace and look into the various aspects of the occupation in close collaboration with the person in charge of their training.
- ▣ It enables the apprentices to be largely the agent of their own training by encouraging them to discover their occupational environment by making use of their individual powers of observation, analysis, reflection and expression.

In contrast with the practice in the school-based IVET (as in vocational colleges), the CFAs are committed to respect the principles of the concept of 'alternating pedagogy' specific to the apprenticeship based (according to Circular n° 2005-204) on the following:

- Focussing on company training at the workplace where the teachers/trainers use the workplace experience to design the vocational educational and training progress.
- Dividing and distributing the learning and training activities between the company and the off-the-job training centre (CFA) based on a specific schedule.
- Securing a complementary role of the CFA in terms of off-the-job provided learning and training by covering what cannot be done at the workplace within the company. As confirmed by some interviewed CFAs, this is due to the fact that the size and the nature or range of the activities of the enterprise (especially if it is small and/or has a limited range of exercised activities connected with the professional units) does not allow it sometimes to cover the professional units as programed, in conformity with the established training curriculum and the requirements of the occupational referential standards in the domain of the targeted qualification.
- Securing management and continuing communication between the CFA, the company and the trainee through well-established coordination, communication, control and follow-up intermediaries such as training and pedagogical tutors and communication tools such as liaison documents.

Teaching/training methods

Although the CFA and their teaching staff have considerable autonomy in choosing their own teaching/training methods and supporting instruments at all NQF levels, the degree of their autonomy in designing their competence-based educational and training programmes remains dependent on whether they are higher education CFAs or upper secondary ones (CEDEFOP, 2010). If higher education's CFAs are autonomous in designing and implementing their own educational and training programs, the upper secondary apprenticeship centers have to implement the training programs as they are set in the qualifications' related referential standards set up by the social partners' sectoral professional consultative

commissions (CPC - Commissions Professionnelles Consultatives). In both cases, the programs are composed of two categories of educational and training units: professional units and general/technical/vocational units. The latter is exclusively controlled by the CFA. As for the practical knowledge, skills and competences connected with the professional training units, they are basically acquired during on-the-job training within the enterprise. However, it is important to underline that the depth and the width of acquired practical knowledge and skills in the field of the targeted qualifications are dependent on the size and the nature or range of the activity of the enterprises (i.e. the depth and width of its exercised activities/production processes and the degree of their concordance with the qualification's program or its referential standards). For this reason, there are cases where these professional units are jointly covered through a complementarity-based alternating training within the enterprises and the CFA (as confirmed by some interviewed CFAs).

Moreover, according to an interviewed sample of trainers, the training provision in the CFAs is based on the use of 'inductive and active learner-centered teaching method' (CEDEFOP, 2010). The practice of this training method goes from specific to general, as it is based on starting from concrete specific experiments, case studies or experimental exercise in training provisions by building-up progressively on the learner's individual experiences, knowledge, capacities, expectations and constraints. Thus, theoretical and technico-vocational knowledge which completes practical training are acquired within the classroom and workshops of the CFA by using updated supporting instruments and tools. As for the practical knowledge, skills and competences are acquired basically on-the-job training within the company through the programed competence-based professional units.

Assessment methods

Two methods of assessment are used by the apprenticeship centres (CFAs):

- Continuous assessment during the course of study/training (CCF-Contrôle en Cours de Formation) introduced in VET in 1990/92.

- ▣ The traditional punctual assessment (CP-Contrôle ponctuel).

However, the use of one or the other or both is dependent on whether the CFA is an upper secondary or a higher education institution:

- ▣ In upper secondary apprenticeship: only accredited CFAs (by the rector) can use CCF for the assessment of professional units connected with acquired competences within the enterprise and the CP for the assessment of general and technical units connected with training within the CFA. The non-accredited CFAs are limited to the exclusive use of CP for all training units (professional and general/technical).
- ▣ In higher education CFAs, the assessment practice is based on the use of both CCF and CP during each semester of the academic year. The academic knowledge-related units are exclusively assessed within the CFA. As for the professional units (including the end of study professional projects) connected with the operational vocational knowledge, competences and skills, these are assessed and validated by the CFA in a joint collaboration with the enterprise (basically with the apprenticeship master) and professionals in the field.

In connection with the issue of quality assurance, the whole educational and training system (including apprenticeship), is subject to three categories of overarching quality assurance evaluation (EURYDICE, 2011; CEDEFOP, 2009):

- ▣ **Evaluation of providers:** gradually implemented in France from the mid-1980s, internally and externally.
- ▣ **Evaluation of the educational and training system** (including teaching methods) where different organizations take part in the assessment and inspection of the educational and training system, including, notably, the High Council for Education (*Haut Conseil de l'Éducation*) set up in 2005 (Article 14 of the Framework and Programme Act for the future of the school of 23-4-2005).
- ▣ **Quality assurance of certification process of learning outcomes:** it concerns the three basic

stages of the certification process of learning outcomes namely: assessment, validation and recognition/certification awarding, undertaken within the framework of a mixed model of regulation and autonomy combining both prescriptive and cooperative characters.

PARTICIPATION OF GOVERNMENT AND STAKEHOLDERS

There is a variety of stakeholders directly involved through a networking of cooperation and partnerships: State institutions, social partners, regional authorities and chambers (CEDEFOP, 2008; Dif, 2010).

State institutions include

- ▣ **The Ministry of National Education:** as it is responsible for the educational policy, governing education and training in schools and apprenticeship, the CFAs are placed under its overarching pedagogical responsibility through an apprenticeship inspection department called SAIA (*Service Académique d'Inspection de l'Apprentissage*) at the level of the academy (*académie*) under the responsibility of the rector at the regional level.
- ▣ **The Ministry of Agriculture and Fisheries** has a parallel responsibility for vocational education and training in agriculture and also exercises an overarching pedagogical responsibility over the CFAs connected with it through an apprenticeship inspection department (SAIA – *Service Académique d'Inspection de l'Apprentissage*) at the regional level.
- ▣ **The Ministry of Higher Education** which is responsible for general, vocational education (including higher education apprenticeship centres) and research.
- ▣ **Other ministries** (such as the Ministry of the Economy, Industry and Employment and the Ministry of Youth and Sport) which are in charge respectively of vocational qualifications formation processes within VET (including apprenticeship) in the areas for which they are responsible.

■ **The National Commission for Vocational Qualifications (CNCP- Commission Nationale de la Certification Professionnelle)** created by the Social Modernisation Act in 2002 to deal with (CNCP, 2010a & 2010b):

- Creating, managing, maintaining and updating the NQF repertory for vocational qualifications and related certifications (including those delivered through apprenticeship) called RNCP (Répertoire National des Certifications Professionnelles, created as well in 2002).
- Incorporating designed vocational qualifications in the NQF repertory and securing their coherence and best fit with labor market skill contents and needs.
- Keeping pace with the European developments concerning 'qualification transparency' and working on the development of a new qualifications classification grid.

■ **The National Council for Lifelong Vocational Learning (CNFPTLV-Conseil national de la Formation Professionnelle Tout au Long de la Vie)** which was set up in 2004 with the aim of:

- Promoting cooperation at national and regional levels between involved stakeholders.
- Acting as an advisory institution about legislations and regulations concerning lifelong vocational training and apprenticeship.
- Assessing regional policies for apprenticeship and lifelong learning and training.
- Compiling related data and annual report to the parliament on financial uses for lifelong VET and apprenticeship development.

Social partners

They play an important consultative and decision making role in the qualification formation processes (including the design and the renovation of qualifications and their referential standards) through basically the following commissions:

■ **Vocational Consultative Commissions (CPC- Commissions Professionnelles Consultatives)** attached to different ministries awarding national

qualifications through VET (including apprenticeship) in the upper secondary vocational certifications (such CAP, BEP, BTn, BT and Bac Pro.) including BTS (Bac + 2: a two-year university level diploma). For the ministry of national education alone, there are 14 CPCs which are in charge of the development (creation and updating, including the design/re-design of related 'referential standards').

■ **The National Pedagogical Commission (CPN- Commission Pédagogique Nationale)** which establishes the qualification system for higher education technological and vocational institutes at the level of baccalaureate plus two years of higher education studies (NQF3 = EQF5). The CPN is in charge here of 25 specialities of the DUT certifications.

■ **The National Expertise Commission (NEC- Commission National d'Expertise)** responsible for the establishment of the 'professional Bachelors' (L3- Licences Professionnelles, Bac.+3 years: NQF2=EQF6).

■ **National Council for Higher Education and Research (CNESER-Conseil National de l'Enseignement Supérieur et de la Recherche)** responsible for all higher education qualifications and certifications.

■ **The Commission for Engineers' Grades (CTI- Commission des Titres d'Ingénieurs)** which is an independent body, mandated by French law since 1934 to accredit all engineers' qualifications (including those obtained through apprenticeship), to develop the quality of training and to promote the engineer's grade and profession in France and abroad. About 800 specialties are taken in charge by it.

■ **Boards of Apprenticeship Training Centres (CFA- Centres de Formation d'Apprentis):** the social partners are fully represented within these boards.

Regional authorities

They are responsible for apprenticeship opening/closing, organization and funding on regional level in cooperation with other involved stakeholders.

Chambers

The Chambers of Commerce of Industry (CCI – *Chambres de Commerce et de l'Industrie*), Chambers of Trades and Crafts (CMA – *Chambres de Métiers et de l'Artisanat*) and Chambers of Agriculture (*Chambre de l'Agriculture*) are highly involved in apprenticeship connected with their domains/sectors of activity as they intervene in validating the apprenticeship contracts and other issues connected with the follow-up of apprenticeship in cooperation with the employers, the CFAs and the regions (as the regions are involved in funding and undertaking decisions concerning apprenticeship opening and organization).

MAJOR ISSUES AND LEARNING POINTS

Apprenticeship remains one of the best performing components of the IVET system. As a dual system based on an alternation between on-the-job and in-house training, apprenticeship offers a better access to employment than school-based IVET. In this connection, the High Council of Education in its 2008 report observed that the rate of access to employment is higher through apprenticeship than school-based training for the same targeted type of qualification. In 2006, 80% of the holders of professional baccalaureate (EQF 4=ISCED 4) obtained a job against 64% via the school-based training track. As for the holders of a Professional Aptitude Certificate (CAP) or a professional studies diploma (BEP) (EQF3=ISCED 3), 66% of them had access to employment via apprenticeship against only 43% through the school-based training (COE, 2011).

Moreover, given that each level of apprenticeship educational and training programmes and associated qualifications offered to apprentices are designed to act as a preparation for moving on to subsequent higher levels, the learning progression through apprenticeship from one level to the next one is highly facilitated. On the whole, as compared with the other school-based general and VET tracks, apprenticeship is characterized by the existence of relatively a high level of progression and learning path fluidity and complementarity within and between all its own track levels and those of the whole educational and training system (MEN-MESR, 2011).

However, in spite its performance as an effective facilitator of professional transition from school to work for young people, it suffers from some weaknesses connected basically with the risk of defection during the trial period and some access difficulties to apprenticeship contracts with employers.

First, concerning the risk of young apprentices' failure to complete their training contracts remains a non-negligible issue, especially during the trial period. Related available data are rather scarce and partial. In this connection, two surveys can be used (Cart & Toutin-Trelcat, 2010; Arrighi & Mora, 2010). The first is Céreq's 'Génération 2004' which can be considered as one the few nationwide surveys providing some data about broken apprenticeship contracts and the reasons why they were breached. According to this survey, the rate of these breaches was estimated then at 17%. The other survey was a specific one on the reasons for broken contracts, and an analysis of apprenticeship (DRTEFP) files registered in the Nord-Pas-de-Calais region (France) from 2002 to 2005. The outcome of these broken contracts is not in all cases negative, as the CFAs mostly succeed in helping the concerned apprentices to contact new firms and finally signing new apprenticeship contracts. The reasons for broken contracts can be summarised as follows:

- By and large, breaches by the apprentices themselves (about one out of two) occur for the following reasons:
 - Change in the apprentice's learning/career path such as moving to a more attractive apprenticeship contract, or to a school-based training (in a vocational lycée) instead of apprenticeship, or even finding a proper job.
 - Personal reasons (counting for about a quarter of the breaches) such health problems and personal conflict with apprenticeship master or with other trainers in the company.
 - Dissatisfaction with working conditions, environment and relations: This varies from one sector to another. Unpleasant working conditions and environment were quoted more frequently in food trades (such in the bakeries and butcheries). However, the sector in which most of the apprentices gave-up and even

changed their training track was the services sector – hotels restaurants and other services such as hairdressing.

- ▣ Economic situations where some contracts ended prematurely because the company was obliged to close down.
- ▣ Unsatisfactory trial period for the employer.

However, it must be noted in this connection that breached apprenticeship contracts are less pronounced in higher education apprenticeships than in those connected with upper secondary education levels, such as EQF levels 3 and 4. This is basically due to the fact that the apprentice's level of commitment to the chosen learning track through apprenticeship is relatively higher for higher education apprentices than for those in the upper secondary CFAs. This can also be explained by the observation that at level NQF level 5 (EQF level 3) for instance, apprenticeship provides some young people with difficulties at schools (upper and especially lower secondary colleges) a second chance; those who reached higher educational levels choose this training track (i.e. through higher education apprenticeship) more deliberately (and with more commitment) as it enables them effectively to combine theoretical knowledge and work-based experiential learning, as well as in becoming more familiar with the working life world. In this connection, one might even say that the apprenticeship track is chosen as a 'route of excellence' for higher education apprentices, especially engineer-apprentices as well as a good investment for involved enterprises (Cart & Toutin-Trelcat, 2010).

Secondly, as the scale of the remuneration of the apprentices is legally increasing with their age and level of qualifications, the employers (especially small and medium companies with limited financial capacities) are more inclined to employ full-time experienced employees than less directly operational, and equally costly apprentices. As a consequence, the apprentice's chance of having access to an apprenticeship contract with an employer is decreasing with his/her increased age. Moreover, as access to apprenticeship is formally limited to the age range of 16 to 26 years, the other age groups, especially those over 26 are excluded from access to apprenticeship. As a remedy to this situation

two more or less complementary VET instruments were introduced: the first is 'junior apprenticeship' for young people as young as 14 years through the Act 2006-396 of 31 March 2006 on the 'Equality of Chance'. The second is the creation of the 'Professionalisation Contract' within the continuing vocational education and training (CVT) system, via the Act n°2004-391 of the 4th of May 2004 concerning 'lifelong vocational training and social dialogue' (Following the National Inter-professional Agreement (ANI) of the 5th December 2003,). Like apprenticeship, the 'Professionalisation Contract' is also a dual system based on alternation between on-the-job training (from 75% to 85% of the duration of the contract) and in-house training (15% to 25% of the contractual time). It targets the professional integration or reintegration within the labor market of both young and old people, including those (mainly job-seekers) already living on the minimum social allowances (such as 'ASS' and 'RSA') provided by the public authorities.

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INTRODUCTION

Germany, with around 80 million inhabitants, is the core country of 'old Europe' and 'old economy'. Germany is the largest national economy in Europe and the fourth-largest in terms of nominal GDP in the world. Germany is traditionally strong in industrial products, as is proven by its export figures in mechanical engineering, automotive, chemical industries etc., – the German economy is well-positioned on the world market. Besides well-known large enterprises – like 'Volkswagen', 'BASF' or Siemens, the real backbone of the German economy are the many medium-sized enterprises functioning as suppliers. To this structure – including craft trade companies – belong over a hundred occupations. After structural and social reforms at beginning of this century there has been a decrease in the unemployment rate, which in the last ten years has come down from over 9% to 6.6% (Federal Employment Agency 2012); also the youth unemployment has decreased from over 10% to the current 8.2% (EUROSTAT, 2012). The policy of the unions is geared towards an established corporatism and co-management, but only 20% of the workforce are members of the trade unions. Some unions (Industrial Union Metal IGM) notified an increase in members in the last two years.

All developments, especially in VET, are subject to a social dialogue at the regional and federal level. This dialogue tries to respect the views of the social partners (both employers and unions as representatives of the employees), as well as the concerned state ministries of education, industry, labor. This includes, as a central stakeholder in the system, the chambers of commerce, trade and industry and craft trade (which are organized separately). A small comparison to France might illustrate the German VET developments: Both countries have the aim of reducing the time spent in VET. The former French government decided to reduce the time for a 'Baccalauréat professionnel' (BAC PRO) from 4 to 3 years. All training providers who had to follow the German law too agreed that time spend in IVET should not exceed

3 years – but the existing profile of 3.5 years remains unchanged in Germany.

The general educational system is traditionally based on three pillars, 'Hauptschule' (9 years), 'Realschule' (10 years) and 'Gymnasium' (12/13 years). All 3 schools offer the way to the VET-system (the gymnasium offers access to Higher Education too). In recent years many school-leavers from the 'Hauptschule' had problems in finding an apprenticeship training place as companies tended to employ those with higher school certificates. As apprenticeships in Germany are subject to private contracts with enterprises, the contracts state a 'right of contracting' by which there are no official limits or borders for certain groups of the population (e.g. gender, age) to enter the apprenticeship system.

NATURE OF THE APPRENTICESHIP SYSTEM

Apprenticeship development in Germany goes back historically to the period between the ninth and thirteenth centuries where it finds its roots in the medieval guilds with their strict hierarchy of apprentices, journeymen and master craftsmen. During industrialization a system similar to the tradition of handicraft apprenticeship for young proletarians was strongly needed. By legal initiative the industrial enterprises had to copy the apprenticeship of trade and crafts (or the so called *famulatur* of the academic professions) to establish their own basis of qualification. From 1925 onwards there was a German system which offered to all school-leavers (aged 14, except the rural population) alternatives of continuing education: Gymnasium or VET. After 1949 and in particular after 1969, there are no more exceptions, neither to the rural sector or any other sector. In 1969 a deep-seated change was made when the German government decided to renew the VET system in totality. From then on everything came to be structured following the same principles.

A new legal basis was needed and the BerufsbildungsgesetzBBiG (Federal Law of VET) was

decreed. By this the role of all stakeholders of the GVET was fixed. Maybe in comparison to other countries the impact of social politics was rather weak if you only look at the law itself. But all legal rules to protect young people or pregnant women or older workers are subject to other distinct laws and have to be followed by the employers. First and foremost its basic principle: it rules the apprenticeship as a key element of contracting. The rights and the duties of the employers are fixed as well as those of the employees; a German apprentice is a member of the staff of an enterprise! He is a worker or a clerk like everyone else, but by the exemption that he is in a learning mode which offers him certain protection against exploitation in the professional profile, and offers him extra time for learning and training. In the contract the content of the training is defined as a duty of the employer along with the monthly payment.

To fulfil such a contract in a comprehensible way the content of a VET profile and a procedure to assess its result have to be fixed. The content of the training in the enterprise is called elements of a vocational profile (known as Berufsfeld positionen) and the procedure of assessing the training outcome is given in terms of examination regulations (Prüfungsordnung). So the legal basis of the BBiG itself entails for each vocational profile a decree both on the content and the examination regulations. To emphasize this crucial point – because every German apprentice is treated as an employee – all rights of salary, protection, safety, social insurance, etc. apply. This strict separation of judicial spheres can be best illustrated by the fact that the most valuable influence of trade unions on the performance of GVET is not defined in the related law (BBiG) but in the co-determination Act (Mitbestimmungsgesetz). This law says that the work council – which is dominated by the trade unions – should hear both the management and the employees' side on any issue and matter concerning the apprenticeship in that particular enterprise.

In 2011 around 540.000 new apprenticeships were newly contracted (a total 1.5 million apprentices, compared to a work force of 41 million). This ratio of 3.7% is the product of a high engagement of apprentices in the traditional economy like handicraft and industry and service sectors (e.g.: many companies in metalwork have internal commitments that state that between

4 to 5% of the workforce should be apprentices) and the rather low engagement in the modern economy like the IT-sector. This immediately reflects the main purpose of the system: to assure the quantity and the quality of the workforce. Strongly-related to this is the main weakness of the German system: as the number of school-leavers has increased over the last years, and the amount of apprenticeships available is limited, more than 300.000 young people (data from 2011) are in a so-called 'substitute system' and are waiting to enter an apprenticeship of their choice. This substitute system is purely school-based and tries either to prepare them for an apprenticeship or offers a 'second class' VET by in-service training in the workshops within the VET schools. In the future this might change when there are fewer schools-leavers wanting to apply for apprenticeships if the prospected demographic change is taking place. In some regions of Germany there are more places on offer than there are school-leavers applying for them; for example in the economic regions which are prosperous.

The most characteristic feature of the German apprenticeship system is that from the moment a young person is contracted as an apprentice, he or she is an employee. This includes that any payment is judicially a wage (or salary). As such, the amount is part of the negotiations between trade unions and employers. What they fix is the valid tariff which all contracts have to respect. The terms of the different contracts are fixed, too. The employer's duties are defined as is the content of VET and the amount of payment. The duty of the apprentice is to be in the company – attending the training – as any other worker has to do. As part of the apprentice's duties he/she is to visit the Berufsschule (VET School), and this would be for 1 or 2 days per week. The only exceptions are holidays, illness, and training visits abroad. The elements of the contract are the same or very similar because the content of VET in a particular vocational profile is fixed by law. So we can say that a contract for an apprenticeship is nothing which regulates the apprenticeship in particular, but which says that an employer will conduct the apprenticeship according to the superior law including the payment which is fixed by tariff contracts for each branch and sector. Wages vary between 500€ and 1000€ (depending on the year (increasing from 1 to 3) and the sector (traditionally high in handicrafts, low in areas

of service to people) compared to an average income of 2500€ of a skilled employee.

Regarding the length of contracts, the law states that for all sectors 'apprenticeships should not last shorter than 2 years and not longer than 3 years' – but exceptions are possible. The number of 2-year apprenticeships is around 10%; an interesting issue is that in many sectors the social partners are interested in longer periods (3.5 years) – arguing that the occupational requirements are increasing and that it takes time to become a well-trained skilled worker. The governments' arguments are two-fold: on the one hand shorter apprenticeships are part of their general policy of compressing all spheres of learning (as the *Gymnasium* is reduced from 13 years to 12), on the other hand there is a very pragmatic reason: as all apprenticeships start in September programs of 3.5 years lead to 4 age-groups in the schools for the first semester and only 3 age groups in the second one.

Among the 350 Vocational Profiles (VP) there are huge differences regarding completion. In some VPs and regions the rate of rescissions of contracts is up to 30%. This is related to the fact that the most favored apprenticeships (like car mechanic) are not available in the numbers desired by the applicants. Therefore, every year some unpopular apprenticeships are left over and cannot be occupied (e.g. butcher). But after the initial period – which could be regarded as an orientation phase – most of the apprenticeships are finished successfully; success rates vary between 80% (handicraft) and 90% (public services, industry). The proportion that is continuing to work for the employer even after they have done their apprenticeship is 61% (2010, source BIBB-report 2012). This is dependent on the region (lower in Eastern Germany and much higher in the West and South of Germany) and the size of the company (higher for large enterprises with strong employee interest representation by the unions and shop stewards). An important feature is that a person applying for a job is mainly asked for his certificate of apprenticeship (*Gesellenbrief*, *Facharbeiterbrief*) – the region or company is of minor interest.

OCCUPATIONAL COVERAGE

All 12 vocational disciplines (INAP, 2012) are covered by apprenticeships, although in the health care and

social care sectors most of the VET profiles are school-based. The most relevant difference is between industry, crafts, and trade. The difference is expressed mainly by the level of wages or salary including consequences of social security, social insurance, weekly work time, and, last but not least, the influence of trade unions on working conditions and related political issues. In practice the certificate of apprenticeship (*Gesellen brief*) is not formally needed for any given occupation. The law requires certificates only in some sectors (e.g. truck drivers, aircraft line maintenance, electricians), as those are not necessarily part of the VET curriculum. But as the image of the apprenticeship system is quite high, most companies fill their vacancies with a 'certified mechanic' and not with a 'person with given mechanic skills'. Therefore you find in the German Car industry and at the production lines mostly employees with apprenticeship certificates which the industry sees as better safeguards for assuring quality of production. Usually an apprenticeship of 2 years (which are still a minority compared to the overall apprenticeship figures) leads to a qualification within the German Qualification Framework (GQF) on level 3 (out of 8 levels) and an apprenticeship of 3 or 3.5 years to a qualification on level 4. A rather weak point within the German system is the more difficult permeability into Higher Education; once an apprenticeship is finished there are only 2 ways of proceeding: Becoming a 'Meister' or technician (GQF level 6). Although the formal barriers to HE led to a decrease in the recent years (all 'Meisters' are allowed to study – but in most sectors without any recognition of prior learning outcomes) in the number of non-traditional students at the universities between 1 and 2% (depending on the federal state). The other way is to do an extra day and hours at the Berufsschule or an extra year (*Fachoberschule*; 12 Klasse!) for covering more general education in general teaching majors (like mathematics) and to receive extra allowance for entering a University of Applied Sciences in order to reach a Bachelor's certificate in e.g. engineering (therefore we find relatively high numbers of engineers with an apprenticeship background; around 60% of the German engineers are holding an apprentice qualification).

As mentioned above, the German apprentices are employees – this leads to a strong occupational identity among them, although this again depends on the sector and the industry in question. One of the strongest

occupational identities is in handicrafts occupations, in large enterprises sometimes a stronger company identity predominates (organizational orientation versus of occupational orientation).

PARTICIPATION

In principle, every school-leaver who has finished the compulsory school (Hauptschule) after nine years can be contracted by an employer. That means that opening the access to an apprenticeship is possible for any of those employers who are allowed to train. According to the criteria set by the BBiG the question of access is more to be answered by the ability of the employer (cf. part 3 § 27 – § 33, BBiG) than by the school-leavers. Normally a 'Meister' has the ability to take on apprentices and even engineers can get this acceptance. In the Meister course and outside that there is the minimum training on how to train apprentices by the *Ausbildereignungsprüfung* (something like Trainers qualification examination). The 'training to train' certificate covers different knowledge and apprenticeship organization areas (like how to select and employ them, the contract side, how to prepare them for external exams) and requires a course of a minimum of 120 hours at the chambers.

The 'right of contracting' covers the right of school-leavers to apply for any vocational profile. This right includes that there is no age limit. If an enterprise accepts a 35 year-old woman to be trained in housekeeping this woman will be contracted and trained in the enterprise's facilities (for instance a hotel). This person will attend the lessons of the Berufsschule together with young girls of 16 to 20 years of age. Of course, this will be a kind of funny exception but the BIBB report (Berufsbildungsbericht) counts 969 persons over the age of 40 years who started their apprenticeship in 2010. This freedom of contracting is one of the reasons why the average age of starting an apprenticeship is 20 years (another one is the absence of any discrimination (like lower wages as in France) for older apprentices).

The BBiG allows rather old and experienced persons to appear for an examination without having attended a dedicated training. For example, soldiers who have finished their military service can enter the system of GVET just by passing the examination. There is no need

for them to enter an apprenticeship at its beginning but to finish it at its typical end. After having successfully passed the examination the certificate is the same as those of the candidates of a 24, 36, or 42 months VET. Regarding the gender issue are there no formal regulations but only informal ones.

In 2010 the percentage of disabled people in all new contracts was 2.2% (source BIBB 2012) It is relevant to examine the approach of 'VET in finding mentors' (Berufseinstiegsbegleiter). Data shows that unsure or weak school-leavers might need support, especially if they fail in finding an apprenticeship and are depending on a substitute measure.

More males than females undertake apprenticeships, and occupations tend to be delineated by gender, so that, for example, women predominate in service industry apprenticeships and men in production apprenticeships.

Due to the demographic change the attractiveness of apprenticeships is strongly sector-dependent; large companies get hundreds of applications for some dozens of places, but small companies in unattractive sectors (e.g. butchers or waiters) struggle to find apprentices. Another important factor is the region: Companies in south Germany with its strong economy sometimes fail in contracting (or have to offer additional benefits like an independent flat), whilst in the north and west the amount of young persons in the substitute system is still quite high. A specific situation is observable in the eastern (former socialist) part of the country. Together with the wall, most of the 'combines' closed down too; not only the GDR but also its VET system was abolished in the early nineties. Due to the lack of private companies a strong, school-based, substitute-system was established. With the improving economy and the demographic change, especially in eastern Germany, in recent years the number of companies searching for apprentices increased too – but they often fail to find suitable apprentices. The profiteers (?) (teachers in the substitute system) have such a close network with the teachers from general schooling that many young people do not even have the possibility of an apprenticeship in mind! For them it is normal to shift from a general school to a vocational school. This example illustrates again the importance of acting carefully in all VET-related areas: once gone – hard to reinstall.

As hiring an apprentice falls under the same law as hiring any other person, there are no specific possibilities for the unions or other bodies to influence the entry, besides the obvious offences (e.g.: number of migrants). But in large companies the work council often mandates the appointment of a certain ratio of women/migrants/people with disabilities.

Each company that is interested in taking part in the German apprenticeship system must be certified by the chambers. The chambers check whether the company is able to fulfil the requirements, e.g. whether some of the colleagues have the trainer-certificate or if the work processes cover main parts of the VP. Consequently companies belonging to the informal economy cannot take part in the apprenticeship system.

TRAINING AND ASSESSMENT

The paper which fixes the content of a vocational profile is very short. It contains the *Berufsbildpositionen* which just names elements of the work tasks which are typical for the VP. To make this content more explicit for the lessons in the Berufsschule, appropriate curricula are developed. According to the different durations of 24, 36, and 42 months the curricula have to show some variety in matching theoretical and practical issues of the VP.

The enterprises have to create an individual program based on the *Berufsbildpositionen*. The main criteria to be applied is what the particular enterprise can easily provide as the content required, what is more challenging and what cannot be provided – in which case, for one or two periods, the apprentice has to change to a third place of learning – the corporate teaching facilities (*‘überbetriebliche Ausbildungsstätte’*) run by local authorities through private owners who are financed by public authorities. For the 1st year of training this option is typical for the whole sector of construction and some crafts. These corporate teaching facilities are expensive, so there was a new approach developed, the so called ‘bond apprenticeship’ (*‘Verbundausbildung’*). In this model, companies with different core tasks ‘share’ the apprentices, they learn some parts of their VP in company A, other parts in company B. An example of good practice is the cooperation between Airbus and

some small maintenance companies. As these small companies have neither money nor room for a workshop their apprentices for the first year work in the Airbus-workshop; in the following years the Airbus apprentices too have the possibility to learn the maintenance part of their qualification ‘on the job’ – in these small companies. As a rule we can state that the bigger the enterprise – including those of the industrial type – the stronger and more elaborate the teaching programs are. The expensive way is to buy complete programs specified for each technical profile. The most popular provider is the publisher Christiani (Konstanz, Bodensee). Some of the biggest enterprises like Volkswagen have chosen the most expensive way to individualise VET. They have established departments to create training programs, materials, and test tasks of their own.

Due to the fact that the content of GVET is negotiated between employers and trade unions, all enterprises and schools first have to follow their programs as they were designed, once for the schools and once as framework for the particular enterprises.

There is no duplication because the school’s programs include more subjects than the syllabi that the enterprises have to follow. In other words, the common mass of the content of VPs is only an intersection set of all content possible.

Based on the six to eight lessons per week dedicated to the typical vocational subject the total amount of time in school is 1120 hours (of 45 minutes(?) or minimum(?)) within 42 months (960 within 36 months; 640 within 24 months). The main subjects taught cover all relevant techniques like mathematics, drawing, related sciences). Moreover, in school we find other subjects such as history/politics, mother tongue, sports.

The typical organization in the enterprise ensures that nearly the whole first year is spent in special facilities. Restaurants, hotels, and shops cannot offer such facilities so the apprenticeship takes place in between the ordinary work and business. Such conditions are also met in crafts and trade. But in the industrial sector a training workshop (*Lehrwerkstatt*) is typical for the organization of apprenticeship. It is called basic training (*Grundbildung*).

After the first year the apprentices are sent to real workplaces. These differ according to their challenging character. Instead of lessons in the training workshop now courses on specific subjects are offered, e.g. hydraulics or pneumatics. In general, we can state that even if an optimum exists for selecting the work place to which an apprentice should shift in the beginning of the second year, and to which one in the last year after he has got much more work experience, the problem to apply such a progressive plan is hard, but with a very simple solution. There is only a limited number of appropriate work places, and as there is a defined number of apprentices to learn at these places, it often happens that one apprentice starts his practical experience at a work place where another apprentice will finish his training. This is to say that a proper idea of the best pedagogic order of providing practical experience for introducing him into professional work cannot be followed by the training organization.

In the third year of training the apprentices ordinarily are treated as young workers so they are expected to work on their own under a slight surveillance, and at places where they may be absorbed after their examination. In reality the apprentices are offered to the several departments as a part of potential new staff. In smaller enterprises the organization of the last year of training depends on the option of keeping on the apprentice as a fully examined employee or not. The latter we often find in so-called mass VPs like car mechanic or hair dresser. If the employer does not intend to keep the apprentice, the ordinary practice is to treat him like a less experienced all-rounder. In the other case the last period of training often is used to prepare the apprentices for an ongoing specialization. For instance, in the automotive sector the rather huge variety of work places allows one to specialize in body shell, mounting, or maintaining.

As mentioned above are there two curricula, one for the school, the other one for the company. Regarding the span between standardization (all apprentices of a VP learn the same) and modularization (each company picks the fields they are interested in) follow the curricula for companies an intermediate approach, termed 'time frame' ('Zeitrahmen'). Each company is free to train in a given field within a certain time-span, e.g. between two and four months. This approach assures the 'vocational

principle' ('Berufsprinzip') (no modularization) and helps to increase the amount of companies taking part in VET.

The two institutions (schools and companies) are asked to work closely together but this mainly depends on the surroundings and the local actors, e.g. collaboration is much easier when all apprentices in a class come from one or two large companies than from dozens of small enterprises. Formally the two institutions are independent; the apprentice – if successful – even gets two different diplomas (one from the VET-school (responsible: the 16 'Länder' of the federal state), the other one (the certificate of apprenticeship) from the chamber, following a federal law which says that all examinations must allocate the same tasks and questions all over the country). This formal independence is part of curriculum design and acceptance, too. After the qualification was reorganized two workgroups started working on the school's behalf regarding the internship part of the curricula. Later the stakeholders were consulted and the government stated that the two results are suited to fit a common qualification. After the qualification became a law, all enterprises must fulfil all requirements of the internship-curriculum; whereas each 'Länder' is allowed to modify the school's curriculum (but usually they are not interested in doing so).

Regarding the share of the different content areas, this dual principle might imply that the theoretical knowledge is provided in the schools whereas the skills are taught in the company. In general this hypothesis is valid, but both providers try to teach in as holistic a manner as possible. This means that the provision of theoretical knowledge (e.g. material properties and the standards of riveting) are part of the training in the companies' workshops and vice versa, as modern vocational schools too have huge laboratories. The methods of training are quite traditional in all qualifications – classroom lectures, discourses, work with textbooks, training in the workshop, learning in real workplaces (supervised by expert-workers). In one aspect the curricula are quite open: each company is free to decide the proportion of the time an apprentice spends in a real working environment and in the workshop. Small enterprises cannot provide any workshops, so the apprentice is from the first day at a real workplace (or in the corporate teaching facility). Especially in handicraft professions this bears the danger of exploitation, with youngsters only working and not really learning. Actually,

this is the reason why many hairdressers and car mechanics are qualified (and fired after their apprenticeship) – they are able to earn money from almost the first day.

But still the cooperation of the learning venues – the VET school and the enterprise – is difficult to realize, because of the two curricula (one for the occupation training in the company and one the school curriculum). Therefore, a reform was introduced in 1996 to center learning in VET schools around *Lernfelder* (learning areas) that follow the work processes, replacing the old idea of school subjects. New curricula were designed to strengthen this kind of learning and foster co-operation at the local level between schools and companies. The intention of this reform is to strengthen the interaction between school-based and workplace learning in such a way that the capabilities of the apprentices increase and that they can perform better in their professional areas. Now school teachers and instructors are more directly involved in the design of the curricula to help develop a logical progression from the area of learning to the occupational area. A major challenge for this reform is the creation of active, trans-institutional teams of teachers and trainers. These teams have to organize the knowledge flow and the swing of theory and practice between them. Therefore, the reform is not just a new pedagogical process but also an institutional and personal transformation (Deitmer & Gerds 2002).

The responsibilities, the main frame and the measures of assessment and awarding of the qualification in IVET are regulated by the 'VET-law' ('Berufsbildungsgesetz', <http://www.bmbf.de/pub/berufsbildungsgesetz.pdf>). The competent institutions for the assessment are the chambers; they develop the tasks, supervise the process and guarantee the quality standards. As for all parts of apprenticeship the social partners are the main contributors to the concrete assessment; they agree on a method (usually sector-dependent, e.g. a written examination for an office clerk or a sales conversation in retail), the duration (1-3 days) of the preparation of the work piece and the assessment, and on the members of the local examination board (minimum 3 persons: One expert from the employers, one from the unions, and one teacher). The law states, that there must be a final examination, that it must be free of charge for the apprentice and that he/she might repeat it twice.

The frame for the main examination in the law opens two possibilities regarding the relevance of the interim assessment of the apprenticeship:

- ▣ A final examination and an interim examination (after 18 months for apprenticeships lasting 36 or 42 months, the interim examination is just to be passed).
- ▣ The stretched approach: The final examination consisting of 2 parts, part 1 after 18 months with a relative weight for the final grade of 20-40%, part 2 at the end.

Again, it is up to the social partners to decide which structure they choose; version 2 is the recommended one, the relative weight of part 1 agreed on is the same for all federal states/all companies.

Usually the central examination boards of the chambers (sectoral, e.g. PAL (assessment tasks and teaching material development authority [Prüfungsaufgaben- und Lehrmittelentwicklungsstelle]) in metal and electro industry or AKA (Commercial interim and final exam tasks authority [Aufgabenstelle für kaufmännische Abschluss- und Zwischenprüfungen]) for clerks) develop the assessment tasks for all apprentices of a given qualification. The task is the same in all federal states, but small deviations are allowed, like the adaptation to the control units or materials used in the region/in the company. Due to the quality control by the local chambers this kind of assessment is well-established and accepted all over the country. When applying for a job the certificate of apprenticeship (Gesellenbrief) is the most important certificate while the region or company is of minor interest.

The other possibility of assessing is the company-specific order ('betrieblicher Auftrag'). The trainer agrees with his apprentice on a real work task; the apprentice works for some days in a department as a skilled worker and has to explain what he is doing, why he is acting this way and how he is producing the work piece. In this case the quality control is based on mutual trust; it might happen that skilled workers help the candidate and he may receive a better grade than he deserves – but as experienced assessors report, that only happens rarely. First, due to the professional attitude of the workforce – they are

aware that the candidate is their colleague of tomorrow. And secondly, this assessment is an ongoing one; the apprentice is visited by the examination board several times during his work on the task.

The main advantage of the general regime of assessment discussed here is the holistic approach; it becomes obvious whether the candidate is skilled in the relevant subjects and able to combine knowledge, skills and competences from different fields. An example of a task for electricians is online: <http://www.christiani.de/pdf/3191%20S10.pdf>; only in German, but it provides a good insight into the complexity (amount of material, technical drawings, specifications) of this approach. A disadvantage of terminating the two examination structure is explained here. It might happen that an apprentice performs better or worse in the examination than during the rest of his apprenticeship. So there are two additional certificates; the school leaving exam and a letter of reference (for the ordinary workforce): The schools provide the candidate with a school-leaving certificate. Parts of this certificate mention not only the reached grades in the subjects/learning fields, but also the times of absence, the behavior and a general judgement. Accordingly, the letter of reference describes the development, the behavior and the level of professionalism reached in the enterprise. Regarding the awarding of the qualification the German regulations are quite strict: If successful (either in the first final assessment (part 2) or in one of the 2 re-examinations) the candidate is allowed to call himself a skilled worker; often the certificates are awarded in quite a ceremonial atmosphere ('Freisprechung' in handicrafts). When he/she fails, then usually all LO are 'lost' (in terms of recognition); there are no units or interim assessment results to be accredited in other branches of VET.

PARTICIPATION OF GOVERNMENTS AND OTHER STAKEHOLDER GROUPS (SOCIAL PARTNERS)

VET as a subject of the politics of the Federal States: Basically we have to understand the fact of totally separated responsibilities of the schools and education on the one hand and the private part of VET on the other. This separation is due to the constitutional law of 1949.

The German constitution and the practice of its development follow the principle of subsidiary structure. A law or a rule like a legal ordinance is only needed either if nobody is authorized or it simply covers what those who are responsible need to accomplish. A law concerning schools can structure the sector of education without consulting teachers, parents, pupils, or students. But as GVET is part of the economic constitution there are employers and employees who need to be asked. Both have to follow their interest to regulate the labor market in terms of wages, salaries, qualifications, etc. A small part of the responsibilities of the two tariff or social partners is also to co-operate in all questions regarding VET. The employers have established a special institution, the Kuratorium der Deutschen Wirtschaft für Berufsbildung. After the BBiG came in effect in 1969, in 1970 an authorized organization was founded which regularly takes part in all activities of the GVET concerning the interest of the employers.

For the employees the Trade Unions (TU) are the partners including their umbrella organisation DGB (Deutscher Gewerkschaftsbund – The Confederation of German Trade Unions). In Germany the trade unions are organized according the economic sectors, e.g. metal, electric (IG Metall), chemistry (IGBCE including mining and energy), etc. Though there are some concurrent trade unions, in every sector there is always one very big and important one so the political power is not split. This is the same on the other side; the employers show a high degree of organization, too. This ensures that any policy that the federal government proposes will be accepted after it comes into effect by law.

MAJOR ISSUES AND LEARNING POINTS

Issues facing apprenticeships in Germany include

- Bureaucratic challenges either by the EU (credit points) or the national government (shortening the time-span, decreasing the amount of professions).
- Trying to increase permeability without academization of VET, possible solution: dual studies (a combination of the apprenticeship part of a VET-profile and a bachelor's degree within higher education).

- Shortages of skilled workers/suitable candidates in some regions.
- Measures and attempts of trying to improve the knowledge of school-leavers.

The strengths of the German apprenticeship system

- Youth unemployment in Germany as compared with other European countries (UK over 20%, France 24%, Spain 49%, Italy 29%, Sweden 22% Eurostat figures from June. 2012) is favorable due to the fact that there is strong intake by the companies after completion of the apprenticeship.
- By the strong integration of apprenticeship into the labor market the steering of the occupation is quite balanced; purely state-driven systems tend to veer away from the labor market. Therefore the German apprenticeship can be also regarded as a system with a self-regulatory factor.
- High image of VET, high identity with the profession which means stronger productivity and higher innovation rate (make suggestions for improvement system).
- Apprenticeship fits into the model of High Performance Work Systems and help to develop 'superior' workers.
- The holistic approach of not only training but also of practical and theoretical assessment helps to produce well-accepted qualification across the whole nation.
- Engagement by all employers in all industrial sectors (see the coverage of all 12 sectors defined in the Hangzhou UNEVOC declaration).
- The time-frame approach: Elegant solution between standardization and modularization which offers the companies a pragmatic management of the apprenticeship.
- High involvement and engagement of both social partners (all chambers of commerce have a department of apprenticeship responsible as well as a management and a director for this! All trade unions have officers and departments for this specific employment group).
- The 'bond apprenticeship': Increases not only the number of companies taking part in VET but opens also new horizons for the apprentices. This also allows very highly specialised companies to take in apprentices and allows these companies to compensate some working and training areas by cooperating with others.
- Companies are willing to take apprentices without subsidies as they believe in the apprenticeship model and because it fits into their personal recruitment model.

The weaknesses of the German apprenticeship system

- The dependence of the number of apprenticeships offered, on the market which, in case of economic difficulties and market failure, can lead to a rather high amount of people in the substitute or transition system.
- It is a system which is dependent on the labor market: when the economy is strong the number of offered places can go up more easily, whereas in years of economic down-turn or even depression it can lower the number of apprenticeship places on offer.
- Different and not well-integrated curricula for the school and the company. This is due to the fact that the governance of the German system is defined on federal and länder law (the länders are responsible for the general school education system including the VET schools), whereas the job classification system is done at the federal level in cooperation with relevant ministries of education, economy and under moderation of the BIBB (National Institute for Vocational Training). This offers dispersed responsibilities a rather weak governance of VET.
- Relative high ratio of dropouts in some sectors/regions; weak pre-vocational and career guidance in the general education system deliver for high figures on early VET leavers. But once the VET apprentices are on the track they are looking for a high completion rate, between 80 to 90% can be shown.

- ▣ Poor permeability into Higher Education.
- ▣ Shared competence between national and federal governments.
- ▣ The cooperation and coordination of the learning venues (especially school and company) is rather weak – despite many examples of good practice – while many extra efforts by trainers and teachers are needed to integrate the learning at the school with what and how the apprentice is learning at the work place. Good practice here would mean that the learning processes at school should deepen the practical learning experiences at the workplace in industry, service, or the craft trade company, and vice versa.

What policy developments have been helpful?

- ▣ The learning outcome approach as a coherent set of knowledge, skills, and competences.
- ▣ The introduction of the time-frame model.
- ▣ The new possibility of assessing: A company-specific task.

What policy developments have been partly helpful?

- ▣ The introduction of the learning arena curriculum model was only done for the schools but there is too little impetus to cooperate more strongly with the enterprises; but at least it forces VET school teachers to look for stronger cooperation with the apprenticeship trainers in the industry (at least at the level of the big companies there is now more cooperation taking place).

What policy developments have been unhelpful?

- ▣ Shortening of 3.5 years lasting profiles.
- ▣ Reducing the amount of profiles (just by number, not evidence-based).
- ▣ ECVET (credit points, assessing of units).

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INTRODUCTION

India is the world's second-most populous country with over 1.2 billion people. Its population grew at 1.76% per annum during 2001-2011, down from 2.13% per annum in the previous decade (1991-2001). If the population growth were to continue as before, India will have about 1.45 billion inhabitants in 2025 (Federal Institute of Vocational Education, 2011). The literacy rate in 2011 was 74.04%: 65.46% among females and 82.14% among males. Kerala is the most literate state, Bihar the least.

India is one of the world's fastest-growing economies with its annual GDP growth rate of 5.8% over the past two decades, and reaching 6.1% during 2011-2012). The service sector makes up 55.6% of GDP, the industrial sector 26.3% and the agricultural sector 18.1% (IMF, 2011). According to IMF, the Indian economy is worth US\$1.676 trillion; it is the eleventh-largest economy by market exchange rates. The economic growth has been driven by the expansion of services (communication, business, financial and community sectors) that have been growing consistently faster than other sectors. It is argued that the pattern of Indian development has been a specific one and the country may be able to skip the intermediate industrialization-led phase in the transformation of its economic structure. But serious concerns have been raised about the jobless nature of the economic growth (Virmani & Arvind, 2002).

The 487.6 million worker Indian labor force is the world's second-largest (Economist, 2011). The agricultural sector employs most of the national workforce and is second in farm output worldwide (Olson R.G., 2009). For the economy to expect further growth, it is assumed that a large portion of the workforce would migrate from the primary sector (agriculture) to the secondary and tertiary sectors, and the skills sets that are required in both the sectors are quite different from those in the agro-sector (FICCI Report, 2010). This implies that there is/will be a large skill gap when such a migration occurs

which should be filled up by developing adequate skills for the workforce. India is expected to be home to a skilled workforce of 500 million by 2022 (Policy Paper MOLE, 2010).

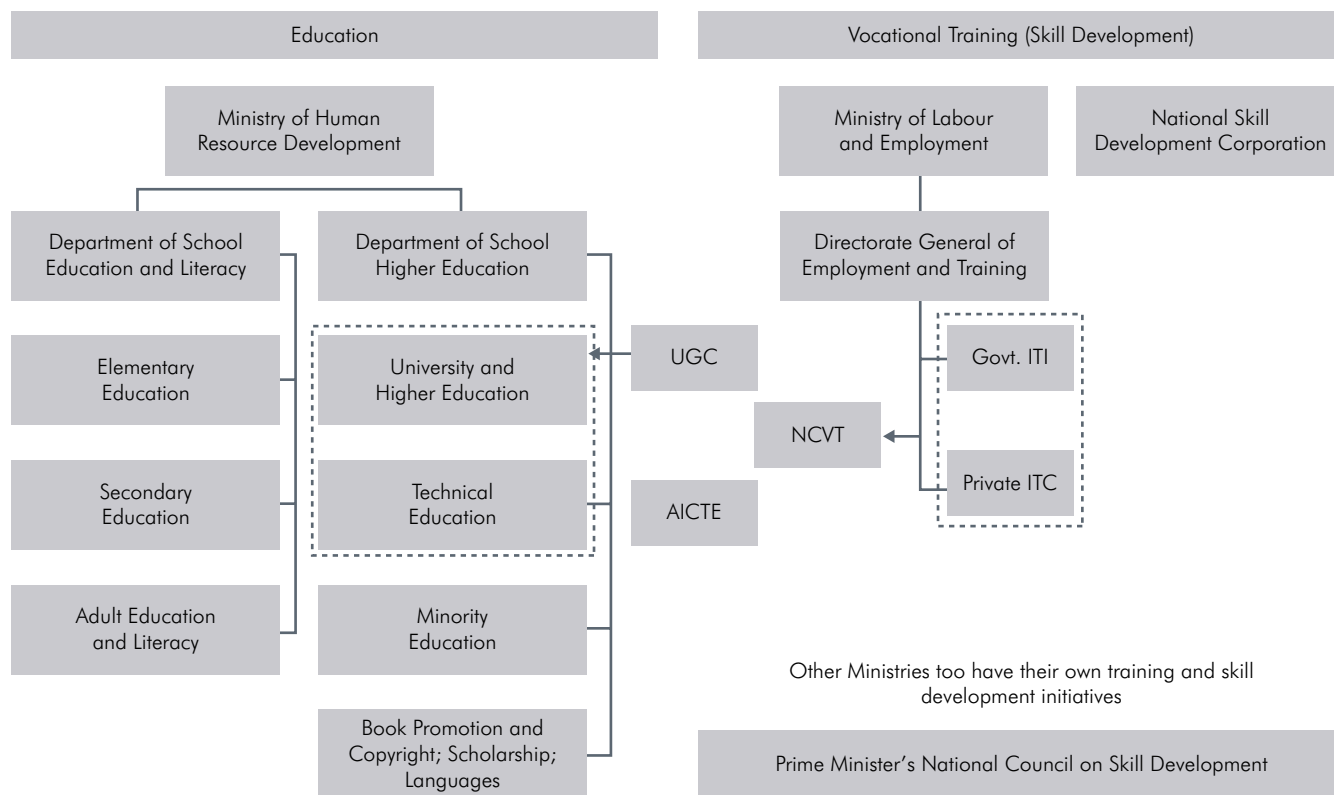
The present education system in India mainly comprises primary education, secondary education, senior secondary education and higher education. Elementary education consists of eight years of education. Each of secondary and senior secondary education consists of two years of education. Higher education in India starts after passing the higher secondary examination or the 12th standard. Depending on the stream, doing graduation in India can take three to five years. Post-graduate courses are generally of two to three years duration. After completing post-graduation, scope for doing research in various educational institutes also remains open.

The following graphic (Figure 3.2) shows the basic structure and responsibilities of India's educational systems.

Education, including all aspects of higher and college education, falls under the Ministry of Human Resource Development. The University and Higher Education arm is responsible for college education (Arts, Science, Commerce etc.), while engineering education, polytechnics etc. are under the category of Technical Education. The University Grants Commission (UGC) provides funds in the forms of grants and also coordinates as well as sets standards for teaching, examination and research in universities. The All India Council for Technical Education (AICTE) is the regulatory body for Technical Education in India. Their objectives are i) promotion of quality in technical education, ii) planning and coordinated development of technical education system and iii) maintenance of norms and standards.

A large part of the current vocational training infrastructure, namely the Government Industrial Training Institutes (ITIs) and private Industrial Training Centers (ITCs), are

FIGURE 3.2 CURRENT STRUCTURAL FRAMEWORK OF THE EDUCATION AND SKILL DEVELOPMENT SECTOR IN INDIA



Source: FICCI Report (2010) on the Skill Development Landscape in India.

regulated by the Ministry of Labour and Employment's Directorate General of Employment and Training (DGET). The National Council on Vocational Training (NCVT) plays a key role in the formation of training curriculum, policies standards, as well as in certification by means of the 'trade test'. The National Skill Development Corporation (NSDC) has been set up under Public-Private-Partnership mode under the Ministry of Finance to provide viability gap funding and coordinate private sector initiatives. The Prime Minister's National Council on Skill Development has been formulated to coordinate action on skill development.

The capacity of the education and skill development systems is shown next page (Table 3.7).

About 227 million is the enrollment in the school education sector, while the enrollment in vocational Training and Higher education is about 15.3 million. There are approximately 1.3 million schools in India, at which 227 million pupils are registered. A statistical

teacher-pupil ratio of 1:60 in the primary schools initially indicates a complete system overload. High drop-out rate is recorded in primary education, mainly in the state-regulated schools. As many as 12 million to 13 million school-leavers and drop-out pupils land at the education and job market yearly (FICCI Report, 2010).

NATURE OF THE APPRENTICESHIP SYSTEM

Apprenticeship in India means a system of training in which an employer engages a person as an apprentice, to train him systematically in the designated trade for the respective period prescribed under the Apprentices Act. The Indian National Apprenticeship Scheme started in 1959 on a voluntary basis. Not having achieved the expected results, the apprenticeship scheme was brought under the ambit of the Apprentices Act in 1961 and implemented effectively in 1962. It had mainly two objectives:

- To regulate the programme of training of apprentices in the industry so as to conform to

TABLE 3.7 ENROLMENT IN THE INDIAN EDUCATION AND SKILL DEVELOPMENT SYSTEMS

Category	Sub-Category	Enrolment
School Education	Pre-Primary Students	5,264,053
	Primary (Class I-V)	132,048,727
	Secondary (Class VI-VIII)	52,195,171
	High School (Class IX-X)	24,971,520
	Higher Secondary (Class XI-XII)	13,414,499
	Sub-Total	227,893,970
Vocational Training	Vocational Training – ITI/ITC	1,062,524
Higher Education	Ph.D/D.Sc/D.Phil	36,019
	MA	481,521
	MSc	230,247
	BA/BA (Hons).	3,727,727
	B.Sc.	1,579,355
	B.Com	1,455,457
	Medicine, Dentistry, Nursing, etc.	305,629
	B.Ed	244,825
	Enrolment in Open Universities	773,917
	Polytechnic Institutes	690,410
	Others	2,973,517
	Sub-Total	14,323,566

Source: Annual Report 2009-10 of Ministry of Labour and Employment (MOLE).

the prescribed syllabi, period of training, etc. as laid down by the Central Apprenticeship Council.

- To utilize fully the facilities available in industry for imparting practical training with a view to meeting the requirements of skilled manpower for industry.

There are four categories of Apprentices: 1. Trade Apprentices, 2. Graduate Apprentices, 3. Technician Apprentices and 4. Technician (Vocational) Apprentices. The Directorate General of Employment & Training (DGET) is responsible for implementation of the Act in respect of Trade Apprentices in the Central Government Undertakings and Departments. The Department of Secondary and higher Education in the Ministry of Human Resource Development is responsible for implementation of the Act in respect of Graduate,

Technician and Technician (Vocational) Apprentices. It is obligatory on the part of employers both in public and private sector establishments have training infrastructure – as laid down in the act – to engage apprentices. As per the annual report (2008-2009) of the Ministry of Labour and Employment (<http://dget.nic.in/>), 254 groups of industries are covered under the Act, and about 23,900 establishments engage apprentices. Apprentices are paid a stipend, which is specified in government regulations and revised every two years, based on the consumer price index (DGET, 2007). The arrangements vary with the category of apprenticeship.

The stipend of Trade apprentices are paid by the employer and increases over the period of the training program: the monthly rates are Rs. 1490 in 1st year, Rs. 1700 in 2nd year, Rs. 1970 in 3rd year and Rs. 2220 in 4th year (with effect from 18th October, 2010). The stipend of graduate, technician and technician (vocational) apprentices is shared equally between the employer and the government. In 2008 it was Rs. 2600 per month for graduate apprentices, Rs. 1850 for technician apprentices and Rs. 1440 for technician (vocational) apprentices (Annual Report MOLE, 2009).

Educational prerequisites apply to each apprenticeship, such as successful completion of Year 8 of schooling, Year 10, Year 12 or a degree. Apprenticeships are time-based, with the duration specified at six months, one year, 18 months, two years, three years or four years. The assessment of apprentices at the end of their training is undertaken using the All India Trade Test, administrated by the National Council for Vocational Training. The number of apprenticeship places available in each occupation and region is officially set. Seats for trade apprentices are located by the Apprenticeship Advisor on the basis of prescribed ratio of apprentices to workers and availability of training facilities. Every apprentice and employer needs to enter into a contract of apprentice training which is registered by the Apprenticeship Advisers.

Several recurring themes in the critical commentary made by World Bank Report (2008), OECD Report (2007) on India's education and training systems including the Apprenticeship and Craftmen Training Schemes are as follows:

- The country has an oversupply of higher education graduates, many of whom work in occupations where their skills are under-utilized.
- Economic progress is being held back because the vocational education and training system produces insufficient numbers of workers in technician, trade and skilled occupations.
- The teaching workforce available to provide training in technician, trade and skilled occupations is inadequate and includes many graduates who have inappropriate qualifications or experience.
- Employers are generally very dissatisfied with the country's training arrangements and have had only limited success in persuading the national and provincial governments to implement reforms. Many large firms resort to doing their own training, but the qualifications have no official recognition.

The Indian Apprentices Act was conceived with the principles of 'learning by earning' and 'learning by doing', and targeted to utilize fully the facilities available in industry for imparting practical training with a view to meeting the requirements of skilled manpower for industry. It has been amended multiple times over the years to address issues of the employers, industry, candidates and government. But these changes have not had the desired impact. The number of apprentices in the country has remained stagnant and has not increased in numbers over the years. Only 215,000 persons were undergoing apprenticeship training against a seating capacity of 320,000 in 2008-2009 (DGET Report). There are many reasons for low utilization of seats. Low rates of the stipend are one of the impediments for the low utilization of apprentices. Besides ITI-passed trainees prefer to go for employment as they would get more as wages than a stipend. Also, no assurance of regular employment is made for trainees after completion of apprenticeship training.

OCCUPATIONAL COVERAGE AND PARTICIPATION

There are altogether 404 trades (Trade Apprentices: 188 Trades; Graduate and Technician

Apprentices: 114 Trades, and Technician (Vocational) Apprentices: 102 Trades) available in the apprenticeship programme offered and regulated by Directorate General of Employment and Training (DGET). Trade Apprentices can enter the Apprentice Programme called the Apprentice Training Scheme (ATS) either i) post completion of their training and certification at ITIs/ICTs, or ii) immediately after they complete a certain level of basic minimum education, which could be 8th, 10th or 12th pass. Trade Apprentices can also enter the apprenticeship program with certain basic school education, and they are called 'full term' apprentices. Graduate Apprentices are those who have an engineering qualification granted by a statutory university or institution, and Technician Apprentices have a diploma in engineering or technology granted by a state council or Board of technical education. Technicians (Vocational) Apprentices need to have an AICTE (All India Council of Technical & Vocational Education) recognized vocational course involving 2 years of study after their secondary stage of school education completed, before they begin the apprenticeship programme (DGET Report, 2008).

The trades offered by the program are (mostly) technical/ manufacturing-oriented. Since India is country of villages (approx. 80% India's total population live in villages), the unemployment problem is huge and is basically rural by nature. Thus, the offered trades address mostly urban and semi-urban candidates. As per the statement of the Planning Commission 2009, 8% youth are unemployed, and 57% youth suffer some degree of un-employability. The reason of these problems lies in the mismatch of demand and supply: Ninety percent of all employment opportunities require vocational skills, but 90% of Indian's college and school output has only bookish knowledge.

For intake of apprentices, the employer advertises the vacancies for recruitment. A small-scale employer who does not advertise, searches for apprentices through references. Thus the responsibility for intake of apprentices is shared by the employer and the apprentice. Because of its relative complex structure the apprentice program does not enjoy a good brand image amongst prospective candidates. The perception is that the program is very long in duration, is manufacturing-oriented, employers pay poor stipends during training etc. The social status of an apprentice is considered to be low. No route is

available for vertical mobility of the qualification. As a result, apprenticeship fails to attract industrious and intelligent young people.

Seats for trade apprentices are located by the apprenticeship adviser on the basis of prescribed ratio of apprentices to workers and availability of workers capable of imparting training. Every apprentice and employer has to enter into a contract of apprenticeship training, which is registered by the apprenticeship advisers. Employers and apprentices have to fulfil their obligations under the act.

TRAINING AND ASSESSMENT

Apprentice Training comprises Basic Training, Practical Training and Related Instructions as per prescribed syllabus for each trade. Basic Training and Related Instructions are conducted in Basic Training Centres (BTCs) or Related Instructions Centres (RICs) set up within the establishments or in a BTC or RIC set up by the government.

As per the Act, Trade Apprentices, who are doing Apprentice Training Scheme (ATS) have to be given a certain level of basic training by the employer. Regarding the Craftsman Training Scheme (CTS), it is assumed that – since the input of candidates is from ITIs and ITCs – they have learned the basic skills of the trade during their ITI/ITC course. It is mandatory on the part of employer to provide these basic training facilities. This training cannot be outsourced, except in exceptional circumstances and that too only to government ITIs. All India Trade Tests (AITT) for trade apprentices are conducted by the National Council of Vocational Training (NCVT) twice a year (October/November and April/May). National Apprenticeship Certificates (NAC) are awarded to those who pass the AITT. NAC is recognized for employment under Government/Semi-Government departments/organizations.

Training of Graduate, Technician and Technician (Vocational) Apprentices is prepared in joint consultation between the Apprenticeship Adviser and the establishment concerned. Seats are located based on managerial/supervisory posts and training facilities. Certificates are awarded on completion of training by the department of Education, Ministry of Human Resource Development. (MOLE Annual Report, 2008-2009).

Training facilities are codified for covering the manufacturing sector, and have no relevance to the service sector. The training concept foresees mainly the imparting of isolated skills, not the action competencies. Accordingly the named trades are merely pointing on single qualification, e.g. Turner, Fitter, Draughtsman, Machinist etc.

PARTICIPATION OF GOVERNMENTS AND OTHER STAKEHOLDER GROUPS (SOCIAL PARTNERS)

There is no active participation of chambers of commerce and industry and trade unions/association in the Apprentice Training scheme. Even the involvement of the employer in the apprenticeship is feeble. They are not integrated into drafting or revising the training curriculum. As a result, the training content does not reflect the skill needs of industry, and its consequence is fewer acceptances by them. Taking this into account, the vigorous involvement of industry is a must in order to improve the performance of Apprenticeship Training both qualitatively and quantitatively.

MAJOR ISSUES AND LEARNING POINTS

Issues facing apprenticeships in India are:

- ▣ Low priority for Vocational Education and Training.
- ▣ Stipend rates for apprentices are very low.
- ▣ Shortage of trained teachers and trainers.
- ▣ Inadequate linkage of Industries.
- ▣ Lack of infrastructure in ITIs and ICTs – modern equipment, raw materials etc.
- ▣ Non-coverage of trade in service sector which might have higher employment potential.
- ▣ Lack of vertical mobility of qualification for apprentices.
- ▣ Obsolete and inflexible curriculum.
- ▣ Lack of convergence between various agencies.
- ▣ No assurance of employment after completion.
- ▣ Lack of overall social recognition.

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INTRODUCTION

Indonesia's economy and labor market

Indonesia is a giant. It lays claim to the world's 16th largest area (2 million square kilometers) and the world's fourth largest population (240 million people). About 28% (almost a third!) of the total population is less than 15 years old. This youthful labor force, i.e. men and women aged 15-24 – working or available for work, represent a quarter of the total labor force.

Economically, Indonesia has seen a steady GDP growth in the last decade, averaging 5 to 6% per annum, in spite of a series of natural disasters such as the tsunami of December 2004, and major earthquakes in 2005, 2006 and 2009. The economic growth continued through the 2007 global financial crisis, only slowing down somewhat in 2009, but still reaching 4 to 5% since. The economy was able to withstand the turmoil of the world financial and economic crisis much better than its neighbors, thanks mainly to a sound macro-economic management and to a strong domestic consumption. According to a recent forecast by the Organisation for Economic Co-operation and Development (OECD), Indonesia's economic growth will accelerate in the coming years, attaining an average growth rate of 6.6% per year between 2012 and 2016 (ILO, 2012).

This is not to say that the crisis had no impact. In fact, one of the main effects of the crisis has been the rise of informal, non-waged employment. As wage employment decreased, and in the absence of any social protection packages such as unemployment benefits, people have been forced to take on any jobs they could find, even the lowest paid or low skilled ones, or create their own employment. The latter phenomenon is revealed by the increase of micro and small enterprises – those most likely to be of the informal kind. Between 2006 and 2010, micro and small enterprises have grown from 48.9 million in 2006 to 53.7 million in 2010 (Serrière, 2011).

Indonesia certainly needs this growth rate to overcome the challenges of the country's labor market. Overall, employment has grown annually by 3.2% between 2006 and 2010, but some groups of workers keep facing difficulties in obtaining decent employment. The youth, for instance, are still five times more likely to be unemployed than adults, and even if the situation has seen a marked improvement in the last 5 years, youth unemployment still stands at 21.4% (down from 33.4% in 2005). This has been achieved in part because more young people are pursuing education, thanks to rising incomes at the family level. However, this might only be diffusing the problem as the economy is still far from being able to provide jobs in sufficient numbers for its graduates. Women's position on the labor market also shows some improvement. Fifty percent of women between the ages of 15 to 64 now have a job, but it is still much lower than the 80% for men.

Administratively, since 1999, the country has embarked on a course of decentralization which resulted in the transfer of important areas of responsibilities to its 33 provinces and 440 districts. Matters pertaining to public works, health, education, land issues, manpower, etc., are handled at local levels, although the Ministry of National Education (MoNE) has retained the regulatory competence and the supervision over higher education. At the provincial level, however, responsibilities often remain poorly defined, which results in unclear linkages between policy making at the national level and implementation at provincial or district levels.

VOCATIONAL EDUCATION SYSTEM

There is no ministry dedicated to Technical Vocational Education and Training (TVET) in Indonesia. The Ministry of National Education is, overall, the main body responsible for TVET. MoNE has responsibility for the Education Act (Law No. 20/2003), and administers vocational education as part of the National Education System. In Indonesia, vocational education provides an alternative to general education. Students from the

age of 16, or grade 10, can enter State Vocational and Technical High Schools (SMK) and follow a 3-year program. Upon getting their SMK-Diploma, students can then continue in vocational education at a higher level in Polytechnic schools or Academies for 1 to 4 years, where each year can be validated by a diploma (D1 through D4, depending on the years of training).

In addition to this formal component, MoNE also administers an important Non-Formal Education (NFE) component whose main elements are, on the one hand, equivalency programs and, on the other hand, pre-employment vocational training provided by both Public Vocational Training Centres (BLKs) and private ones. NFE's reason for being is to provide skills for life, early childhood education, youth education, women's empowerment education, literacy and vocational skills. In other words, it constitutes a second chance for the numerous dropouts of Indonesia's education system: according to a National Survey, in 2003, 1 million out of 4.4 million school dropouts joined the equivalency programs as a means of finding second-chance opportunities and alternative pathways to employment (World Bank, 2011).

The Equivalency programs are administered by the Directorate for Equivalency Education, also under the Ministry of National Education. They are split in 3 Paket for different age groups, from primary to upper secondary levels. This track is intended mainly for school dropouts, but also for those who cannot afford to attend mainstream schools, or for those who live in remote areas where no schools are available. Although their curricula are similar to those of regular schools, their schedules and organizations are more flexible. These programs are especially vital to those living in remote and isolated areas. In 2006, more than 8 million children, most of them overage, were enrolled in *Paket* programs (World Bank, 2011).

BLKs are administered by district governments in a decentralized system. There are currently 162 of them operating in Indonesia. They are financed mainly through government budget allocations, but some of them may generate moderate income through their practical training activities. BLKs provide four types of training: institutional training, non-institutional training, apprenticeship

programs, and demand-based training. Institutional training is defined as those job-training programs that aim to increase the skills of job seekers. Non-institutional training is provided for people in remote areas through mobile training units. Apprenticeship programs are carried out directly with the industry. Demand-based training responds to the industry's specific requests (Riyanto & Setiawati, 2011).

To get an idea of the importance of vocational training in Indonesia, in 2008, 62% of students in secondary education were in general education, 31% in Islamic education – which is the third general education track, administered by yet another government entity, i.e. the Ministry of Religious Affairs (World Bank, 2011).

In parallel to MoNE's vocational education system, there is the national training system for work, which is administered by the Ministry of Manpower and Transmigration (MoMT) through the Manpower Act (Law No. 13/2003) and regulation No. 31/2006 which essentially seeks to establish competence standards and professional certification. In addition, these acts and regulations establish training provisions which go further than those under the vocational education system in addressing skills and competences needed by the private sector and in setting up a competency-based training system (Ferland, 2011).

The situation therefore tends to be complex and confusing. MoNE is a main player in both formal and non-formal vocational training, including apprenticeship through its BLKs. However, it has not managed to produce a national system of certification and qualification. MoMT, on the other hand, is more active on the apprenticeship front, and has responsibility for developing/administering a comprehensive National Qualification Framework (KKNII) and National Competency Standard (SKKNI) aimed at building bridges between the formal and non-formal systems. As a result, relations between these two institutions can be tense and not always constructive.

NATURE OF THE APPRENTICESHIP SYSTEM

The apprenticeship framework in Indonesia is mainly based on a dual approach combining a school-to-work transition approach and a skills deficit approach.

The school-to-work approach is defined by Act No. 20/2003 in which apprenticeship is classified as part of Indonesia's NFE offering. As was explained above, this law is under the responsibility of MoNE.

The second approach, the 'skills deficit' approach, remains the one most referred to when dealing with apprenticeship in Indonesia, and is defined by Act 13/2003 placed under the responsibility of Manpower and Transmigration. In essence, this piece of legislation aims to ensure the availability of qualified skilled workers based on industry requirements and provides guidance as to the shape that apprenticeship should take in terms of definition, scope and contents of the contract between companies and apprentices, age of apprentices, pocket money or stipend, etc.

Under this second approach, 'apprenticeship is a part of a job training system that integrates training at a training institute with working directly under the tutelage and supervision of an instructor or a more experienced worker in the process of producing goods and services in an enterprise in order to master a certain skill or trade' (Article 11, Chapter 1 of Act 13/2003).

One way that MoMT had to operationalize apprenticeship was to set up an Apprenticeship Forum, or Network, depending on the translation. This is actually a strange animal. It is supposed to be operational in Indonesia's 33 provinces, but provincial experiences vary drastically (Serrière, 2011). The idea behind the Network was to create a space bringing together senior executives from blue chip companies, small and medium sized enterprises and representatives from key associations and other stakeholders (representing a total of 30 provinces across Indonesia) to discuss developments in the labor market that affect apprenticeships. Also, as Article 20 of Regulation No. 22/2009 states, enterprises can coordinate with the Network in order to implement their apprenticeship program more smoothly. However, on the ground it appears as though the Apprenticeship Network is relatively weak and barely functioning. For instance the Network in the province of East Java is seen as having had a very positive role on the general level of new recruits. The Network contributed to publishing information on apprenticeship opportunities (with sometimes up to 700 applications for 30 positions

available); to making a selection of applicants based on market needs; to checking the behavior and health of the apprentices; and to administering the financial aspect of apprenticeship. According to the animator of the Network, more could be done, but additional government funds are then needed.

In contrast, the Network in South Sulawesi province does not have any activities, mainly, it appears through interviews, due to lack of clear instructions. This lack of support from the Network does not stop the local BLK from producing high numbers of trainees in trades requested by the local market, such as welding, air conditioning, computer, hotel and catering, automotive and motorcycle repair. In other words, it seems that the existence of the apprenticeship network is 'transparent'. Whether or not it is active, apprenticeship takes place.

There are actually very few statistics about the number of apprentices in Indonesia. MoMT has, and used, the budget to finance six months of apprenticeship for 20,000 youth in 2012 (up from 10,000 in the two previous years), which of course is only a drop in the ocean when compared to the total youth labor force. However, Serrière (2011) found evidence that a lot more apprenticeship is taking place through the Ministry of Industry which has very close links with enterprises and training centers. Yet, the full extent of these placements still needs to be explored. Likewise, apprenticeship is also very widespread within micro and small (usually informal) enterprises, and informal employment accounts, at national level, for up to 60% of total employment. Managing to take this population into account would make a big difference in the effectiveness of apprenticeship in Indonesia. After all, the challenge is huge: in 2010, the youth labor force amounted to more than 43 million people. As a result, all the regulations mentioned here only apply to a minuscule portion of enterprises and workers.

Apprenticeship in Indonesia picked up in 1993 when the Minister of National Education (then known as Minister of Education and Culture) introduced a dual system of education and training replicating Germany's system. It started within a small selection of SMKs. This scheme was complemented by a program administered by the Department of Manpower for graduates or dropout students of secondary level of up to 29 years old. This time,

the inspiration was a US program called Registered Apprenticeship, which was similarly administered by the Department of Labor. Training included normative and practical courses, vocational theory, basic skills and professional skills; it lasted typically around three to four years. Finally, the last piece of the apprenticeship puzzle was the introduction, by the Directorate of Vocational Education, of a 'broad based' curriculum which, on top of the usual topics, included a strong component on entrepreneurship education (Paryono, 2004).

On paper, these initiatives appear to be balanced, relying on both supply side and demand side measures (i.e. improving on the one hand the employability of young people with a view to ease their entry on the labor market, and ensuring on the other hand that companies have access to the skills they needed). In reality, they fell short of realizing their objectives, for two main reasons, which unfortunately remain true to this day. The first reason is the lack of collaboration between the various bodies involved in apprenticeship, resulting in a lack of recognition of standardized assessment of skills and competencies. A second reason is that there were far too few enterprises able to provide quality placement and training for the numerous Indonesian youth: in 1997, just 5,000 students had taken part in the apprenticeship schemes.

By regulation, apprentices have the right to an allowance or transportation money, safety and health security, insurance, a training unit comprising the necessary facilities and infrastructure as well as a qualified trainer (if the enterprise cannot provide this, then the apprentice can train at a BLK), and finally, an apprenticeship certificate upon successful completion of the program (Ferland, 2011).

The rights of the entrepreneur include the right to possess any products/services resulting from the apprenticeship activities and the right to recruit and hire successful apprentices. Obligations for both parties include fulfilling the rights of the other and complying with the apprenticeship agreement; additionally, the apprentice must comply with the enterprises' code of conduct, and the entrepreneur must provide training facilities and infrastructure as well as occupational safety and health equipment.

The duration of apprenticeship is regulated by industry-specific agreements and can last up to a maximum of one year, unless the need for specific competencies requires a longer period. One argument for setting a set duration is that it allows to make a clear distinction between the time that the apprentices gets a specific wage rate, and the time when the apprentices graduate to the level of skilled employees and become eligible for a higher wage rate.

Under the present MoMT apprenticeship system, the government subsidizes the cost of apprenticeship. In practice, MoMT provides limited funding to enterprises to help defray the costs of training by covering the allowances of a limited, but growing, number of apprentices: 10,000 in 2011 and 20,000 in 2012. In addition, BLKs' mandate was to offer free vocational training for the low-income population, even if in practice, they offer a limited number of fully subsidized and some fee-based courses.

Employers cover the cost of raw materials, additional instruction and training, plus the payment of apprentices' allowances (i.e. pocket or transport money). In rare cases, apprentices on work placement are paid wages. Apprentices do not have to be paid minimum wages because they are not considered as employed under the labor law. As a result, the 'allowance' depends on the employer's good will, and becomes a contentious issue between social partners, employers and apprentices.

With regard to tenure, the World Bank conducted an Employer Skill Survey in 2008. Of the 616 responding enterprises, almost one in three had participated in the apprenticeship program, taking on more than 2,500 apprentices in 2007 for an average length of 49 days. Roughly 30% of the firms that took in apprentices subsequently hired them (World Bank, 2011). These data are confirmed by the MoMT's Department on Apprenticeship, which estimates that 80 to 90% of apprentices complete their program, and that 30 to 40% are retained in their company.

OCCUPATIONAL COVERAGE

The vocational systems cover occupations in the fields of (i) technology and engineering, (ii) health,

(iii) arts, crafts and tourism, (iv) information/communication technologies, (v) agribusiness and agro-technology, (vi) business and management. All together this represents around 40 different study programs (TVETipedia, 2012).

PARTICIPATION

Apprentices must be at least 18 years old and have met the (formal) educational requirements of the specific program. In formal education, women are usually well-represented, with up to 56% of attendance at diploma level. At the SMK level, this goes down to around 45% (World Bank, 2011). In the labor force, the participation of young women is, however, only 41% in 2010. According to MoMT, women apprentices constitute 42% of apprentices in 153 business fields. Their participation in apprenticeship is therefore lower than in other educational tracks, which could be explained by the fact that the trades covered tend to be male-dominated.

The employment status of apprentices is an issue in Indonesia. Most of the time, it is avoided by the government for fear of alienating trade unions. Trade union representatives have in fact often expressed their reluctance at supporting the expansion of apprenticeship invoking that apprentices are likely to be exploited and are not sufficiently covered by social protection. A more hidden agenda may also be that trade unions see apprenticeship as a threat to their members by representing an opportunity for cheap and exploitable labor.

Ideally, the status of apprentices should be recognized as employed, and appear as such in the labor statistics of Indonesia, but this can only be agreed to through negotiations with the social partners.

TRAINING AND ASSESSMENT

By regulation, an apprenticeship should comprise at most 25% theory and practice in training units or BLK and at least 75% training on the job at the enterprise under qualified training personnel. While the system appears to be based on Germany's dual system, few, if any, Indonesian employers are equipped to implement

the institutional-based theoretical component of the apprenticeship, and most would focus completely on enterprise-based practical training integrated with either a very small theoretical component or none at all. This highlights a possible mismatch between the capacity of the providers to provide dual training and the skills that apprentices are learning. However, on the ground it appears as though many apprenticeships in private enterprises are taking place in partnership with public institutions, whether SMK or BLK, where theory comprises part of the training curriculum.

Both public and private training centers alike can provide off-the-job training, but they must be accredited by the competent authority. In reality, very few training institutions are actually accredited.

Companies seeking to hire apprentices need to register with the Directorate of Apprenticeship at MoMT. Then, the apprenticeship agreement includes a training plan: a program of training and assessment that outlines the skills and competencies that an apprentice will be required to develop during his or her training, both off-the-job and workplace-based, to perform his or her job competently and complete the qualification requirements. Employers are therefore supposed to prove that they have the facilities, equipment and qualified staff to adequately train apprentices, however, in practice, this rarely takes place. In addition, training programs should be developed based on the Indonesian Work Competence Standards (SKKNI), international, or special standards. However, as the development of SKKNI has been stalled and remains incomplete, workplace training is generally referenced to enterprise standards, and result in the transfer of mere basic technical skills. Finally, because national certification is not compulsory, there is no way to determine whether apprentices are achieving qualification-level competencies through their placement.

With school-to-work transition becoming a priority for the government because of the large numbers of youth unemployed, and competency-based training gaining prominence, other non-formal training schemes have been adopted, such as the new World Bank-financed Education for Youth Employment Programs or the Kursus Para Profesi program to create alternative paths to employment.

Steps have already been taken in this direction, through the achievements of the just-finished ILO technical cooperation program EAST. The traditional training methodology is gradually being phased over to a Competency-Based Training (CBT) approach introduced a few years ago as the national training standard. At the moment graduating trainees are awarded certificates from the training centers they attended. When fully introduced, the CBT system shall enable BLKs to train to national standards with trainees being awarded nationally recognized certificates of competency. It could be envisaged to extend this methodology to all training centers to boost capacity and relieve BLKs.

By law, the SKKNI should be developed under the National Professional Certification Agency (BNSP) of MoNE by workgroups made up of representatives of professional associations and/or companies to assure their relevance for the world of work (15 industry representatives and 10 public sector representatives on five-year terms). Industry representatives have, in principle, a relatively high level of input into competence standards, which define curriculum and syllabi for training programs. The training packages used by vocational training centers (BLK) were supposed to be based on SKKNI. However, as the development of SKKNI was not moving forward, the task has been passed on to workgroups under MoMT rather than MoNE. In the absence of an official body of competencies, enterprises obviously refer to workplace standards rather than SKKNI, effectively designing their own curriculum, based on the skills they require. On the one hand, this means that apprenticeships are based largely on employers' needs. On the other hand it means that there are no standards to adhere to, with the problematic consequence that assessment are not recognized throughout Indonesia.

One additional weakness has been observed which may hinder the successful implementation of CBT in Indonesia. Because this project is being implemented in partnership with the Australian government, the Australian Qualification Framework is being used as a reference for the development of Indonesia's SKKNI. The problem is that, in spite of the planned multi-stakeholder involvement, the Australian Qualification Framework is being imported without much work of adaptation to the

Indonesian context. The risk is therefore that Indonesia ends up with a framework not wholly adapted to its needs (ILO, 2010).

Apprentices, by law, have the right to have their competences and qualifications assessed in a first instance by a vocational training center, and then have their result, such as their diploma certified by the BNSP (or more precisely by a professional certification institute licensed by BNSP to do so). Usually, the assessment is based on students' continued participation, a written report and a competency test for certification. The competency test consists of written and practical tests conducted by a team that represents instructors from industries, school teachers and professional associations. Most apprentices seem to pass the final examination although no data are available.

PARTICIPATION OF GOVERNMENTS AND OTHER STAKEHOLDER GROUPS (SOCIAL PARTNERS)

Intentionally, but of course not officially, trade unions are left out of the definition and implementation of the apprenticeship framework. If trade unions are left out, it is because in many occasions they have voiced their defiance vis à vis the apprenticeship system. Trade unions are of course well aware of the problems facing people looking for jobs, but their official concerns pertain (i) to the employment conditions of apprentices and (ii) to the fact that they consider that the government had better sort out the many pieces of legislation on apprenticeship and concentrate on their effective implementation, rather than start designing new ones. These are indeed fair concerns. Other concerns may also be related the fact that the position of their members, that is their members in wage employment, could be undermined. It remains that their lack of involvement is a serious issue that will have to be addressed, most likely through social dialogue and awareness-raising activities.

Ultimately, a strong partnership between government, employers and workers is an essential feature of an effective and enduring relationship between the world of learning and the world of work. These partnerships can lead to agreements between employers and workers

to promote workplace learning and to ensure that increased skills lead to higher productivity benefiting all parties. This may take a number of institutional forms, including national, regional and sectoral councils, boards and committees.

The ILO Recommendation on Human Resources Development, 2004 (No. 195) can provide guidelines in establishing the sharing of responsibilities for skills development⁹. For instance, it states that governments have primary responsibility for education, pre-employment training, core skills, and training the unemployed and people with special needs. Social partners have a significant role to play in further training, workplace training, and on-the-job training. Finally, it is up to individuals to take advantage of education, training and lifelong learning opportunities.

MAJOR ISSUES AND LEARNING POINTS

Issues facing apprenticeship in Indonesia

During consultations with members of the government at MoMT and MoNE, two major issues stood out.

The first one relates to the absence of a coherent apprenticeship framework. To paraphrase trade union representatives, what needs to be addressed in this instance is actually not the fact that there is not enough legislation, but quite the contrary, that there is too much of it. Coherence must be made of the different pieces of legislation existing. Probably pre-empting this search for coherence would be the appointment of a clear leader for apprenticeship at government level.

The second most pressing issue relates to numbers. Official apprenticeship placements are simply ridiculous when compared to the actual needs for job placement of young people. A reformed apprenticeship system needs to be able to provide massive apprenticeship opportunities to its youth.

⁹ ILO Recommendation on Human Resources Development, 2004 (No. 195), accessible at <http://www.ilo.org/ilolex/cgi-lex/convde.pl?R195>.

Strengths of the apprenticeship system

There are few surveys that provide statistical data on companies having made use of apprenticeship. One of them was undertaken by the ILO in 2010. The sample was 35 medium and large enterprises, of which 17 responded. The second one was an employer and employee skills survey undertaken for 473 medium-size and large firms. The sample is larger, but the target group is not more representative of the majority of businesses in Indonesia. In fact, according to data from the National bureau of statistics, medium and large enterprises represent less than 0.01 per cent of all businesses in Indonesia.

According to these enterprises, apprenticeships:

- ▣ Are cost-effective ways for employers to train workers.
- ▣ Help employers overcome structural problems with recruitment.
- ▣ Offset skill shortages.
- ▣ Help improve retention rates among employees.
- ▣ Provide training to meet business needs.
- ▣ Contribute to the pool of skilled people.
- ▣ Instill company values in young people.
- ▣ Increase the productivity of workers.
- ▣ Are linked to structured career development.
- ▣ Contribute to the quality of skills in the labor market. (ILO, 2010).

Weaknesses of the system

The apprenticeship system functions relatively well for the companies and the people that can afford it. The 20,000 apprentices now funded by MoMT are usually placed in big companies that have some capacity of running human resources policies. It is for the smaller and often informal companies, that the apprenticeship system, by managing to be both confusing and over-rigid, is failing to deliver its potential. A better system should recognize that a lot of skills acquisition is taking place at a much lower level of production, and find ways to recognize and upgrade the skills often acquired by

low educated youth in small production units, so that these people may then have a chance to improve on their employment prospects.

In short, a reformed system should seek to address the following weaknesses:

- ▣ Its provisions and definitions apply mainly to the most formal and largest companies, leaving aside millions of micro and small enterprises.
- ▣ Its various pieces of legislation tend to contradict and overlap themselves, thereby blurring their purpose.
- ▣ There are many stakeholders, at the national and provincial level, but roles and responsibilities are not shared nor agreed upon.
- ▣ Some key stakeholders (such as social partners) are not involved in the operationalization of the framework.

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INTRODUCTION

The overall socio-economic perspective in South Africa is dominated by the need for job creation, associated as it is with inequity and poverty alleviation. On almost every developmental indicator, the country has been shown to be less than adequate¹⁰ – high unemployment and considerable poverty together with inequality and associated racial, gender and geographical characteristics. Labor force participation was approximately 55% in mid- 2012 while unemployment was around 25% (Bureau for Economic Research, 2012). Both of these indicators had worsened by around 2% since the beginning of the GFC. In this regard, the focus on youth in particular has of late become particularly important with evidence suggesting that there are almost 2.8 million (in 2008)¹¹ of those 'Not in Employment, Education and Training (NEET). The reference to the youth 'time-bomb' is particularly pertinent when alarming youth unemployment figures are considered, averaging 57.3% (wide definition) and 48.4% (narrow definition) of those in the 15-24 age-range. The latter is widely regarded as a 'ticking time bomb', associated as it is with South Africa's alarming crime statistics. It is not unrealistic to assume that in addition to the youth crisis, social inequity is manifested in violent protests in former black 'townships' around service delivery deficits.

Within the South African formal economy, the two largest sectors of employment are 'trade' and 'community and social services' (3.0 million and 2.9 million respectively). Manufacturing comes next with 1.7 million followed by 'private households (1.1 million) and construction (1.0 million). The labor force is 17.9 million. (Stats SA, 2012).

¹⁰ See for instance results of the latest Education Competitiveness Indicator, which shows that it is even below some African countries that have half its income and GDP.

¹¹ Latest figures estimated by one report have been reported to be about 4 million.

NATURE OF THE APPRENTICESHIP SYSTEM

Major purpose of apprenticeship system

Education, training and skills development has been crucially linked with both delivery of services and employment creation. However, the focus on the capacity of the education, training and skills development system to respond to the challenge has also been found wanting. The widespread skills shortages articulated by business together with the perceived poor quality of the public schooling system makes the challenge particularly serious.

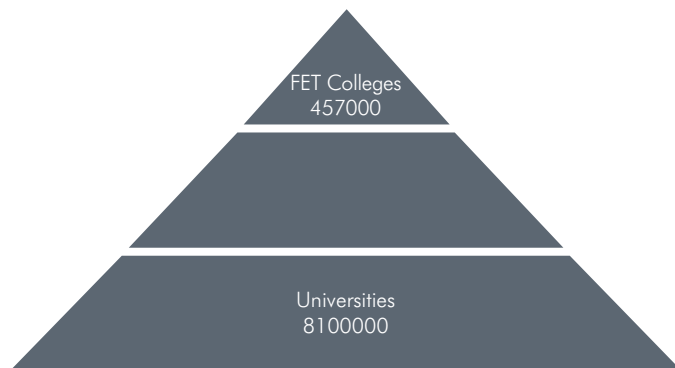
The TVET system has been recently a particular area of focus for the newly-created Department of Higher Education and Training (DHET), formed in 2009 as a result of the separation of the schooling sector, now referred to as the Department of Basic Education (DBE). The DHET as a post-schooling sector has been particularly focused on revitalizing the intermediate-level Vocational system, referred to as the Further Education and Training (FET) college sector, which has traditionally been associated with delivering the theoretical component of the apprenticeship system, which is expected to deliver qualified artisans as those associated with mid-level 'trades'¹². Thus the development of a range of legislation to respond to the new emphasis on revitalizing the apprenticeship system, as one of four key pathways to artisan development leading to a trade test, which is the basis for the recognition of the qualification (the other routes/pathways to artisan development are elucidated later in this report).

The main purpose of the artisan development system, with the apprenticeship pathway as the key means of getting there, especially in the post DHET era is a need to

¹² The latest government gazette has identified 120 occupations referred to as designated trades in various economic sectors, from Chef (in hospitality) through to millwright (engineering) to hairdressing (services).

respond to the labor market, while providing an alternative to the massively biased university post-school structure that still bedevils the education and training system in the country. The comparative participation rates of those emerging from the schooling system are associated with the following provisioning model, referred to as an inverted triangle of provisioning (Figure 3.3).

FIGURE 3.3 INVERTED TRIANGLE OF POST-SCHOOL PROVISIONING: PARTICIPATION RATES-FET COLLEGES VS UNIVERSITIES



Importantly, the focus has been increasingly associated with the development of a post-school education and training system as a result of the establishment of the Department of Higher Education and Training (DHET). The apprenticeship system, together with the various artisan training routes is, therefore, expected to respond to the national development challenges of the vocational education and training system and in particular enable a more determined thrust towards revitalizing and making more attractive vocational careers in the mid- or intermediate education and training level, referred to as Further Education and Training Colleges (FET Colleges).

There are, therefore, two elements that are important in the South African case: The need to provide more opportunities to youth and the lament in the national discourse about the skills shortage, including artisanal skills.

Size

The number of apprentices in terms of the current and future projections depicted by NAMB is circa 8,000 -11,000 (in the period 2009-2011) in support of the goal of

50, 000 by 2015. Apprenticeships are likely to occur in a range of occupation levels including, 'technicians', 'skilled agricultural workers' and 'plant and machine operators'. Although there is no official report on the proportion of apprentices to the total labor force cohort, a breakdown of the occupation profiles and industry can illuminate to some extent the location of these apprentices within the economy. In terms of education attainment and levels, apprentices are likely to be classified under the secondary level, whereas with occupational area they are likely to be located within the craft-related trades and plant and machine operation.

History

Apprenticeships have traditionally been associated with 'blue-collar' or mid-level technical skills associated with supporting the mining and industrial economy in the 20th century Apartheid state. The apprenticeship system was thus firmly based on the needs of the economy to develop artisans necessary for the economy.

Thus, the origin of apprenticeships and artisan training in South Africa was fashioned in the ambitions of nationalist politicians to create a modern economy as the basis of a racially exclusive and ethnically ruled state. To this end, artisan training was the product of an interventionist state, and became synonymous with the privileges of white workers and the power of racially exclusive craft unions. When the system based on these elements did not produce enough to feed state and private industries in times of economic growth – particularly in the 1960s – numbers were supplemented with skilled immigrants from abroad. Local unions were particularly vociferous in their attempts to ensure that black artisans did not threaten their livelihoods. Their political influence over the apartheid state ensured that black people were prevented from obtaining access to artisanal skills.

This system of state-led training supplemented by importation came under pressure during the 1970s, and by the end of the 1980s the established apprenticeship system was in crisis. Among the pressures which included growing political instability and an economy in recession which faced structural changes, and which saw a shift towards services as mining and manufacturing began to decline in prominence. More importantly,

the State-Owned Enterprises (SOEs), where much of the apprenticeships were privatized and in their bid to enable competitive commercialization were no longer able to sustain the training of apprentices for the broader economy and beyond their own needs. Thus, the once huge capacity within the SOEs was undermined and many training centers that once used to support a vibrant apprenticeship system were mothballed.

In addition, in the 1990s, the new education and training dispensation under the new democratic state did not focus on artisan training. There was considerable attention to the creation of producing skills for a more modern economy, which in reality meant a declining appreciation of the value of the artisan which, in an altogether altered political context, had become associated by reputation with the apartheid system. This product of an altered political balance of power combined with an unrealistic assumption that traditional artisan skills would not be required in the new economy, created the basis for undermining of artisanal skills.

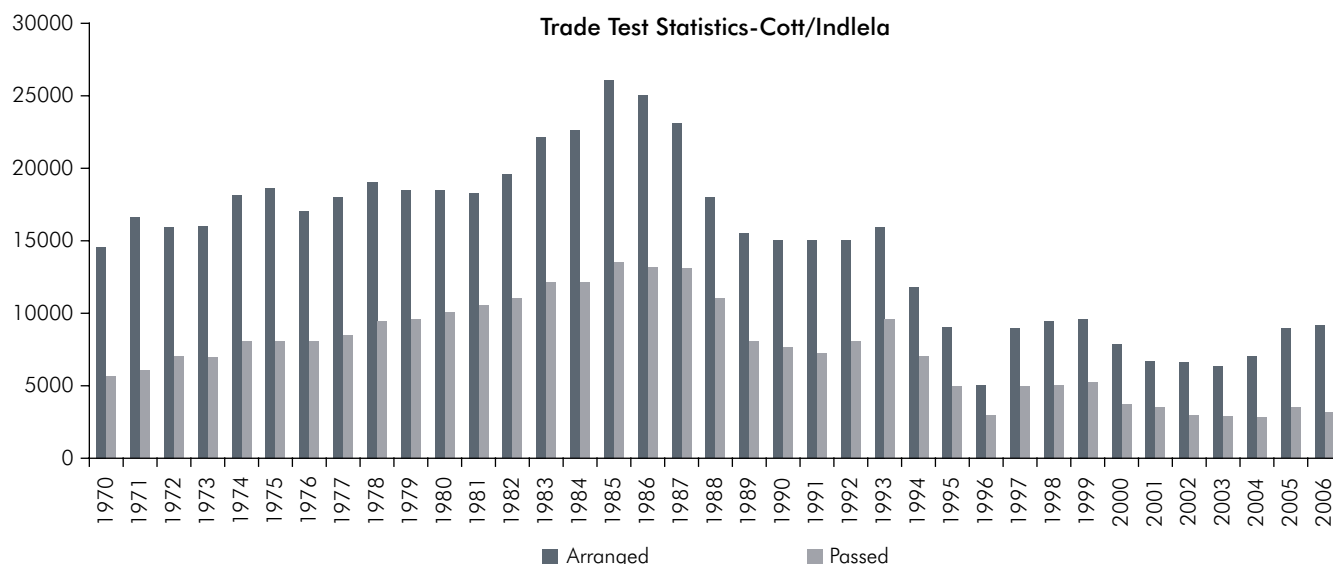
The need for expanding the apprenticeship system leading to artisan status has been recognized in the national development discourse. The lack of artisan supply is clearly one of the results of a system that was seriously dysfunctional. The reason for the shortage of artisans since the 1990s has been exacerbated by a range of

factors including the partial privatization, and subsequent withdrawal of State Owned Enterprises (SOEs) from the large-scale training of artisans. In addition, an (under) estimation of the trajectory of economic growth, and the (mis) calculation about which sectors would grow was also lacking.

Estimates suggest that while there were 33,000 apprentices registered in South Africa in 1975, this had declined to only 3,000 at the turn of the millennium in 2000. Trade test statistics, as a key element of artisan supply, provided the evidence for this situation (see Figure 3.4).

The steady decline in tests arranged and in those succeeding, provides a picture of the deterioration of the artisan skills supply. By the mid-1990's, there was a serious crisis, that is only now beginning to be resolved. This is compounded by the problem of an ageing workforce, which according to one report estimates that more than 70 per cent of currently employed artisans will exit the labor force over the following five to six years (Erasmus, 2008). The problem was said to be due to a lack of understanding not only of the structure of the economy but also the nature of work processes, especially in relation to artisans and the important role they played in the production process (Erasmus, 2008). This was partly related to the fact that the apprenticeship system

FIGURE 3.4 TRADE TEST STATISTICS: 1970-2006



Source: Prinsloo, 2008 (COTT was the former Centre for Trade Test which was re-named INDLELA).

had become so intrinsically linked with the apartheid system (and hence had become discredited) and there was a real sense that artisanal skills would no longer be required as part of the skills base of the 'new economy' which was to emerge.

The Joint Initiative on Priority Skills Acquisition (JIPSA), formed in March 2006, promoted the expansion of intermediate artisan and technical skills as imperative for the growing economy (Mukora, Visser, Roodt, Arends, Letseka & Molefe, 2008). JIPSA 'had to recognize and deal with the legacy of skills underdevelopment amongst the majority of South Africa's citizens, caused by the systematic denial of opportunities to black South Africans to acquire skills under apartheid...' (Presidency, 2010: 3). It became clear that the apprenticeship pathway had many valuable attributes, and in many respects was very successful in providing sufficient numbers of qualified and competent artisans. Apprenticeship is therefore only one, but arguably a very important, learning pathway to artisanal skills.

The Minister of the Department of Higher Education and Training (DHET) in an opening address to a recent National Artisan Development Conference (2012) pointed out that there were more than 100 standards for artisan training that often resulted in fly-by-nights. The different standards also led to artisans failing... 'We also need to raise the status of vocational training.' He implored the partners; labor, employment, Sector Education and Training Authorities (SETAs) and colleges to commit to artisan training.

There is clearly a need for joint co-operation in the area of artisan development. While the various pathways leading to artisan status provide for more options for reaching artisan status, the reality is that apprenticeships have been undermined by a not yet mature learnership system, which allows learners to be placed into the system without effectively undergoing thorough workplace exposure and training (see later in this case study for details). The establishment of the National Artisan Moderating Body is an important development in the quest to ensure that some synergy is inserted into the system and that the artisan system is revived. The move to the apprenticeship system is a welcome one, but is still likely to be hampered by the lack of workplaces that are

willing to take in students. The once vibrant apprenticeship system which was bolstered by State Owned enterprises have clearly not been able to meet, let alone exceed, the numbers of artisans and apprenticeships they offered in the past when they were less constrained by the need to be profitable. While they are now re-engaging with the system, their visible absence over the past ten years means that much of their expertise in this regard has been lost.

The apprenticeships system is closely linked to the quality of the Vocational Education and Training Institutions. The Further Education and Training (FET) Colleges have been gravely neglected in the post-1994 era. The nature of instruction and the poor quality of facilities and trainers (educators) in general have been less than effective in providing quality instruction. The staffing at these colleges represents the most serious constraint for an effective apprenticeship system. Colleges have lost their edge in labor market responsiveness, and the glaring absence of industry exposure of lecturers represents the most serious constraint of a vibrant apprenticeship system.

In general, though, the current DHET order has committed itself to revitalizing the system and this represents the most positive feature of the current political dispensation. Much has been said about ensuring that the place of Vocational Education is emphasised. Structures have been developed in an effort to make this a reality. Some concerted results are likely to be felt. The danger of the political emphasis changing as a result of changing political figures still persists and there is danger of the system again being undermined.

The centre-piece of the new growth path is a massive investment in infrastructure and people through skills development, together with smart government and better co-ordination with the private sector and organized labor so as to achieve national development goals. The economics ministry reports that government has created thousands of jobs since the New Growth Path (NGP) was adopted by Cabinet in October last year, figures released by the Minister of Economic Development Ebrahim Patel. This report refers to:

- Almost 60,000 jobs created by the Department of Trade and Industry's support and incentive programs in the last financial year.

- The support of over 100,000 smallholder farmers by the national and provincial agricultural departments.
- Environmental employment schemes, such as the Department of Water Affairs' Working for Water and the Working for Land program, which would provide over 30,000 full-time job equivalents this year, doubling to 60,000 next year.
- A rural youth employment program, which has created 7,500 jobs.
- The government planned to increase the number of work opportunities in the Community Works Programme to one million by 2014, of which up to 90% could be earmarked for young people.

Source: (Skills Portal, 2011).

Furthermore, to achieve the goals of this pact, the New Growth Path sets targets for scarce and key skills and identifies the role of government departments and agencies in working to meet these goals. This emphasis on skills applies across the economy and will be a centre-piece of partnership with business and labor. The Parliamentary Monitoring Group (2010) reports that at the center of the above pact is the goal to produce 50,000 additional artisans, annually by 2015.

The document calls for an increased focus on workplace training, targeting on-the-job training and refresher programs for 10% of the workforce every year. This will be accompanied by a skills transfer program to ensure that local skills development is enhanced.

QUALIFICATIONS

Apprenticeships represent one of four routes to artisan training. Each of the routes requires a trade test for qualification in order to reach artisan status. The various routes are outlined below.

i. Apprenticeships

An apprenticeship in terms of the SDA [Section 26, D 2b] requires the learner to have met the requirements as stipulated. The minimum criteria currently is a minimum of 24-26 weeks (around 6 months) institutional training and

80 weeks (20 months) workplace learning (obtained by theory, practical skills training and workplace training).

ii. Section 28, RPL

Recognition of Prior Learning (RPL) referred to as Section 28¹³ RPL [in terms of Section 26, D 2c] requires a preliminary evaluation (i.e. N- level trade theory + 3 years, or if no qualification has been obtained, 4 years of relevant industry experience, supported by training schedules. The RPL pathway is exclusively gained by workplace experience. A preliminary evaluation at minimum N2 trade test theory and 3 years of experience or in absence of a formal qualification, 4 years of relevant industry experience, evidenced by training schedules.

iii. Learnerships

Learnerships represent an alternative to apprenticeship and have been accommodated in terms of Section 26, D 2a of the Skills Development Act (SDA). They were introduced in 1998. A learnership comprises four levels of learning that can be broken up into non-linear modules allowing for flexibility. The qualification is reached after the completion of all levels (Levels 1 to 4). While this is currently quality assured by the Sector Education and Training Authorities (SETAs), the functions will revert to the newly established NAMB. Learnerships are shorter than apprenticeships (1200 notional hours), meaning they can be completed in twelve months or less, they always involve completion of a qualification, and they are available in a wider range of occupations than the typical 'blue-collar' trades of apprenticeships. They do not involve employment but always involve work placements. While learnerships were intended eventually to encompass apprenticeships, this has not happened. There are far more people in learnerships (43,500) than apprenticeships (approx. 9,500) (Janse van Rensburg, Visser, Wildschut & Roodt, 2012).

iv. Occupational qualifications (FET)

Occupational Qualification (FET College) (Section 26 D2d) refers to the Further Education and Training (FET) College qualification. This theoretical

¹³ Section 28 refers to non-indentured individuals, those that do not have a formal contract with the employer with whom they are indentured.

qualification still requires an internship (workplace) period before candidates can be allowed entry to a trade test. The National Certificate Vocational (NCV) is inadequate for entry into a trade test. While learners are exposed to simulation of workplace equipment, they would still require the necessary workplace exposure, referred to as internships, in the latest legislation.

All of these routes allow learners to qualify for a 'trade test' at a relevant testing center. In terms of the latest development identified by the senior official, a trade test is referred to as a, '...a final external summative assessment included in the occupational qualification for a listed trade by an assessor registered with the National Artisan Moderating Body (NAMB) at a trade test centre accredited by QCTO' (Proposed Trade Test Regulations- April 2012).

The Quality Council for Trades and Occupations (QCTO) has just become operational with a CEO being appointed to begin work in earnest. The QCTO was established in 2008 by the Skills Development Act to perform the following functions as set out in Chapter 6C (Section 26H, 26F and 26J of the SDA (Act No. 97 of 1998):

- Design and develop occupational standards and qualifications and submit them to the South African Qualifications Authority for registration on the National Qualifications Framework.
- Establish and maintain occupational standards and qualifications.
- Ensure the quality of occupational standards and qualifications and learning in and for the workplace.
- Promote the objectives of the National Qualifications Framework.
- Liaise with the National Skills Authority on the suitability and adequacy of occupational standards and qualifications and on the quality of learning in and for the workplace.
- Liaise with the South African Qualifications Authority, other Quality Councils and professional bodies responsible for establishing standards and qualifications or the quality assurance of standards and qualifications.
- Perform any other prescribed function.

The QCTO with its workplace focus is likely to be a key feature of the quality assurance of artisan development and will be a key institution responsible for ensuring quality in the sector.

EMPLOYMENT STATUS

An apprenticeship is an agreement between an apprentice and an employer for a set period of time during which the apprentice works and receives training in the workplace. An apprenticeship is a non-unit standard based registered qualification, which is governed by sections 13-29 of the *Manpower Training Act No. 56 of 1981*. An apprenticeship comprises the integration of workplace and institutional learning and culminates in a national qualification at the appropriate level (N1-N6). It involves both on- and off-the-job training. Most apprentices (76%) have an indentured contract with their sponsoring firm. They work in that firm, learning while they do so, while the off-the-job component is supplied by learning providers (Mukora, Visser, Roodt, Arends, Letseka & Molefe, 2008), typically private training companies, employers themselves or FET colleges. They may or may not be formally employed. Black apprentices are less likely to be formally employed than white apprentices (Janse van Rensburg, Visser, Wildschut & Roodt, 2012). The status of apprentices differs from sector to sector and indeed from company to company. For instance the status of apprentices in the motor industry is determined by a bargaining council (including employers and unions), with apprentice stipends regulated, and wages for workers with a trade test regulated and controlled.

People entering apprenticeships are required to be 15 years of age and no age cap is set; usually the age range of the apprentice population is 40 with a minimum of 18 years and a maximum of 58 years and the mean age is roughly 29 (Janse van Rensburg et al, 2012). Each sector, such as the transport or manufacturing and engineering sector has different approved conditions of apprenticeship regarding entry requirements. Common entry requirements are the minimum age of sixteen years and a Grade 9 schooling qualification. However, recently the shift to Grade 10 and N3 levels has become a norm. Although some occupations require that candidates have completed on-the-job training, there is no specific

requirement that it be through an apprenticeship. During the apprenticeship, candidates enter into contract as entry level trainees and progress to artisan status after completion, and would afterwards qualify for entry level occupations if they have completed programs. Some apprentices are able to qualify for higher job profiles such as technician once completed.

LENGTH OF TRAINING CONTRACT

An apprenticeship can last from two to four years, depending on the program. As an apprentice, about 90% of the learner's time is spent learning practical skills, while being supervised by a qualified trades person. The rest is spent learning theoretical and technical aspects of the trade. The normal route would take up to four years, with a mixture of practical and in-class training, whilst the accelerated one would see the apprentice complete it over a period of two years. The length of training also varies by sector and qualification as determined by employer bodies in conjunction with SETAs.

FUNDING REGIMES

A voluntary skills levy of 1% of payroll of over ZAR 500,000 (USD\$ 65 000) is collected by the national revenue. The SETA system collected has collected 3.75 billion over the past 11 years (Linda, 2012). Subsequently, an employer may apply to a SETA for an apprenticeship grant in respect of a contract of apprenticeship registered in terms of section 18 of the Manpower Training Act, 1981 and Skills Development Act of 1998. Funding can amount to ± R 30,000 per apprenticeship per year or R 120,000.000 over the duration of the apprenticeship. The apprentices also receive a wage determined by the sectoral bargaining councils and calculated at a proportion of the going artisan wage rate. The employers are also eligible for a tax rebate which they can claim through the receiver of revenue.

RETENTION

Figures from a study for the HSRC and Department of Labour (Janse van Rensburg et al, 2012) found that only 9.4% of those who entered the apprenticeship system

were considered unemployed at the time of completion, although many were young people who had not previously entered the labor market. However, the majority of those who leave the apprenticeship system end up in employment, and the majority of these found employment straight after leaving the system. The apprenticeship system, similar to findings by others with regard to the learnership system, thus seems more successful in providing vocational education and training for the young unemployed, rather than enhancing skills upgrading for the employed. Within the context of high youth unemployment, this seems a satisfactory outcome. There is a higher propensity for those who enter as employed to be employed after their final transition, in comparison to those who start their journey as unemployed.

The apprenticeship pathway provides more skills development opportunities for the unemployed, as a means of occupational certification to facilitate labor market entry, in Year 5. Those who registered for a learnership qualification in Year 5 were more likely to be employed at entry (44%) than those who registered for an apprenticeship qualification (18%). The unemployed are thus entering the apprenticeship pathway to a greater extent than before, but note that the total numbers involved remain low (Rensburg, Visser, Wildschut, Roodt & Kruss, 2012).

OCCUPATIONAL COVERAGE

An apprenticeship traditionally provided the training for skilled manual workers, at first associated primarily with artisanal trades, but later also associated with manufacturing. Apprenticeships tend to be restricted to traditional blue-collar trades with relevance to a wide variety of sectors but limited to technical trades. The occupations have conventionally been located in the list below:

- ▣ Mechanical Engineering trades.
- ▣ Electronics and Telecommunications trades.
- ▣ Telecommunications trades.
- ▣ Construction trades.
- ▣ Automotive Electricians and Mechanical trades.
- ▣ Electrical trades.

- ▣ Manufacturing trades.
- ▣ Chemical technician trades.
- ▣ Fabrication Engineering trades.
- ▣ Mining trades.
- ▣ Waste Water Plant Operation trades.
- ▣ Aviation trades.
- ▣ Wood and Paper Manufacturing trades.
- ▣ Panel beating and Vehicle Body Building trades.
- ▣ Trimmers and Painters.
- ▣ Horticultural trades.
- ▣ Textile, Clothing and Footwear Trades.
- ▣ Air-conditioning and Refrigeration trades.
- ▣ Food processing trades.
- ▣ Painting trades.
- ▣ Wood trade.

OCCUPATIONAL IDENTITY

The Manufacturing Sector Education and Training Authority (merSETA) in collaboration with the University of Bremen recently embarked on a study to measure the vocational identity and occupational commitment of apprentices across South Africa; COMET (2012). Based on a sample of 'accelerated apprenticeship' (24 months rather than 36), preliminary findings revealed the following:

The test-takers were highly motivated and interested in the test task, although competency results were below the level of functional competence. Importantly, it was found that processual and holistic shaping competence has only rarely been reached. But it was found that South African learners (compared to the Chinese and German counterparts) were very motivated to take the test, very committed to their learning in general, and according to those that conducted the study points to some unused potential in the training organizations (Rauner, Heinemann, Hauschildt & Piening, 2012). Not only the South African learners'

test motivation was extremely high¹⁴; they show a lot of commitment to their training in general, as well. On all items regarding organizational and occupational commitment, South African learners score very high. This commitment is a strong resource to engage in learning in order to become an expert in one's field.

PARTICIPATION

The National Skills Development Strategy 2005-2010 set the success indicator that 125,000 workers (indicator 2.8) and 125,000 unemployed people (indicator 4.1) should have entered skills development programs by March 2010. (Rensburg, Visser, Wildschut, Roodt & Kruss, 2012) Van Rensburg et al. (2011), established the broad contours of the apprenticeship pathway system in South Africa in Year 5 of NSDS II (2009/10). The system comprised roughly 12,000 registered and completed apprenticeships, of which those still registered and pursuing an apprenticeship program formed the majority. In the first year of the National Skills Development Strategy II, 2005/6, almost 53,000 individuals registered for a learnership program (HSRC, 2007). A study of the total population drawing on official datasets showed that the overall size of the learnership system had contracted slightly by the fifth and final year of NSDSII, 2009/10. Overall, in terms of apprenticeship registrations, SETAs are faring quite well, reaching 88% of the nationally set intake target. At this point in time SETAs are catering mainly for the young unemployed, most typically school-leavers or young people preparing for labor market entry, achieving 188% of the target for this category of registration in total.

Race

Figures from the study by Janse van Rensburg et al. (2012) indicate that the majority of apprentices are black. Seventy-three percent of apprentices nationally were found to be black (including African, coloured and Indian). This is a significant shift from the white-dominated earlier days of

¹⁴ Of the 300 test-takers, 118 only reached a total score of less than 5 points. Of the remaining 182, 1.6% reached the level of holistic shaping competence, 1.1% the level of processual competence, 37.9% the level of functional competence, and 59.3% are at the level of mere nominal competence (Felix, Lars, Ursel, & Dorothy, 2012).

apprenticeship However, there continues to be a larger proportion of white apprentices, relative to their presence in the total population, since white people constitute only 9% of the South Africa population (Stats SA, 2011).

Gender and other variables

There is continued dominance of males in the apprenticeship pathway system, with 79% of apprentices being male, 15% female, and 6% of unknown gender (Janse van Rensburg et al, 2012). A greater proportion of black apprentices are female (18%) than of white apprentices (11%) There are no pronounced barriers based on gender or race but generally the historic profile still holds sway even when efforts are extended to overcome such barriers. Targeting is done in a way to promote easier entry for females, the previously disadvantaged and the disabled.

TRAINING AND ASSESSMENT

According to regulations, the minimum and the maximum period of a (3) three-year apprenticeship for the designated trades is 72 practical weeks on-the-job-training and (3) three years, respectively. In terms of clause 8 (2) (c) of Government Notice R1461 dated 16 July, 1982, the period of apprenticeship of an apprentice, who has not passed a trade test before the end of his/her period of apprenticeship as prescribed in paragraph 1(a) of the contract, is extended by a period of (12) twelve months.

The minimum and the maximum period of a (4) four-year apprenticeship for the designated trades is 85 practical weeks on-the-job-training and (4) four years respectively. In terms of clause 8 (2) (c) of Government Notice R1461 dated 16 July, 1982, the period of apprenticeship of an apprentice, who has not passed a trade test before the end of his/her period of apprenticeship as prescribed in paragraph 1(a) of the contract, is extended by a period of 12 (twelve) months.

With respect to the minimum and maximum periods mentioned above:

- The minimum period of 72/85 weeks (depending on the trade) shall exclude time spent at a technical college/FET provider, extended sick leave (every

day more than (30) thirty days in any year of apprenticeship), period of absence outside the control of apprentice and other absenteeism.

- The maximum period of (3) three/(4) four years shall include time spent at a technical college/FET provider and, if necessary, the time taken for tests and minimum of 72/85 weeks (depending on the trade) of practical on-the-job training.

Apprenticeships are managed and quality assured by the SETAs and off-the-job training provided by both public colleges and private providers. INDLELA is the main public accreditation institution for the mandatory trade test. It was formerly known as the Central Organization for Trade Testing (COTT). In the past, INDLELA was the only national centre where apprentices could take the trade test and qualify as artisans. Since 2000, the accreditation system has been decentralized, and private trade test centres were established. Private providers acquire trade testing status by applying for accreditation through the SETA offering a specific trade (Parliamentary Monitoring Group, 2010).

PARTICIPATION OF GOVERNMENTS AND OTHER STAKEHOLDER GROUPS (SOCIAL PARTNERS)

The National Artisan Moderating Body (NAMB) represents the official entity responsible for Artisan development and by implication is responsible for all the regulatory responsibility for the apprenticeships system. The Body is a statutory entity falling under the Department of Higher Education and Training (DHET) and is responsible for trades under the newly-formed Quality Council for Trades and Occupations (QCTO). An overview of each of these entities is provided below.

The Skills Development Act (208) laid the basis for the development of a National Artisan Moderating Body (NAMB) to undertake the following functions:

- Co-ordinate artisan development in the country (as per section 26A1) whose functions include the following:
 - Monitor the performance of accredited artisan trade test centres.

- Moderate artisan trade tests.
- Develop, maintain and apply a national data-bank of instruments for assessment and moderation of artisan trade tests.
- Develop and maintain a national data-base of registered artisan trade assessors and moderators.
- Record artisan achievements.
- Determine appeals against assessment decisions.
- Recommend the certification of artisans to the Quality Council for Trades and Occupations (QCTO).
- Perform any other such functions.

In addition, the Act also empowers the Minister to list and remove trades on a national register. Regulations specified in terms of the Act also allows for a system of registration through certification in the specification that, 'No person, whether employed or self-employed, may hold themselves out to be qualified as an artisan in a listed trade unless that person is registered as an artisan...' (SDA, Section 26 2A).

The skills accord and apprenticeship

The representatives of business, organized labor, the community constituency and government have agreed to partnerships to achieving the new growth path target of five million new jobs by 2020 (EDD, 2011). The accord identifies key partnerships areas in the effort to enhance skills development and training within the country. The accords have been signed by government, business and civil society groups and are part of a process aimed at turning out thousands of artisans and technicians in South Africa and improving the level of skills at many state schools.

In terms of the skills accords, employers in collaboration with the Sector Education and Training Authorities will implement the plans and have undertaken to place 30,000 artisans in training. Government has said that it will develop targets for internships in the public sector and has committed itself to enrolling 20,000 people as apprentices and learners by 2014. In addition to

SETAs and SOEs, according to Minister Nzimande, government departments and agencies as well as municipalities will be expected to increase their intake of different types of trainees who are either studying or have recently completed their studies. 'All major government infrastructure programs will be expected to take on trainees in order to develop the country's skills base' (NEDLAC, 2011). The commitments assented to, in the accords, reflects a step to guarantee action and reflect joint action in achieving the goals of development. Artisan development – apprenticeships – has been identified as key ingredients to the impetus facing the country.

MAJOR ISSUES AND LEARNING POINTS

Thus the current focus of the NAMB is to promote artisan training. While reinforcing the four pathways, it is evident that the apprenticeship system is again particularly favored. It is clear that there are advantages to the apprenticeship system that the learnership system just could not respond to, and that the system was less than effective in responding to the 'tried and tested' apprenticeship system. Key to the shortcoming was the lack of a contract that enabled the apprentice to be employed. This allowed employers the advantage of training without any commitment to the learner after training. Thus, while the Skills Development Act required that for a learnership to commence, a learnership agreement must be entered into between the learner, the employer and the training provider, the nature of the agreement was limited to training. While the system was ostensibly designed to overcome the growing divide between the workplace and the training provider, the real issue of training for the workplace was undermined by the unemployment that resulted once learners were qualified.

From a provider perspective, the learnership system offered a new window of opportunity to secure funds for training. Employers received grants that intended to incentivize employers to take on more learners thereby providing an expanded market for providers. The grant was generous enough in that it took due account of the costs of training. Of course, part of the problem was the continuity of the learners. Learners also quickly realized that learnerships were one way in which income could be generated, even for a short period. In context of the unemployment, many post-school candidates were able

to secure learnerships as opposed to other opportunities and the stipend was able to sustain them for a time. Thus, some learners appeared to have mastered the system of securing lower level learnerships for a short period that would allow them to sustain themselves.

However, it has been argued that in view of the apparent confusion around the status of the apprenticeship system, amongst other issues, it is questionable whether the new policy approach (and law) had been sufficiently communicated to all stakeholders. It is also questionable whether the original drafters of the vision ensured that their philosophy and approach were properly passed on to those who were required to administer and manage its implementation. It has been contended that training systems by their nature are complex, and require time for implementation so that they can deliver. In view of the magnitude of the task of introducing a new system, it is questionable whether appropriate transitional arrangements were put in place so as to give the new system time to become fully operational before collapsing the old.

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INTRODUCTION

Turkey's population at the end of 2011 is approximately 74.7 million (approximately 37.5 male, 37.2 female). The country is divided into 81 provinces grouped into seven regions. The national capital is Ankara, and Istanbul is the most populous city (approx. 13.6 million). Turkey has a centralized system of government and parliamentary system. The Turkish Republic was founded in 1923.

Determined by the National Education Basic Act No. 1739 (issued in 1973), the Turkish education system is divided into formal and non-formal education, and the main responsible body is the Ministry of National Education (Milli Eğitim Bakanlığı, MoNE). Formal education covers pre-school education, primary education (8 years duration), secondary education (4 years duration), and higher education (Higher Education Council is the responsible body). In academic year 2011-2012, in the formal education system there are about 10.9 million primary school level students, and 4.8 million secondary school level students of which about 2.1 million is vocational and technical education students (MEB, 2012). Enrollment in higher education is lower. As the statistics reveal, after compulsory primary education schooling drops significantly at the secondary education level despite the efforts for increasing schooling at all levels in Turkey. Non-formal education institutions provide for the educational needs of all over the age

of 14 and many young people seek vocational skills through non-formal education. The main body responsible for provision of various non-formal educational activities, including apprenticeship training, is the MoNE, General Directorate of Lifelong Learning. Up until 2011 this was known as the General Directorate of Apprenticeship and Non-Formal Education.

The labor force participation rate in Turkey is about 50%. The figure is about 27% for the 15-19 age group (Table 3.8).

NATURE OF THE APPRENTICESHIP SYSTEM

Currently, the Vocational Training Law No. 3308 issued in 1986 (amended in 2001 by Law No. 4702), is the main Law that regulates apprenticeship training in Turkey. Accordingly, the major purposes would be listed as:

- To provide basic vocational education and training, mainly to the working youth in the age group of 14-18 who dropped out of the education system or did not continue education after the completion of compulsory primary education. With the amendments to the Law No. 3308 by Law No. 4702 in 2001, those who are at the age or above the age of 19 would also enter apprenticeship training on the condition that they have a secondary school diploma, but the main target group is still the 14-18 age group.

TABLE 3.8 LABOR FORCE PARTICIPATION AND EMPLOYMENT: 2011 ('000S)

Population	Total	Urban	Rural	Male	Female	15-19 age
Total population*	72376	49535	22841	35909	36467	6162
Population 15 age >=	53593	36973	16620	26320	27273	-
Population in labor force	26725	17594	9131	18867	7859	1637
Pop. not in labor force	26867	19378	7489	7453	19414	4525
Labor force participation rate (%)	49.9	47.6	54.9	71.7	28.8	26.6
Employed	24110	15508	8603	17137	6973	1378
Unemployed	2615	2087	528	1730	885	259
Unemployment rate (%)	9.8	11.9	5.8	9.2	11.3	15.8

* Non-institutional population.

Source: TURKSTAT (2012a: 40), TURKSTAT (2012b: 22).

- To prevent the youth from working without social security, to provide an opportunity for the youth to re-enter the educational system, and to regulate the master-apprentice relationship.
- To help youth and adults who are seeking apprenticeships to choose a vocation appropriate to their interests and aptitudes.
- To prepare apprentices for the journeyman examination through the acquisition of vocational knowledge, skills and work habits such as work discipline and work security.
- To prepare journeymen for the mastership examination by providing the knowledge, skills and work habits required to perform the vocational tasks alone, and to run a workshop.
- To set up the standards for apprentices and journeymen throughout the country.
- To provide training for masters and master trainers to improve their skills.
- To collaborate with the social partners in planning, developing and assessment processes.

Size

Vocational Training Centres (*MeslekiEgitimMerkezi – MEM*) are the state institutions where the apprenticeship training is mainly carried out. According to the most recent statistics available, the numbers of participants at Vocational Training Centres are provided in Table 3.9. Accordingly, about 185, 000 candidate apprentices, apprentices, and journeymen attend vocational

education and training at these centers. Most of the apprentices are at the 15-22 age-group. About 18,000 master trainers attend to improve their vocational skills. Around 82,000 apprentices receive certificates at various levels.

Although the age groups are not exactly the same, it is still possible to make a general comparison of the labor force participation presented in Table 3.8 to the number of apprentices presented in Table 3.9. The numbers in Table 3.8 indicate that in 2011 around one-fourth of the population of the 15-19 age group participated in the labor force and about 1.4 million were employed. As seen in Table 3.9, around 129,000 employed young people in the age group of 15-22 attended apprenticeship training in 2010, either as candidate apprentice or apprentice. So, although an over-generalization, it can be said that about 5 to 7% of the young employees would be considered as being in apprenticeship training.

In fact, there is still some informal apprenticeship in practice, where the young people work at small workplaces as apprentices but do not have apprenticeship contracts and do not attend apprenticeship training. The numbers of informal apprenticeships are not definite, but especially in larger cities where inspection of the apprentices is more difficult it can be assumed that several times more apprentices work unregistered in the informal sector compared to registered apprentices. There are also such journeymen. Since 1977, when the first law on apprenticeship training was enacted, there have been efforts in formalizing the informal sector, and these efforts are continuing, though currently

TABLE 3.9 NUMBER OF PARTICIPANTS AT VOCATIONAL EDUCATION CENTRES IN 2009-2010

Status of Participation	Total	Gender		Age		
		Male	Female	15-22	23-44	45+
Candidate apprentices in training	1188	1034	154	447	737	4
Apprentices in training	128032	102290	25742	113646	14138	319
Journeymen in training	55843	47148	8695	21460	34077	306
Master Trainers	17859	13913	3946			
Obtained journeyman certificate	46017					
Obtained mastership certificates	29295					
Obtained certificate to establish work	6309					
Total	284543					

Source: TURKSTAT (2011).

the system has a much more formalized structure with the registered apprenticeships. Therefore, the share of apprenticeship would be even higher in labor force participation, although such apprenticeships are not registered.

History

The historical background of apprenticeship system goes back to as early as the 11th century in Turkey. A fraternity organization called '*Akhi*', in which vocational training, general education, and social life were interwoven, was founded towards the middle of the 13th century. Education and training in the *Akhi* system comprised vocational training, and social education where one would start as a candidate apprentice, would become an apprentice and then a journeyman in due time, and finally a master. It can be said that the apprenticeship training in Turkey still has the remnants of the *Akhi* system.

The apprenticeship system in Turkey has a dual structure. The Law No. 3308 decrees that the enterprises send their apprentices one day a week (not less than 8 hours) to Vocational Education Centres, or training units or institutions approved by the MoNE, to complement their enterprise-based training with theoretical courses. During the other workdays apprentices work at their workplaces where mentors called as 'master-trainers' are responsible for monitoring their work-based development.

There are some laws and regulations that relate to apprenticeship training activities in Turkey. The major ones are as the following:

Law No. 2089: The first law on apprenticeship training was enacted in 1977, as the Law of Apprenticeship, Journeymanship and Mastership No. 2089, to enable people to acquire a profession through apprenticeship training. Although the Law defined the status of apprentices, journeymen and masters; regulations for working hours and working conditions; and social security arrangements and payments, it was unclear whether apprenticeship training is considered formal or non-formal in the national education system.

Law No. 3308: Upon the failure of the Law No. 2089 to regulate the apprenticeship activities, a new one was prepared and issued in 1986 as the 'Apprenticeship and Vocational Training Law No. 3308'; to organize apprenticeship training, formal and non-formal vocational and technical education into an integral system. As a result, all the regulations related with formal and non-formal vocational and technical education, including apprenticeship training, are prepared and implemented according to Law No. 3308. The body responsible for carrying out all the related activities is the MoNE. Therefore, with the Law No. 3308 the aim was not only to regulate the apprenticeship training but the whole system, including the formal vocational and technical education.

In 2001, the 'Apprenticeship and Vocational Education Law No. 3308' was amended by Law No. 4702, and the Law was renamed as 'Vocational Education Law No. 3308', and at the same time some of the articles were changed. Although the Law No. 3308 remained mainly as it is, due to the amendments horizontal and vertical transfers were made possible through formal and non-formal education. Also, with the amendments apprenticeships for those at the age of 19 or older was made possible, whereas in the earlier version of the Law apprenticeship training was for the 14-18 age group.

Law No. 4702 amended not only the Law on Apprenticeship and Vocational Training but also the Law on Higher Education, the Law on Primary Education, the Basic Law on National Education, the Law on Organization and Tasks of Ministry of National Education, and the Law on Financial Measures Regarding Several Valuable Papers and Transactions. The important thing to point out here is that the amendments regarding the Apprenticeship and Vocational Training Law and the Law on Higher Education laid down the general principles for implementing a common vocational training policy.

Law No. 5544: Turkey has initiated reforms in vocational training through the EU-supported project Strengthening the Vocational Education and Training System (SVET) that was implemented between 2002-2006 to build institutional capacity

and improve quality, mainly by promoting modular training and the development of a national vocational qualification system. Vocational Qualification Authority Law No. 5544 was enacted in 2006 'to develop the standards and requirements needed for the certification of selected occupations in compliance with national and international professional standards' (Majcher-Teleon & Bardak, 2011:35); by taking into consideration all technical and vocational education and training including formal (primary, secondary, and higher education), non-formal, and informal and relevant institutions. Moreover, the Law determines the accreditation of institutions to be certified for examination and certification of the people. Articles 21, 22, and 23 of the Law determine the preparation and enforcement of National Occupational Standards, examination and certification. The Vocational Qualifications Law No. 5544 is available online in English at: http://www.myk.gov.tr/images/articles/editor/MYK_Kanunu_ENG_19_03_2012.pdf. The Vocational Qualification Authority has only recently started work on the national qualifications framework (Majcher-Teleon & Bardak, 2011).

Vocational and Technical Education Regulation put into use in 2002 (Official Gazette 3.7.2002/24804) to specify the regulations for vocational and technical training, including apprenticeship training.

The preparation of modular programs started in 2005 in accordance with SVET. Presently all the modules for all occupational areas within the scope of Law No. 3308 have been prepared and are available online.

Qualifications

Apprentices receive a certificate after their training period if they successfully pass the written and practical examination. There are eight occupational levels in Turkey compatible with the European Qualifications Framework (EQF). A simplified list of eight occupational levels and how it corresponds to the levels of education is given in Table 3.10. Accordingly, apprentices acquire qualifications at Level 2, journeymen status at Level 3, and masters status at Level 4 in terms of vocational qualifications (Altin, 2008).

TABLE 3.10 TURKEY: OCCUPATIONAL LEVEL CRITERIA COMPATIBLE WITH THE EUROPEAN QUALIFICATIONS FRAMEWORK

LEVEL 1	(Routine) occupations that continue to the same template with a small change. (Primary education or first stage of basic education)
LEVEL 2	Occupations that include more than one variable and complexity and that may include collaboration activities with other employees in work process. (Certificate) (second stage of basic education)
LEVEL 3	The occupations in which there are complex and non-routine activities. (Certificate) (general secondary)
LEVEL 4	Includes highly complex, technical or professional occupations. (Certificate) (VET)
LEVEL 5	Occupations that have advance level complex activities, strategic management instructions and contents that frequently cannot be determined in advance. (post-secondary VET)
LEVEL 6	Design engineer, Computer Engineer, Textile Technology Specialist, Work Study Specialist, Production Planner, etc. (B.A.)
LEVEL 7	Department Manager, Lawyer, Deputy Manager, Accounting Chief, Economist, etc. (M.A., expert)
LEVEL 8	Managing Director, General Director, Accounting Director, Engineer (Ph.D.)

Source: SVET webpage (<http://svet.meb.gov.tr/>), and NQF webpage (<http://www.myk.gov.tr>).

Employment status

Apprentices must be employed. They receive a wage. Wages paid by the enterprises to candidate apprentices and apprentices cannot be less than 30% of the minimum wage.

Length of training contract

According to the Law No. 3308 (Article 13) without a written apprenticeship contract the owner of a workshop cannot have an apprentice below the age of 19. The rule does not apply to the graduates of Vocational and Technical High Schools, or those who have a journeyman certificate. A probation period of not less than a month and not more than three months, is allowed before the written contract becomes binding (Article 14). The duration of the probation period is decided by the MoNE. After the probation period is over, if neither the employer

nor the apprentice applies to the relevant Apprenticeship Training Centre within 10 days for abolition, the written apprenticeship contract becomes binding.

In line with the requirements of the Law No. 3308, those who have written apprenticeship contracts are obliged to receive theoretical training one day a week at a Vocational Training Centre (until 2001 known as Apprenticeship Training Centres). Such training is also possible at Vocational Training and Technology Centres (*Mesleki Eğitimve Teknoloji Merkezi, METEM*) and at 'training units' of workplaces approved by the MoNE. For the rest of the week, apprentices receive their practical training at their workplaces under the supervision of master-trainers. At the end of the training, apprentices go through a written and practical examination to earn a certificate which leads to journeymanship. Journeymanship training lasts two years, and on completion of the training, the journeymen take the mastership examination which leads to mastership certificate. Those who hold a mastership certificate may attend a pedagogical training of 40 hours to gain a master-trainer certificate. As indicated earlier, master trainers are in charge of undertaking the training of apprentices in the workplace.

The length of the apprenticeship training varies depending on the nature of occupation. Although the Law No. 3308 states that the apprenticeship period varies from 2 to 4 years, over the years four-year apprenticeships have disappeared and today the time duration of apprenticeships is two or three years. It is important to note here that the time duration of apprenticeship training is shortened by half for those who seek apprenticeship training after completing secondary or higher levels of formal schooling. So, for example, within the motor vehicles technology field, automotive electro-mechanics is a three-year apprenticeship, reduced to 18 months for those who have completed secondary education. Within this same classification, automotive mechanics is a two-year apprenticeship, shortened to one year for secondary school graduates. T. For all occupations, journeyman training (to become a master) is two years. (General Directorate of Apprenticeship and Non-Formal Education Occupational Fields and Branches for Apprenticeship Training, MoNE, 22nd Vocational Education Council Meeting).

Moreover, in the most recent 24th Vocational Education Council meeting in December 2011, it was proposed that time durations would be re-considered and shortened in some occupational fields, so that people could start up business in a shorter time. Therefore, in the near future, time durations for some occupational fields may be shortened, although it is not for sure as yet.

FUNDING REGIMES

When candidate apprentices and apprentices are put under contract their social security insurance premiums and the insurance contributions (for occupational accidents, diseases and sickness) are paid by the state. Therefore, the financial burden of the employers is decreased since the state pays the insurance premiums. Moreover they are also exempt from revenue stamps, income tax, tax refund, severance payment and similar financial requirements. The employers would show the wages paid to apprentices as expenditures. Another benefit for the employers, although not financial, is that the number of apprentices are not included in the number of employees in a workplace.

Journeymen are excluded from this; therefore their social security insurance premiums and the insurance contributions are not paid by the state, which according to some practitioners causes disruptions in the system. Some employers would not be willing to pay the social security insurance premiums and the insurance contributions of the youth who finish their apprenticeship training and pass the journeyman-ship examinations. Therefore, after becoming a journeyman some have to continue their work life unregistered, informally for some years.

RETENTION

Once the candidate apprentices and apprentices start at a workplace with an apprenticeship contract they cannot change their workplaces easily. So most of the apprentices continue working at their workplaces during their training.

Although there is no statistical data available on the issue, it is considered that at least 90% complete their term of apprenticeship, and once they are in the track

of vocational skill acquisition through apprenticeships they continue the track with journeymanhood that leads to mastership. Therefore, the retention rate is very high in Turkey.

Although there is no related statistical data available, the general consideration is that there is no unemployment or very low levels of unemployment for those who have been through the apprenticeship system. Again there is no data on the proportion of continuing working for the same employer. However, it can be said that once they themselves become a master, after apprenticeship and journeymanhood, many leave their workplaces to set up their own businesses.

OCCUPATIONAL COVERAGE

Training is carried under various occupational fields, and branches related to each occupational field within the scope of Law No. 3308. Over the years there have been changes in the number and scope of these occupational fields and branches. The changes to the occupational fields and branches are brought by the Vocational Education Councils. For instance in 2006, there were 36 occupational fields and 130 branches determined by the 19th Vocational Education Council. Since then there have been some changes, and currently apprenticeship training in Turkey is carried out in 31 occupational fields and 153 branches as the latest revisions done by the 22nd Vocational Education Council in August 2010.

There are also occupations that are not covered by the apprenticeship training system within the scope of Law No. 3308 and thus MoNE does not offer any training but allows one of the social partners, Turkish Confederation of Tradesmen and Craftsmen (TESK), to do so. The vocational education and training of these occupations that are not covered by the Law No. 3308 are carried out by TESK in cooperation with MoNE. TESK also assesses the competencies of individuals, who work in an occupation not covered by the Law No. 3308, to evaluate and certify the knowledge and skills that are acquired through informal (mainly work experience), and non-formal learning. TESK awards the following certificates: journeymanhood certificate, mastership certificate, tradesmanhood certificate, and permit to set up business. The certification process of the occupations that

are not covered by the Law No. 3308 is granted under 'the Regulation on Awarding of Occupational Certificates for Occupational Branches for which the Apprenticeship Training is not provided'. The latest changes to the regulation took place in 2008 and announced in the Official Gazette (2008/26756).

Do any of the occupations have a requirement to have completed an apprenticeship?

The occupations within the scope of Law No. 3308 and the occupational fields and branches covered require the completion of an apprenticeship in order to be able to set up business. In practice, there are still businesses set up, or people working without such certification.

What levels of jobs are involved (e.g. entry level/technician etc?)

In general jobs are entry level. According to European Qualifications Framework it can be considered that apprentices are at Level 2, and generally journeymen at Level 3, and masters at Level 4 in terms of vocational qualifications.

What is the perceived status of apprenticed occupations?

The perceived status of apprenticed occupations is low. Although there is a well-developed apprenticeship system with all the laws, regulations, and institutions, the low status of apprenticeship training persists as a difficult problem of the apprenticeship system. There are several reasons that can be listed for the low status of apprentices: apprentices generally come from lower socio-economic classes; frequently are school dropouts or have lower aspirations to pursue formal education; apprenticeship system is not well-connected to opportunities for further education and training; and working conditions of apprentices in the workplaces can be quite tough.

Moreover, the requirement of the certificates in many cases are not clear, as normally according to Law No. 3308 a mastership certificate is a pre-condition for opening a small business, therefore one has to go

through the apprenticeship training system, but in some sectors business start-ups may take place without such certificates. The Turkish Union of Chambers and Stock Exchanges (*Türkiye Odalar ve Borsalar Birliği*, TOBB) Law No. 5174, item 102 (issued in 2004) provides a way to bypass this requirement. According to the Law No. 5174 the members of TOBB (265 chambers and commodity exchanges) do not have to have a mastership certificate to start up a business. That provides a short cut to starting up an enterprise; therefore the apprenticeship and journeyman certificates that lead to mastership certificates which are granted by the MoNE or TESK do not mean much for setting up a business. Many choose becoming a member of TOBB rather than going through the apprenticeship system (Unluhisarcikli & Vos, forthcoming; Vos, 2008).

OCCUPATIONAL IDENTITY

There is no comprehensive research study that determines the occupational identity among apprentices. A study investigating the efficiency of motor vehicles technology program reveals that 93% of the apprentices are content about working in their occupational fields. When asked about their motives for choosing the specific occupational field 51% indicated personal interest and aptitude. The other factors in decision-making were parental support, and the opportunity to set up one's own business (Uygur, 2009). The perception in general is that apprentices have a strong occupational identity.

PARTICIPATION

In terms of gender there are no specific rules or barriers to enter apprenticeship training in a specific occupational field and branch. But in practice most occupational fields and branches are male-dominated whereas only a few, namely; women's hairdressing, skin care and beauty, underwear clothing design, women's clothing design, readymade clothing machinery for design are female-dominated (TURKSTAT, 2011). Another issue is the lower numbers of females attending apprenticeship training. Table 2 shows that in 2009-2010 there were 103324 male candidate apprentices and apprentices whereas only 25896 female candidate apprentices and apprentices in Vocational Training Centres. This is not an unexpected situation though, since the labor force participation of the

male population in Turkey is 71.7%, whereas the female labor force participation is 28.8% (Table 1).

Apprenticeship age is determined by law. In the original 1986 version of the Law No. 3308 that regulates apprenticeship training in Turkey the age of apprentices was limited to 14-18 age group. After the amendments to the Law in 2001, people who are 19 years or older are allowed to pursue apprenticeship training. Those who are younger than 14 years old would start their apprenticeship training as 'candidate apprentice' until they reach the age of 14, provided that they have completed their compulsory elementary education and have diploma.

In order to pursue an apprenticeship one has to be working at a workplace on a full-time basis.

Are there differences among occupational areas in the attractiveness of apprenticeships to potential applicants?

Although there is no direct empirical data on this issue, the number of attendants in different occupational fields and branches would give an idea about the preferences of the people seeking apprenticeship training. Table 3.11 gives the number of apprentices by their type of occupations from the highest level of enrollment to the lower levels of enrollment, respectively.

Out of more than 140 occupational fields the thirteen listed comprise the highest enrollment levels (71.2% in total).

Do any bodies (e.g. trade unions) control entry of people into apprenticeships?

The Law No. 3308 determines who would be candidate apprentices and apprentices. And these are related to the age and educational level. Otherwise there is no other body that controls entry of people into apprenticeships.

However, there is some control over the employers in terms of who get apprentices. The local TESK occupational

TABLE 3.11 NUMBER OF APPRENTICES BY TYPE OF OCCUPATION (2009-2010)

Occupation*	Total	Male	Female	%
Women's Hairdressing	22454	7931	14523	17.5
Men's Hairdressing	21361	21325	36	16.7
Electrical Installations and Panel Monitoring	7876	7831	45	6.2
Automotive Electro-Mechanics	5821	5809	12	4.5
Readymade Clothing Machinery for Design	5526	1374	4152	4.3
Furniture Production	4887	4885	2	3.8
Computerized Machine Production Processes	4768	4742	26	3.7
Automotive Mechanics	4453	4452	1	3.5
Automotive Framework	3103	3103	-	2.4
Welding	2980	2921	59	2.3
Flattening (Lathe Operator)	2779	2773	6	2.2
Cooking	2731	2355	356	2.1
Automotive Electrics	2396	2396	-	1.9
Others	36897	30393	6524	28.8
Total	128032	102290	25742	100.0

* Occupational branch names are referred with their latest titles.

Source: TURKSTAT (2011).

chambers are important social partners in contributing to the apprenticeship system by monitoring of the enterprises. The Enterprise Monitoring and Consulting Groups (*Isyeri Denetlemeve Danismanlik Gruplari*, IDDG), at the local occupational chambers of TESK, are responsible for maintaining the quality assurance of apprenticeship training. Accordingly, each IDDG at local occupational chambers monitors and ensures that the apprentices are provided with well-equipped, hygienic and secure training and working conditions. Similarly, the Union Enterprise Monitoring and Consulting Group (*Birlik Isyeri Denetlemeve Danismanlik Gruplari*, BIDDG) function at the provincial level to monitor the local occupational chambers (Yazman, 1999). However, in practice, these groups are not functioning effectively due to inadequate numbers PF staff, and insufficient resources.

TRAINING AND ASSESSMENT

The training is a combination, which is a dual education system, where apprentices attend Vocational Training Centres or appropriate institutions (Vocational Training and Technology Centres, or enterprises where there are ten or more students 'training units' may also provide apprenticeship training.) one day per week for theoretical education, and spend the other workdays in their workplaces. The time duration of theoretical education

(covering both vocational and general subjects) would not be less than 8 hours. These 8 hours are during the working hours of the candidate apprentices, and apprentices. So, about one-fifth of their time is spent in off-the-job training.

Vocational Training Centres are the main institutions responsible for training. But as mentioned earlier, Vocational Training and Technology Centres that function like a Vocational Training Centre, or enterprises where there are ten or more students 'training units' may also provide apprenticeship training. Vocational Training Centres are run by the Confederation of Turkish Tradesmen and Craftsmen (TESK) since 1991. The Foundation for the Promotion of Vocational Training and Small Industry (MEKSA) supports TESK in running these centers. There are 29 such centers in 12 cities which provide apprenticeship training. When the training is carried out in a 'training unit' a relevant Vocational Training Centre monitors it.

The enterprises that employ apprentices should have 'master-trainers' who are responsible for the training of the apprentices at the workplace and monitoring their work-based development. A 'master-trainer' certificate is granted when a master successfully completes 'master-trainer training' at a Vocational Training Centre.

'Master-trainer training' is a 40 hours program that consists of subjects such as job security, educational psychology, occupational analysis and program development, evaluation, and so on. This is a modular program and each module consists of the required competencies to be accomplished.

MoNE, General Directorate of LLL, and the Vocational Qualifications Authority are the bodies responsible for developing the curriculum, and the competencies.

Vocational Education Law No. 3308, and the Vocational and Technical Education Regulation provide the rules and procedures of the assessment to certify competency on completion. Accordingly, an examination commission takes responsibility of the written and practical examinations at Vocational Training Centres. An apprentice should take the first examination available for successful completion of apprenticeship training if there is not an acceptable excuse.

PARTICIPATION OF GOVERNMENTS AND OTHER STAKEHOLDER GROUPS (SOCIAL PARTNERS)

The Law No. 3308 also regulates the roles of social partners and enterprises in the vocational and technical education system including apprenticeship training. Social partners participate to the planning, development and evaluation procedures of vocational education through the Vocational Education Councils organized both at national and provincial levels.

Vocational Education Council has been established in accordance with the Law No. 3308. Its functions include making decisions and stating opinions to the MoNE on the planning, development and evaluation of education at any level in which vocational and technical training curricula have been implemented, the non-formal and apprenticeship training provided in Vocational Training Centres, and the practical training attained at institutions and enterprises. The MoNE and relevant vocational institutions execute the decisions taken by the Council. The chairman of the council is Undersecretary of the MoNE. The members of the council are the representatives of relevant ministries, TESK, various chambers of commerce,

confederations of employers and employees, and others¹⁵. Provincial Vocational Education Councils have similar responsibilities at the provincial level. The chairpersons of these councils are provincial directors of national education. The secretariat of these councils both at national and provincial levels are carried out by the MoNE (Unluhisarcikli, 2007).

What other stakeholders are involved?

The Turkish Confederation of Tradesmen and Craftsmen (TESK) represents more than 90% of the total number of enterprises in Turkey, and as of 2012 there are nearly 2 million members. As an umbrella organization, TESK represents 13 Sector Occupational Federations, 82 Unions of Chambers in each of the provinces (two in Istanbul), and 3.102 Local Occupational Chambers (TESK website). As an organization for SME manufacturing and service sectors, it has been involved in vocational and technical training for the provision of apprenticeship training more than any other organization. Other social partners are not as involved in the apprenticeship system. TESK, under the scope of the Tradesmen and Craftsmen Law No. 507, is liable for training, testing and assessment, and certification in occupations where MoNE does not offer apprenticeship training. About 355 unrecognized occupations are listed by the TESK in fields generally related to the production of goods; production of food; construction; personal hygiene and beauty; services in communication, accommodation and entertainment. These occupations are unrecognized by the MoNE because of their limited scope, and specific function in production or service. The training period for these occupations is generally a few weeks.

¹⁵ Deputy Undersecretary of Ministry of Health, Deputy Undersecretary of Ministry of Labour and Social Affairs, Deputy Undersecretary of Ministry of Industry and Commerce, Deputy Undersecretary of Ministry of Tourism, State Planning Organization, General Directorates responsible for VET (MoNE), Turkish Tradesmen and Craftsmen Confederation, Turkish Chamber of Commerce, Industry, Maritime Trade and Union of Commercial Exchange, Worker's Confederation with the highest number of members, Turkish Confederation of Employers Association with the highest number of members, Union of Banks, Representative of Higher Education Council and Union of Chambers for Certified Public Accountants.

Moreover, TESK supports apprenticeship training by allocating funds from the Confederation's budget; organizing training and giving certificates; and improving the quality of vocational and technical training by means of workplace monitoring and advising. In short, TESK has a crucial role, as a social partner, in contributing to the apprenticeship system in Turkey (Ünlühisarcıklı, 2007).

Although there are other associations like Turkish Union of Chambers and Stock Exchanges (TOBB), TESK is the most involved stakeholder.

What bodies are involved in regulatory arrangements?

Regulatory arrangements are determined by Law No. 3308, and the Vocational and Technical Education Regulation. For instance, as mentioned earlier about the probation period of an apprenticeship contract; when an apprenticeship contract is signed by the employer, apprentice, and parents of the apprentice (when 18 years or younger), it should be taken to a relevant occupational chamber for approval. After the approval, the contract is to be taken to the administration of the Vocational Training Centre.

As mentioned earlier, Vocational Education Councils at national and local levels are the decision-making bodies for the planning, development and evaluation of education including apprenticeship training.

MAJOR ISSUES AND LEARNING POINTS

What are some major issues facing apprenticeships in this country at the moment?

- ▣ Turkey is restructuring its primary education system. The new system is interrupted 4+4+4 (12 in total) years of education. Since 1997, compulsory primary education is 8 years and one who started primary education at the age of 6 completes it at 14. Therefore, upon completion of primary education at the age of 14 one would pursue apprenticeship training. However, with the new restructuring of the primary education system as

interrupted 4+4+4 there are uncertainties regarding the starting age of apprenticeship, or the status. In the coming months there will be decisions taken considering these issues.

- ▣ Formalizing the informal apprenticeships. In visible occupational fields and branches like male hairdressing and female hairdressing the apprentices almost always are registered and attend apprenticeship training. However, there is still some types of informal apprenticeship, especially in occupational fields where it is more difficult to control.
- ▣ Ensuring a good monitoring and consulting system is still a challenge for ensuring the improved quality and status of the apprenticeship system.

What are the strengths of this country's apprenticeship system?

- ▣ Well-established legal structure with laws and regulations.
- ▣ The high retention rate.
- ▣ The insurance payment of apprentices is secured by the government under Law No. 3308. Moreover, the employers and enterprises have to pay at least 30% of the minimum wage determined by the government to the apprentices and interns.
- ▣ The awareness that involving the social partners in education and training of the apprentices pays off well. Involving social partners actively to educational decision making.

What are the weaknesses of this country's apprenticeship system?

- ▣ Low social status of apprenticeship.
- ▣ Journeymen are not provided with the insurance payment that the apprentices benefit from. Thus, many journeymen find themselves working informally, unregistered since some enterprises do not favor these regulations.
- ▣ Despite the possibility of vertical and horizontal transitions; in practice, poor pathways

especially from apprenticeships to VET schools and to higher education.

- ▣ Lower levels of female participation in apprenticeship training.
- ▣ Updating the technology, infrastructure and equipment.

What policy developments have been helpful?

- ▣ The development of educational standards through the use of modular system.

What policy developments have been unhelpful?

- ▣ Unclear status of mastership certificates because of the TOBB Law that circumvents the requirement for such certification by virtue of Vocational Education Law No. 3308 to set up business.
- ▣ The restructuring of the primary education system brought uncertainty to the apprenticeship training.

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INTRODUCTION

The U.S. economy is the world's largest, with a GDP that reached \$15.5 trillion in the first quarter of 2012. Although output recovered from the 2007-2009 recession, GDP in the U.S. remains far below capacity. Real GDP in the first quarter of 2012 was only 1.2% higher than in late 2007. One result is the continuation of unusually high unemployment rates. After peaking at 10% in mid-2009, the unemployment has fallen slowly to 8.2%, though the employed share of the population remains as low as in the worst period of the recession. These national figures do not capture the geographic and educational diversity of the U.S. labor market. Several states in the middle of the country are experiencing 4-6% unemployment rates, while others, including California, suffer jobless rates over 10%. The unemployment rate is only about 4% among adults (ages 25 and over) with a BA or higher degree, but about 9% among adults with only a high school diploma.

Despite the rapid increase in U.S. unemployment rates since early 2008, some economists find evidence of skill mismatches and structural unemployment, while others attribute nearly the entire rise in unemployment to inadequate aggregate demand. The decline in employment is closely tied to the decline and very slow growth in GDP. However, GDP might have increased faster if energy producers in North Dakota and some manufacturing employers had an adequate supply of workers with relevant, specific skills available. Further, increased geographic mobility might have lowered overall unemployment rates.

Unemployment rates vary widely across geographic areas in the U.S. As of January 2012, the unemployment rate in North Dakota stood at 3.2% (seasonally adjusted), less than 40% of the national rate. In early 2012, about 25% of the nation's metropolitan areas had unemployment rates about 6.5% or below while another 25% suffered rates of 9% or above. The recession hit young people especially hard, causing the employed share of 20-24 year-olds to fall by 11%. As of late 2011, fewer than

half of 16-24 year-olds held jobs. Only four years ago, unemployment rates were less than 5%, well below the OECD-Europe average of 9%. Construction and manufacturing industries have shed the most jobs, with declines of 28% in construction and 16% in manufacturing jobs (U.S. Bureau of Labor Statistics www.bls.gov). These industries employ a significant share of non-college male workers, a group that has already experienced stagnant wages for decades.

News articles report cases of companies that cannot find sufficiently qualified workers in sufficient numbers to maintain high levels of growth, despite offering a compensation package of more than \$80,000 per year. Data from a 2011 Manpower Group survey indicate that more than half of employers had difficulty filling jobs and nearly half blame the lack of hard, technical job skills (cited in Capelli, 2011). Moreover, the hardest jobs to fill in 2011 were for workers qualified in skilled trades, including machinists and machine operators. These and other examples show the existence of skill mismatches, especially for many technical jobs requiring mastery of specific occupational tasks. Yet, the focus of policy is primarily on increasing academic attainment, especially college.

The U.S. education system relies almost entirely on academic instruction. In 2011, over 55 million students were enrolled in elementary and secondary schools and 21.6 million in post-secondary education. Students generally take the same courses from elementary school through the first two years of high school. The educational system is highly decentralized to local authorities and private providers, but state governments and the federal government are increasing their role in guiding the educational system. Although pre-school and child care programs are subsidized by government programs and tax subsidies, private organizations and individuals supply most of the slots. Local governments (cities, counties, municipalities, or independent school districts) operate the education system through grade 12, with a modest role for private schools.

States set requirements for high school graduation, and are increasingly setting content standards as well. The majority of states have recently adopted the ‘common core academic standards,’ an initiative to create voluntary national standards describing what students should learn in each field and by grade in school. The primary bases for judging and holding schools accountable are student performance on academic tests and, to a lesser extent, on attaining high school and college diplomas. There is no effort to judge student outcomes based on their career success. The assumption is that raising academic outcomes will translate into improved career outcomes.

Some variation takes place in grades 11 and 12, when vocational education (now called career and technical education or CTE) begins to play a role. High school CTE programs have declined significantly in importance in the face of the increased emphasis on academic courses. About one in five students concentrate on an occupational field with at least three courses. Nearly two-thirds of students who graduate high school enter a college or university. Post-secondary education consists mainly of two year colleges awarding Associates’ Degrees, four year colleges awarding BA degrees and post-BA academic and professional programs (such as medical, law, and business schools). Vocational education is prominent in two year colleges as well as in private, 1-2 year, post-secondary programs. But, the school-based CTE programs in high schools and two-year colleges rarely include a significant work-based learning component. Although a large share of high school and college students work part-time while attending school, few student jobs are closely connected to courses leading to an occupational certification.

One innovation linking high school students to career-focused education is the Career Academy. The Career Academies are high schools organized around an occupational or industry focus, such as health care, finance, or tourism. They operate within regular high schools and try to weave related occupational or industrial themes into a college preparatory curriculum, enabling students to see relationships between academic subjects and their application to the school’s focal area. There are at least 1,588 academies; 22% are in finance, 14% in information technology, 12% in hospitality and tourism, 8% in health, and 8% in arts and communication. Career

academies are typically made up of 50-75 students per grade from the 10th through 12th grades. These students take two to four classes a year in the Academy taught by a common team of teachers, and at least one course is career – or occupation-focused. Students take other courses in the regular high school. The small learning communities help academies foster a sense of community and personal attention from teachers, and constructive collaboration with peers.

Compared to other high school students, Career Academy students are exposed to a wider range of experiences linked to careers, including job shadowing, career fairs, and instruction on how to look for a job, prepare a resume, and take an interview. The Career Academy experience also increases the exposure of students to individual employers. The role of work-based learning varies, however, and long-term internships are not always a part of the student’s experience. Still, seeing a connection between their school-based learning, real world applications, and careers can potentially improve student motivation, concentration, and focus when they become more engaged in their school work. Evidence from a randomized study found that Career Academies induced striking gains in earnings, especially among minority young men (Kemple & Willner, 2008). In the period between four and eight years after applying for the academies, young men in the treatment group were earning 17% more than those in the control group.

In the U.S., college has traditionally meant a 4-year program leading to a bachelors’ degree, but in recent years, college also refers to 2-year community college programs leading to an associates’ degree and for-profit vocationally-oriented colleges with programs less than 2 years. Only 44% of students entering a college enroll in a 4-year BA program.

Community colleges and, to a lesser extent, for-profit career colleges, prepare many students for a range of middle-skill jobs. These colleges (mostly 2-year programs), for-profit career colleges and apprenticeships, all offer training and credentials that qualify students for a variety of occupations, from health to technical trades, from travel and hospitality to computers and business. In this sense, the institutions are competing. But, some collaboration takes place as well. For example, apprentices often

take classes at community colleges or for-profit colleges (Lerman, 2009). Community colleges provide a mix of courses, pathways, and certifications. The number enrolled in community colleges – over 7 million in the fall of 2009 – far exceeds participation in apprenticeship programs (about 1.2 million) or for-profit career colleges (about 2.5 million). Community colleges offer a range of courses and pathways, from extensive and well-connected occupational programs, to academic programs focusing on allowing two-year graduates to transfer to BA programs, to generic studies in sales and administration, to occasional courses on hobbies (such as photography and music), and to customized training for a specific employer.

Government financial support per worker is far higher for community colleges than for for-profit private career colleges or apprenticeships. In 2008, public spending on a full-time equivalent student (including the costs of loan guarantees) amounted to nearly \$11,400 per year at community colleges, about \$7,600 per year at for-profit career colleges, and less than \$500 per year per apprentice (Cellini, 2012; Reed, 2011).

NATURE OF THE APPRENTICESHIP SYSTEM

The goals of the U.S. apprenticeship system are to increase the skills of American workers, to raise their productivity and earnings, and to raise the competitiveness of the U.S. economy. The system is complicated and decentralized. The 'registered apprenticeship' system is overseen by the Office of Apprenticeship (OA) in the U.S. Department of Labor. Sponsors who wish to be part of the registered apprenticeship must have their program approved by the federal office of apprenticeship or by State Apprenticeship Agencies in those states (about half) that choose to have their own agencies.

As of 2011, about 400,000 workers were participating in registered apprenticeships sponsored in about 24,000 programs. This figure for registered apprenticeships represents about 0.3% of the workforce; the annual inflow into apprenticeships is only about 2.9% of a typical cohort of workers available to enter the workforce. The number of apprenticeships outside the registered system is unclear. One of the few sources of data on all apprenticeships (registered and unregistered) is the National Household

Education Survey, a representative national sample of about 9,000 individuals in the workforce. Based on these data, the figure for apprentices reaches about 2.1 million as of 2005-2006, indicating that as many as 1.5 million workers are in unregistered apprenticeships. Using these figures, the share of the workforce in apprenticeships rises to about 1.5% of the workforce. Unfortunately, only limited research is available on unregistered apprenticeships.

Although apprenticeships were common prior to the establishment of the United States, federal regulation of apprenticeships began in 1937, with the passage of the Fitzgerald Act. Policy changes have taken place since 1937 mostly through regulation and funding. Regulations have allowed for shorter programs and more competency-based apprenticeships, for the awarding of interim credentials.

Apprentices in registered programs all acquire a qualification when they complete their program. Regulations issued by OA in 2008 included provisions aimed at increasing the portability and flexibility of the registered apprenticeship system. On portability, the OA requires states to accept on a reciprocal basis the apprenticeship qualifications of individuals meeting the standards applied in other states. The added flexibility comes by allowing for intermediate qualifications – called interim credentials – that allow programs to shorten training programs and to allow credentialing at a middle skill level. At the same time, the interim credential must be a step toward a full credential in an occupation. The regulations allow for competency-based criteria rather than simply the completion of a specified number of hours of work-based and classroom-based learning. Programs can also use a combination of time-based and competency-based criteria.

All apprentices are employees and are paid wages. Moreover, the wage rates must increase as the apprentice makes progress and learns skills. Although the wage rates of apprentices are certainly below those of a fully skilled worker in the relevant occupation, they are generally no lower and often higher than what the apprentice would have earned in the absence of the apprenticeship program. Although the durations of apprenticeships vary, they typically last 3-4 years, and combine work-based learning and classroom training. However, some

apprenticeships are no more than one year, especially in low-paying occupations such as long-term care. Nearly all the manufacturing and construction apprenticeships last at least three and usually four years.

Funding for U.S. apprenticeship programs relies heavily on employers, often in collaboration with trade unions. In the construction industry, it is common for both employers and workers to contribute a modest amount to finance the classroom component of apprenticeships. With some exceptions, sponsors receive no public funding for the work-based learning or classroom-based components of apprenticeship. However, often employers are able to take advantage of low-cost tuition programs at community colleges subsidized by state and local governments. In a few cases, states have used financial incentives to encourage the creation of apprenticeships.

Retention in U.S. apprenticeships can be a problem. According to Reed (2011), only about 45% of workers entering an apprenticeship in the year 2000 actually completed one. However, employer sponsors responding to a survey of registered apprenticeship programs reported mixed results. Just over half of employer sponsors (54%) stated that at least 80% of their apprentices completed their program. Still, non-completion is a continuing concern for about half of apprenticeship sponsors, with 24% of sponsors identifying apprenticeship as a significant problem and 31% indicating it was a minor problem.

U.S. apprenticeship generally reaches workers in their mid- to late 20s. Unlike apprenticeship programs in most other countries, the U.S. system rarely draws students from the 15-19 years age group. In the late 1980s, researchers and policy advocates began to inform about the advantages of incorporating formal apprenticeships into a revamped vocational education system. Although the effort led to legislative proposals for a youth apprenticeship system – and ultimately a new law (the School-to-Work Opportunities Act), the government retreated from the apprenticeship concept – settling for such less intensive activities as job shadowing and career planning (Lerman, 2003).

Only a few states ended up implementing youth apprenticeships. In Wisconsin, youth apprenticeship remains a part of the upper secondary school system

and includes about 2,000 participants. State agencies collaborate with industry and worker representatives to develop 23 skill standards in industries ranging from printing and automotive to biotechnology and finance. The standards require high-level competencies achieved at the workplace as well as related academic instruction, often delivered through technical colleges. Students are exposed to career exploration and allowed to choose apprenticeships beginning in 11th grade (about age 17). At that point, they combine 2-3 days of classroom activity with 2-3 days of work-based learning. Participating employers report great satisfaction with the program, with nearly all employers saying they would recommend the program to others and 85% saying it was beneficial to the company (Burton, 2009).

OCCUPATIONAL COVERAGE

The Office of Apprenticeship reports that over 1,000 occupations are included in the registered apprenticeship system. However, many cover only a small segment of jobs in the relevant profession. U.S. apprenticeship training is rooted in the craft trades. Five of the top six occupations in 2007 are linked with the construction industry (electrician, carpenter, plumber, construction craft laborers and pipe fitters). About 36% of apprenticeship sponsors but over 50% of apprentices are in the construction industry. Three construction occupations (electrician, plumber and pipefitters, and carpenters) make up over 40% of all apprentices. Other occupations that typically attract men (long-haul trucking, sheet metal workers, and line workers) make up another 11% of apprentices. Manufacturing (skilled and semi-skilled) is another industry in which apprenticeships are common.

Apprenticeship is not common in most of the 12 vocational disciplines specified by UNESCO and UNEVOC 2004. Under 'Business and Administration,' apprenticeships are available in transportation, especially truck driving. Apprenticeships are widespread in 'Production and Manufacturing,' in the construction segment of 'Civil Engineering' and in the 'Mining and Natural Resources' industry. A small proportion of child care providers use apprentices as part of the 'Education and Culture' field. Some jobs in culinary fields within the 'Leisure, Travel, and Tourism' industry use apprenticeships. Printing jobs frequently involve

apprenticeships (see 'Media and Information'), as do a very small share of art and craft positions within the 'Textile and Design' industry. Apprenticeship training in health care covers entry-level jobs, such as dental assistants, technicians, and licensed registered nurses. Security is another field using apprenticeships to train police and fire departments. Emerging fields using apprenticeship include biotechnology, information technology, energy, aerospace, and hospitality.

Nearly all registered apprentices are set up to meet or exceed state licensing and certification requirements in relevant occupations. At the same time, few laws require apprenticeships to obtain a license to work in a specific occupation. Registered apprentices gain occupational credentials that are supposed to be recognized throughout the U.S., according to Department of Labor regulations. However, some state agencies do not automatically certify apprentices trained in other states. In the U.S. context, there is little or no research on the status of apprenticed occupation and occupational identity among apprentices.

PARTICIPATION

Since the 1960s, the Department of Labor has attempted to expand access to registered apprenticeships, especially among women and racial and ethnic minorities. Laws and regulations have emphasized widening access to apprenticeships among under-represented groups. In 1969, the Nixon Administration announced an effort called the 'Philadelphia Plan,' which proposed numerical guidelines for increasing the participation of minority workers in apprenticeship programs co-sponsored by unions. Responding to lawsuits from women's groups, the Department of Labor promulgated regulations establishing a goal of 20% participation by women in apprenticeship. Another example is the Women in Apprenticeship and Non-traditional Occupations (WANTO) Act of 1992, which focused on raising women's participation in apprenticeship. While these initiatives have raised the share of minorities in registered apprenticeship to well over 30%, women still make up only about 5% (Lerman 2010). The composition of all apprentices – in both registered and non-registered programs – is more diverse. Women represent over 25% of all apprenticeships, and minorities well over 40%,

with Hispanics alone accounting for 26% (National Center for Education Statistics, 2012).

The ages of workers when they enter apprenticeships vary widely. Less than one in four workers are under the age of 25 upon entering their apprenticeships. Nearly half are between the ages of 25 and 34 and another 25-30% are above 34 when they start. The median age is approximately 27-28. The older and more diverse age distribution fits with an apprenticeship system that has few strong links with schools and high school students. Nearly all registered apprenticeships involve a full-time commitment, with the work-based component taking about 60-90% of the worker's time. Including non-registered apprenticeships, the proportion working full-time is about 80%.

Formal barriers to entry into apprenticeships are rare, though for some professions a high school diploma and the lack of a criminal record are required. However, as the programs have far more applicants than apprenticeship positions, employers will generally select apprentices based on their perception of the fit, learning potential, and reliability of the worker. In Joint Apprenticeship Programs involving close union-management partnerships, a committee with union representation will choose from among the applicants.

TRAINING AND ASSESSMENT

Registered apprenticeships include: 1) a schedule of work processes for which the apprentice will train; 2) organized, usually classroom instruction expected to be at least 144 hours per year; 3) progressive wage increases over the training period; 4) supervision of, and adequate facilities for training; and 5) no discrimination. Thus, all training is a combination of work-based and classroom-based instruction. Often, apprentices are in work-based training for nearly a whole week and take their courses at night or weekends. But, nearly all apprenticeships require about 80% of the week learning on the job. Recently, OA specified that apprenticeships could be approved that base completion on a competency-based standard, in addition to a time-based standard, and hybrid standard. Because the specifics of programs are designed in a decentralized fashion, there are large numbers of individual occupational profiles – over 1,000.

Several organizations provide off-the-job training for registered apprenticeship programs. Sponsors themselves deliver off-the-job training for about one in four programs. Other providers include community colleges delivering 31% of courses, public technical colleges delivering 27%, for-profit colleges delivering 17%, and high schools delivering 11% (Lerman, Eyster & Chambers 2009).

Employers develop apprenticeships voluntarily, though sometimes strongly encouraged by trade unions. There are no moral or financial obligations on employers to adopt apprenticeship programs. Indeed, the vast majority of employers are not apprenticeship sponsors – even employers hiring in occupations where other employers sponsor apprenticeships.

All apprenticeships are competency-based in the sense that apprentices must demonstrate competence and mastery to earn progressive wage increases and to complete apprenticeships. However, until recently, OA required registered apprenticeship programs to maintain hours' requirements, or time-based criteria. Recent federal regulations allow for a purely competency-based program, or a mix of time-based and competency-based approaches. OA or a relevant state agency must approve the content standards used to train apprentices. In general, trainees conclude an apprentice agreement with the relevant OA authority (state or federal) and with the apprenticeship committee that is responsible for his or her program. Although the OA is responsible for overseeing the quality of the programs, both the relevant federal and state authorities are woefully understaffed. In some states, only one or two people provide the staffing for the apprenticeship program in the entire state. Some national standards are based on agreements between trade unions and employer associations at the federal level. In these cases joint training committees are established. One well-known example is the 'National Joint Apprenticeship and Training Committee for the Electrical Industry'. The apprenticeship standards are directly negotiated and agreed upon with the OA and the 'State Apprenticeship Councils'.

External assessments to certify competency are not generally required, but encouraged in some occupations, such as plumbers and pipefitters. In most cases, tests or practicums overseen by employer sponsors are sufficient

to certify completion of the program and mastery of the relevant occupational skills.

Participation of governments and other stakeholder groups (social partners)

Within the Department of Labor, the Office of Apprenticeship (OA) takes on several tasks for the registered apprenticeship system. They include:

- Registration of new 'apprenticeable occupations' and publication of these in a bulletin.
- Review of the legitimacy of the agreement on new occupations at the lower levels of VET administration.
- Registration and evaluation of apprenticeship programmes.
- Counselling and support for regional OA offices and 'apprenticeship councils' in the states and at the local level.

The OA generally approves the specific plans put forward by employers or joint programs when they meet reasonable criteria for occupational mastery. In 26 states, State Apprenticeship Agencies (SAAs) decide on registration of apprenticeship programs, provide technical assistance and monitor compliance with regulations. In 2008, the Department of Labor issued regulations that grant exclusive authority for registering programs to State Apprenticeship Agencies (which are government entities). State Apprenticeship Councils (which included labor and business representatives) are required as advisory groups, but no longer have registration authority. The 'Apprenticeship Agencies' are institutions at the state level that are meant to be comparable to the OA at the federal level. In states that have not obtained state authority for registration, the federal OA oversees the program. Some regard this organizational dualism of states with SACs and those subject to a central administration as in need of reform. But, without additional budgetary authority, the issue is somewhat moot.

Joint Apprenticeship Committees (JACs) act as contractual partners in defining apprenticeship standards. In other types of programs, employers play the central role in adapting standards. The OA helps develop and

oversees apprenticeship standards in cooperation with the state bodies, supervises compliance with these standards, and initiates and advises apprenticeship programmes.

Job profiles may be recognized as 'apprenticeable' at the local level in accordance with these standards. All attempts to limit the number of occupations and to concentrate on broad and comprehensive occupational profiles have failed so far. New apprenticeship occupations can arise very quickly; for example, between March 1988 and June 1989, BAT (the predecessor agency to OA) registered 26 new apprenticeship occupations. Under the US approach, apprenticeship occupations have a different legal quality than the vocational training curricula in Germany, which are enacted as statutory instruments by the ministry in charge. In addition, all the procedures for VET planning differ considerably. In the US, the initiative to develop a new occupation may be launched by an enterprise. If the profile complies with the criteria for 'apprenticeable' occupations and follows generally accepted standards for the occupation, there is usually no obstacle to the recognition of the occupation by OA.

Instead of an occupational profile or a training curriculum, typical work processes are used to describe an 'apprenticeable' occupation. For each of these work processes the training time is specified in hours or days. In case that the training process involves several companies under the coordination of a training provider, this list serves for the supervision of training.

Trade unions play a significant role in the apprenticeship system. Although less than 8% of U.S. private sector workers are represented by unions, over half of apprentices are in programs with union involvement. Not only do some unions work with employers to organize programs, but union representatives play a significant role in the governance of State Apprenticeship Agencies (SAAs) and in the federal Advisory Committee on Apprenticeship (ACA). For example, as of mid-2012, the federal ACA includes 9 members representing unions, 7 representing employers, and 11 public interest representatives. Unions are often even more prominent on State Apprenticeship Agencies that have been delegated the power to approve new apprenticeship programs.

MAJOR ISSUES AND LEARNING POINTS

The U.S. registered apprenticeship system generally provides high quality training and valued credentials. Workers achieve significant gains in wages and employers report substantial productivity benefits. In one careful study that compared matched groups of workers entering job centers in Washington state, Hollenbeck (2011) finds that the returns to apprenticeship training far exceed the returns to other types of training, including two-year, community college programs. A broader study of 10 states also documents large and statistically significant earnings gains from participating in apprenticeship (Reed 2011). This analysis estimates how the length of participation in an apprenticeship affected earnings, holding constant for pre-enrollment earnings of apprenticeship participants. The estimated impacts are consistently and highly positive. At six years after starting a program, the earnings of the average apprenticeship participant (average duration in an apprenticeship) stood at 1.4 times the earnings of non-participants with the same pre-apprenticeship history. The Reed study's cost-benefit analysis finds that apprenticeship returns an yield of nearly \$28 in benefits for every dollar of costs. The net dollar gains over a worker's career amounted to about \$125,000. Other work strongly suggests that apprenticeship training is a sound approach for employers as well. In a 2007 survey, 86% of sponsors of registered apprenticeship programs reported they would 'strongly' recommend the program to others.

Several weaknesses limit the U.S. apprenticeship system. First, the scale of the system is quite small in relation to entrants into the U.S. workforce and in relation to other countries. Government support for apprenticeship – even marketing and technical assistance – is tiny. Second, the system does very little to offer opportunities to youth in their late teens and early 20s. The linkages with schools are weak. Third, the system is unable to project apprenticeship as a mainstream option for young people who have completed high school and who want to prepare for rewarding careers. Fourth, about half of employer sponsors are concerned about low completion rates and about other firms 'poaching' or attracting their graduates (Lerman, Eyster & Chambers 2009).

The critical issue facing apprenticeships in the U.S. is how to expand the scope of apprenticeship. The question of how best to expand apprenticeships is complicated by the presence of three forms of apprenticeship: 1) registered apprenticeship, 2) unregistered apprenticeship, and 3) youth apprenticeship. Any effort to expand one form of apprenticeship might complement or hamper expansion of other forms. The current registered apprenticeship system primarily recruits workers in their mid-20s, has virtually no relationship with high schools, and only a modest interaction with community colleges. While a sound policy to expand apprenticeships may need to target either existing programs or build more at the high school level, increasing all types of apprenticeships so they become more common and well-known may be the best strategy at this point. Even for registered apprenticeship, governmental support for marketing, technical assistance, research, and oversight is minimal. The federal budget for apprenticeship is only about \$25 million per year, about \$58 per apprentice and only about \$6 per potential apprentice if the program reached 4 million. For example, only two representatives work to promote and manage apprenticeships in Indiana, an industrial state of 6.5 million people.

One example of a state initiative that has expanded 'registered apprenticeships' is Apprenticeship Carolina. Stimulated by studies and public affairs efforts of the South Carolina Chamber of Commerce, the state government funded a \$1 million a year initiative that now employs a small staff to attract employers to registered apprenticeship. The South Carolina government funded annual employer tax credits of \$1,000 per apprentice per year beginning in 2007. Since that time, the Apprenticeship Carolina Division of the South Carolina Technical College System has stimulated the registration of an average one new employer-sponsored apprenticeship program per week, and more than doubled the number of apprentices in the state. This expansion has created opportunities across broad industry sectors including advanced manufacturing, health care, and information technology. Moreover, the effort is adding to the linkages between the technical colleges and the business community. Other states are providing tax credits for apprenticeship as well. Connecticut offers employers 50% of the wages of apprentices up to \$4,800, but only for apprentices in the manufacturing, construction, or plastics-related trades.

The South Carolina example proves that increased marketing and technical assistance efforts can persuade many employers to adopt apprenticeship as a viable training strategy.

The main problem to expanding apprenticeship in the U.S. is the orientation of political leaders, the media and the public that views college as the single post-secondary solution for preparing young people for the workforce. Expanding apprenticeship significantly will require incremental steps that increase employer participation in apprenticeship positions as well as publicity about apprenticeships that can alter public perceptions over time.

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