

SOFT SKILLS, HARD CHALLENGES

Understanding the nature of China's skills gap

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1. EXECUTIVE SUMMARY

AS CHINA MOVES TOWARDS A SERVICES- AND KNOWLEDGE-DRIVEN ECONOMY, ONE OF THE MAIN CONSTRAINTS WILL LIE IN THE ABILITY OF ITS WORKFORCE TO GAIN THE REQUISITE SKILLS AND KNOWLEDGE TO MAKE THE TRANSITION TO A HIGH-INCOME COUNTRY.

Expectations are running high. The country is on a path to become the world's largest economy within the decade, and the burgeoning presence of international firms, as well as a recent surge in China's outbound investment, is placing ever more strain on the workforce to meet international business standards.

In this context, it has become common in policy and business circles to speak of a 'skills gap' in China, where employees are underskilled for the positions that they hold. Yet the nature of the skills gap remains obscure. What skills are in greatest demand? Are these 'hard' skills or 'soft' ones? Are there opportunities for international education providers to address the gap?

In order to provide answers, a series of in-depth interviews were conducted with multinational companies and skills training providers operating in China. In conjunction with our analysis of labour-force data and statistical findings from other third-party surveys, the findings from our interviews show that demand for education and training services is robust and set to accelerate as the workforce retools to meet the challenges in the economy's next phase of development. Yet, the rapid development

of China's public and private education sectors also means that the market is highly competitive. A high degree of commitment will be required if international education providers are to succeed in the rapidly-growing economy.

Below is a summary of the key findings:

- There is little evidence to suggest that China suffers from an acute skills gap across wide occupational areas. A surge in tertiary education graduates over the past decade has provided employers with a large pool of workers to recruit from.
- All the companies interviewed said that a lack of soft skills posed a much greater challenge than the absence of hard skills. Notable soft skills mentioned as posing the greatest business and organisational challenges in China include leadership, communication and self-motivation.
- The soft skills gap is still seen as being most prominent in middle management roles, with wages for these positions continuing to see rapid increases. However, there is a broader and rising demand for soft skills training at all levels, with companies generally dissatisfied with current training options available.

- In manufacturing/engineering sectors, finding the requisite hard skills in the open labour market is a challenge. However, these skills tend to be specific to the technologies and processes deployed by individual employers. New recruits at these firms typically tend to undergo extensive in-house training, sometimes in co-operation with third-party training providers. In comparison, interviewees in high value-added services sectors, such as banking and finance, indicated a greater demand for training, which is likely due to the faster pace of development in this sector of China's economy.
- As China's domestic firms become increasingly intertwined with the global economy, they are under pressure to bring business practices closer to international standards. Training in project management processes will be a notable area of growth in the coming years, as will training on overseas business regulation and cross-cultural management.
- There is scope for international education and training providers to participate in China's rapidly growing market for skills training and there remains a high degree of interest in learning from foreign institutions. The main area of unmet demand, according to interviewees, is currently the soft side of personal development, but skills associated with sectors that remain underdeveloped in China are also likely to be areas where international education providers can gain more traction in preparation for growth in the near future.

In order to take advantage of these opportunities, international education providers need to adopt a flexible, tailored approach in assessing the particular needs of organisations and providing long-term, ongoing solutions.

2. INTRODUCTION

SKILLS MISMATCH HAS EMERGED AS A HOT TOPIC IN DEVELOPED AND DEVELOPING COUNTRIES ALIKE.

The OECD reports that one in five workers in its member countries are overqualified for their positions, while at the same time a similar proportion are underqualified. In 2013 35 per cent (the highest rate since 2007) of 35,000 companies surveyed globally by HR firm Manpower, reported difficulty in filling positions, with Asia-Pacific being an especially problematic region.

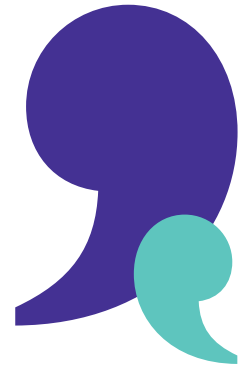
Particular attention has been paid to the skills gap in China, the world's largest employer. There is perceived to be a mismatch between the skills employers need and those that potential employees possess – a gap which, according to a 2013 paper by McKinsey & Company, could result in an opportunity cost of US\$250 billion by 2020.

But while there is a substantial body of literature regarding the macroeconomic implications of the skills mismatch in China, there is surprisingly little on the precise nature of the mismatch. The aim of this study is to provide more information on skills shortages in China, addressing the question of which occupations in China are short of skilled workers as well as the critical issue of what skills employees lack.

This study takes a two-angled approach towards investigating China's skills gap. Section 3 looks at the skills gap from the point of view of economic structure, labour force composition and graduate employment by subject. Meanwhile, Section 4 addresses perceptions of skills shortages from the employer perspective, looking at the fields that have the greatest difficulty recruiting employees and the skills and employee types they have difficulty obtaining.

The prevalence of skills mismatch not only poses a problem for policy makers. Educators, too, bear the burden of equipping the workforce with the skills needed by society – not only today's skills, but also future ones. Economists have characterised dealing with the skills mismatch as a 'race between education and technology'. We therefore also aim to identify opportunities to address this skills gap, focusing particularly on the role of international education providers.

The findings of the study are centred on two main sources of data: a descriptive analysis of labour market data, and a series of qualitative interviews with employers and recruitment or training professionals conducted for this study. The former data is taken largely from official government sources but also draws extensively on information compiled by education consultancy MyCOS, while employer information is supplemented with quantitative data from a number of third-party employer surveys, conducted by recruitment and training firms as well as industry bodies.



**Skills mismatch:
a race between
education and
technology.**

THE ANATOMY OF SKILLS

HARD AND SOFT

A commonly used, yet somewhat hazy distinction applied to skills is one of 'hard' versus 'soft' skills. While there are no universally accepted definitions, the former generally refers to abilities associated with abstract reasoning power that tend to be captured through school marks, academic/vocational qualifications and standardised achievement testing (IQ tests, for example).

Soft skills, on the other hand, are centred on personality. James Heckman, a Nobel Prize-winning economist, defines soft skills as 'personality traits, goals, motivations, and preferences that are valued in the labour market, in school and in many other domains'. Often-cited examples of soft skills in a professional context include teamwork, motivation and communication.

MISMATCHES

Skills mismatch is a broad concept that generally refers to an imbalance between supply and demand of skills in the labour market. Yet, the mismatch can appear in a number of ways. In this report, we follow the definitions set out in 2010 by the European Centre for the Development of Vocational Training (Cedefop).

Skills gap: A situation in which the level of skills of the currently employed is less than that required to perform the job adequately or the type of skill does not match the requirements of the job.

Skills shortage: A situation in which the demand for a particular type of skill exceeds the supply of available people with that skill.

Source: Cedefop, 2010.

3. LABOUR FORCE REVIEW

UNDERSTANDING CHINA'S FUTURE DEMAND FOR SKILLS FIRST REQUIRES AN UNDERSTANDING OF THE CURRENT SITUATION IN CHINA'S LABOUR MARKETS.

This section begins with a review of China's overall labour market structure and a discussion of China's future development path. The following section contains a review of the labour market for skilled workers, which we define as those in possession of a post-secondary qualification. Finally, we look at the structure of graduate employment in China, an issue that has moved up the government's agenda in recent years. Ultimately, the purpose of this analysis is to identify areas where future demand for skills training is likely to be high.

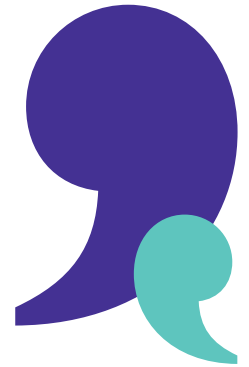
3.1 THE LEGACY ISSUE

SECTION SUMMARY

- Rapid economic growth over an extremely short period of time has placed tremendous strain on China's skilled workforce.
- The rapid pace of change means that there are vast generational differences in levels of education.
- As China moves towards a knowledge-driven economy, employers are being forced to build their workforces from scratch due to the limited pool of highly qualified and experienced workers.

With roughly 780 million workers, China is the world's biggest employer as well as its fastest-growing major economy. Decades of rapid economic growth and rising enrolment rates have also transformed it into the world's largest market for education. The country's unique socio-economic and demographic characteristics have contributed to a special set of circumstances that account for a monumental skills challenge. These facts can be summed up as follows.

- **Urbanisation:** In 1983 some 22 per cent of China's population lived in urban areas. By 2013 that number had increased to 53 per cent, meaning that at least 60 per cent of China's urban population was born and educated (for varying lengths of time) in a village. In 2012, 240 million people with rural household registrations (*hukou*) lived in urban areas, according to the National Bureau of Statistics.
- **Ageing:** As a result of the one-child policy, China's working-age population peaked in 2013 and has now entered a period of steady decline. Primary and secondary school enrolment has thus already begun to shrink, with tertiary enrolment to follow suit.
- **Education:** In 1980 the average adult in China had received 4.8 years of schooling. Today, that number has risen to just over eight years, with the average new workforce entrant (20–24 years old) having received 11 years of formal education.
- **Economic growth:** GDP grew more than 16-fold between 1983 and 2013. No other significant economy in modern history has achieved such growth over a 30-year timeframe.
- **Structural change:** At the same time, China's economy has become increasingly international, knowledge-driven, privatised and services-oriented, thus generating massive demand for a highly educated, cosmopolitan workforce.



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China's workforce is thus characterised by contrasts that have come to the fore as a result of decades of super-charged growth. At last count (the 2010 population census), the country boasted a stock of university graduates numbering over 49.8 million (now probably over 60 million), most of whom graduated in the preceding decade. At the same time, some 62 million workers had never been to school, while the highest educational attainment of a further 357 million was primary school, making for a highly polarised workforce and a correspondingly divided socio-economic spectrum.

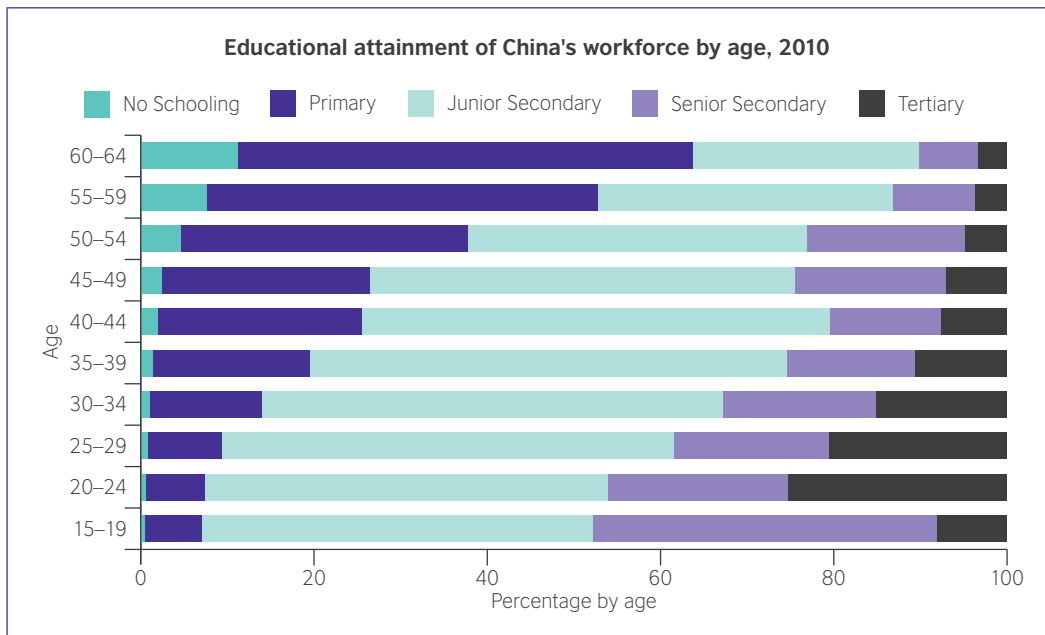
Part of the problem can be boiled down to a generational issue. An average new workforce entrant (20–24 years old) will have received 11 years of formal education, compared with a near retiree (60–64 years old) with 5.5 years. Viewed differently, 11.6 per cent of the former group hold a university degree, compared with less than one per cent for the older cohort, according to calculations by the Economist Intelligence Unit based on the 2010 population census.

Some 26.5 million students were enrolled at institutes of higher learning at the end of 2013, while 6.9 million students graduated that year, with the number of graduates swelling to 7.3 million in 2014, according to the Ministry of Education.

International employers in China tend to face a double-edged sword in hiring decisions. Many of those with the requisite educational backgrounds do not have enough experience, while those with the right experience tend to lack academic credentials. More often than not, international employers will opt for younger workers given that more senior workers will have gained much of their experience in a totally alien workplace culture – that of the centrally planned economy.



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Source: Population Census 2010.

EDUCATION: AN INCREASINGLY PRIVATE MATTER

The vast majority of China's 2,491 (in 2013) regular higher education institutions are public, although there is a growing number of private colleges. Government regulations allow foreign entities to participate in joint ventures in tertiary education, but the approvals process for such projects is often arduous. In comparison to higher education, however, joint ventures for vocational training programmes are comparatively easy to establish since the central government simplified the approvals process in 2011 and added vocational education to its list of 'encouraged' investment categories in the Catalogue for Guidance on Foreign Investment. Certificate programmes still remain relatively unregulated and are popular among recent graduates who are struggling to find jobs.

The Chinese government is paying increasing attention to the quality of joint educational programmes across all sectors, and vocational education is no exception – trial assessments of the quality of joint vocational programmes will be carried out in early 2015, aimed at drawing up assessment criteria for wider-scale assessment. Nevertheless, the relatively loose regulations governing vocational education and certificate programmes will still make these areas attractive targets for foreign investment in coming years.

3.2 WHERE DO GRADUATES WORK IN CHINA?

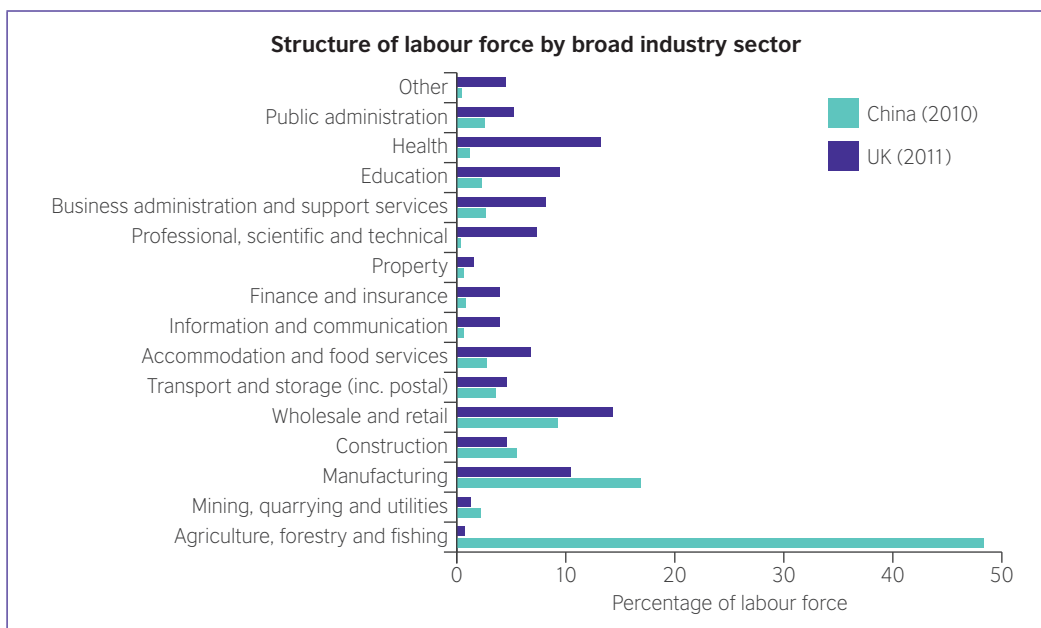
SECTION SUMMARY

- China has begun the transition to a knowledge-driven services economy, which will generate vast demand for education.
- Graduates today typically go into white-collar or engineering jobs, while finance, healthcare, IT, advanced manufacturing and professional services are sectors that are likely to see large increases in employment in coming decades.

For much of the past three decades, changes in the composition of China’s labour force can be broadly summarised as a transition from an agrarian economy to an industrialised one. The share of the workforce employed in agriculture has fallen from 67 per cent in 1983 to 33 per cent in 2013, while manufacturing and services each also now account for around a third of total employment.

Until relatively recently, the output of China’s manufacturing sector outpaced that of services, but by the mid-2000s growth in services value-added (or the services component of GDP) was regularly exceeding that of manufacturing. By 2013 China’s services output had reached RMB26.2 trillion (US\$4.2 trillion), exceeding that of the secondary sector for the first time in modern Chinese history. The acceleration in services sector output was due largely to a growth surge in the retail and wholesale sector as well as in financial services that began in 2006, driven, respectively, by the proliferation of e-commerce and a rapid rise in country-wide borrowing and debt issuance.

There is a general consensus among economists that the importance of China’s services sector will continue to increase in the coming decade, with professional services such as finance, healthcare and IT making a large contribution to economic growth. At the same time, the country’s manufacturing industry is likely to continue to shift towards higher-end production, especially in the more developed eastern regions of the country.

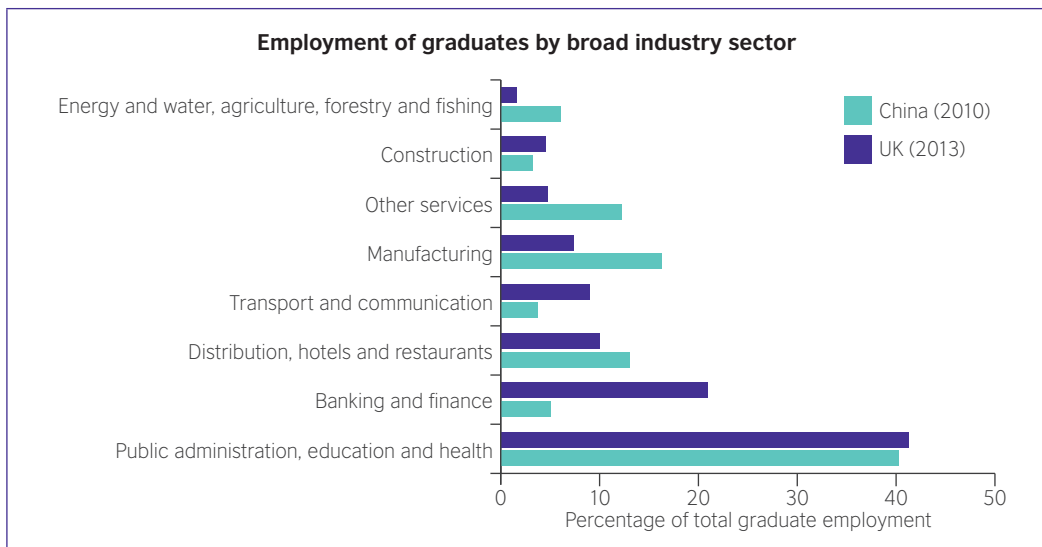


Source: Office of National Statistics, National Bureau of Statistics.

When considering the likely future demand for skills in China, it can be informative to compare the country's workforce structure to that of a developed economy such as the UK. The chart below shows large differences in the workforce as a whole, which can mainly be boiled down to differences in levels of education – just nine per cent of the Chinese workforce held a post-secondary qualification in 2010, compared with 38 per cent for the UK in 2013.

Even when restricting the focus to graduates – defined broadly as holders of post-secondary degrees – there are still significant differences between employment patterns in China and the UK. China has many more graduates working in the manufacturing and primary industries – an unsurprising finding given the much heavier relative economic weight of these two sectors. In comparison, China's financial sector makes up a much smaller share of total graduate employment, largely due to tight government control over the sector and a conservative approach towards financial liberalisation in the past which has hindered the sector's development.

This difference is likely to lessen significantly in the coming years. Finance is one of the fastest-growing fields in China's economy, registering a compound annual growth rate of 15.8 per cent between 2005 and 2012, compared with 11 per cent for the tertiary sector and 10.4 per cent for the economy as a whole. In 2013, some 6.2 per cent of university graduates in 2013 took jobs as finance or insurance professionals, while a further 8.1 per cent took up accounting, according to survey data from MyCOS. Further financial reforms have also been signalled by the new leadership under President Xi Jinping. Early in 2014, the government gave the green light for the establishment of five privately owned banks, suggesting that financial services are probably headed for a period of rapid development.



Source: Office of National Statistics, National Bureau of Statistics.

Top ten occupations taken up by new graduates in 2013			
Undergraduate	Percentage of graduates	Associate and vocational colleges	Percentage of graduates
Administration	8.5	Audit/accounting/tax	12.5
Construction engineering	8.3	Sales	10.3
Audit/accounting/tax	8.1	Construction engineering	7.3
Sales	7.5	Administration	7.2
Computers/software	5.9	Machinery	5.1
Primary/secondary education	5.6	Medical/first aid	4.1
Electronics	5.4	Electronics	4.0
Finance	5.3	Computers/software	3.6
Machinery	4.5	Post and telecoms	3.4
Education/professional training	2.8	Finance	3.0

Source: MyCOS.

Alongside finance and accounting, the table above shows that knowledge-intensive jobs such as engineering, IT and electronics are now taking up the lion's share of graduate employment. However, not all high value-added sectors have experienced similar booms. For instance, while much potential remains for building capacities and skills in the healthcare sector, lack of investment – along with the relatively unimpressive salaries of healthcare professionals – have placed a drag on the sector's growth. In China, just 6.2 per cent of first degree leavers in 2013 graduated in fields related to medicine, compared with 11.5 per cent in the UK.

Yet, there are reasons to be bullish about China's healthcare sector in the long run, not least because demand for healthcare is set to soar along with the country's ageing population. A far-reaching plan for healthcare reform is also currently being drafted, with private and international institutions playing an increasing role in the sector (see: Transformation in China's healthcare sector). This evolution of the healthcare sector will bring increasing demand for training.

TRANSFORMATION IN CHINA'S HEALTHCARE SECTOR

While most employers interviewed for this report told us that they do not see widespread 'hard skills' gaps in their industries, a notable exception was healthcare. Both an HR consulting firm and an international clinic we spoke to highlighted the significant challenges in staffing medical positions in the next decade, especially as high-end privatised healthcare services become more widespread.

In terms of hard measures of healthcare availability (number of hospital beds and doctors per head), China's system compares favourably with international standards. However, low levels of investment tend to undermine the quality of care. Evidence of the gap can be seen in China's healthcare expenditure as a percentage of GDP, which trails significantly behind emerging economies such as Brazil and South Africa.

With the public care system overstretched, the central government is encouraging growth in private investment. The Ministry of Health has said that it wants patient visits to private hospitals to rise from eight per cent of the national total in 2012 to 20 per cent by 2020. To enable this trend, the government announced a pilot project in 2014, allowing foreign investors to set up wholly-owned private hospitals in seven provinces or municipalities (Beijing, Tianjin, Shanghai, Jiangsu, Fujian, Guangdong and Hainan), either by establishing new hospitals or purchasing existing hospitals. This latest development comes after previous moves in 2011 and 2012 to relax restrictions on private and foreign investment in the country's healthcare sector. Yet near-term growth in private medicine will be capped by its exclusion from the public insurance system and a shortage of qualified medical staff.

Currently, most of China's private healthcare providers are small local clinics that are seen as inferior to larger public hospitals. However, the high end of the market is dominated by foreign-owned hospitals and clinics that still primarily serve expatriates and high-income Chinese. As China's healthcare standards rise and private care becomes increasingly affordable for the swelling ranks of China's middle class, demand for these services from local patients will likely surge. The director of a Beijing clinic told us that the primary drivers of this trend will include: demand for advanced obstetrics and paediatrics related to society's focus on children; a desire for privacy, which is not afforded in Chinese hospitals; and an expectation of professional service standards that returnees have developed while studying and working abroad.

In meeting this new demand, private hospitals face several key challenges in recruiting and training doctors and patient-facing service staff. Higher-end hospitals aim to provide personalised and continuing care to individual patients, but China's healthcare system currently lacks a system of general practitioners (GPs) who can provide this service. The State Council has announced plans to shift towards this system, training 300,000 to 400,000 GPs by 2020, but according to interviewees there is still a distinct lack of relevant third-party training organisations in the medical field that can meet the demands of high-end foreign and private hospitals. This lack of training extends beyond medical skills, with interviewees also reporting a lack of specialised training in the field of interaction with patients. Although this may only be a niche opportunity at the moment, the demand for training will grow in step with the rapid expansion of the high-end private healthcare sector.

3.3 GRADUATE EMPLOYMENT AND UNEMPLOYMENT

SECTION SUMMARY

- As in other countries, students of technical subjects often go on to non-technical professions such as business administration, but overall graduate unemployment remains at a manageable level.
- Engineering skills in the manufacturing and construction sectors appear to be in highest demand, reflected by low unemployment rates for graduates in these fields.
- Technical vocational education and training (TVET) graduates suffer from higher unemployment than those from academic programmes. However, China's TVET sector is set for a major policy overhaul.

When viewed by broad subject field, it becomes apparent that a number of occupational fields are 'oversupplied', with more graduates than jobs available. University graduates in science and engineering, as well as language, literature and the arts, are particularly likely to take jobs outside their field.

This may initially seem surprising given the perception of science, technology, engineering and mathematics (STEM) graduates as being in high demand, but in fact this phenomenon is even more apparent in more developed countries such as the UK, where only 63 per cent of engineering graduates became engineering professionals within six months of graduation in 2012. In China, that figure is substantially higher at 76 per cent, according to MyCOS.

In comparison, 'undersupplied' occupations include business administration and education, with business administration – a field which includes accounting, sales and administrative or managerial functions – accounting for 38 per cent of recent university graduates, almost twice the number that studied in a related field. Again, this phenomenon is common worldwide, with many science or arts graduates going into general business positions rather than continuing in their chosen specialism.

Overall, around 25 per cent of new graduates in 2013 did not end up working in the same field as that which they had studied. There is little evidence in this data to suggest that China faces a chronic shortage of technical skills at graduate entry level. Rather, the data points to a common trend seen across many countries: the tendency for graduates with specialist backgrounds to find employment in roles requiring a more general skill set.

It should, of course, be noted that there will inevitably be shortages of skills in specific areas, sub-disciplines and niche specialist roles. However, these shortages are not broad-based and, given their niche nature, would prove a challenging education market for most providers to address.

Graduate unemployment figures tell a similar story. Defining graduate unemployment as the share of graduates actively seeking work six months after graduation, excluding graduates that have gone on to further study or have otherwise left the workforce, the Economist Intelligence Unit calculated the graduate unemployment rate in China in 2013 as 5.3 per cent. This is significantly lower than in most developed economies, implying a healthy demand for graduates' skills, but at the same time does not suggest huge unmet demand from Chinese industry.

Activity of graduates six months after graduation in 2013		
	UK percentage	China* percentage
Full-time work	57.2	82.9
Part-time work and/or further study	19.2	1.2
Further study	12.9	8.9
Unemployed (seeking work)	6.4	4.7
Other	4.3	2.3
Unemployment rate** (%)	7.7	5.3

*Includes both universities and associate college (*dazhuan*) graduates.

** Defined as graduates who are seeking work but not currently employed, as a proportion of all graduates who are seeking or have found work.

Source: Higher Education Statistics Agency, MyCOS, Economist Intelligence Unit calculations.

While the overall graduate unemployment rate is within tolerable limits, variation across fields of study can reveal the areas in which skills are in higher demand – a high employment rate suggests supply is relatively scarce (skills shortage), while a low one indicates an abundance. The table below presents 2013 data for the top ten degree subjects by employment rate.

Graduate employment by subject		
Rank	Subject	Percentage of graduates in employment six months after graduation
1	Architecture	98.3
2	Nursing	96.1
3	Engineering management	95.3
4	Information management and information systems	94.9
5	E-commerce	94.9
6	Thermal energy and power engineering	94.7
7	Financial management	94.6
8	Marketing	94.3
9	Automotive engineering	94.2
10	Accounting	94.0

Source: MyCOS.

Subjects are limited to the 50 most-awarded degrees in China. A full list of these 50 subjects and their employment rates is given in the appendix.

The most obvious conclusion from the table above is that engineering, business and financial skills are in high demand, reflecting the overall needs of China's urbanising economy. In addition, it is apparent that graduates with more specialised degrees are in greater demand. Applicable skills, rather than broad theoretical knowledge, tend to be much more sought after by businesses. This is not unique to China – many countries are reviewing their education systems to emphasise 'useful' knowledge and practical skills rather than abstract thinking.

However, even though demand for graduates with degrees in certain university subjects is high, it is not excessively so. Even among in-demand subjects like engineering management, a non-negligible proportion of graduates are still unemployed six months after leaving university. As with the overall employment figures, this shows that employers are competing strongly for skilled graduates but are not at the point of desperation. Architecture, with an employment rate of over 98 per cent, may be an exception to this finding.

Despite high demand for applicable and technical skills, vocational qualifications remain on a much lower footing than academic programmes in China. The share of graduates classified as unemployed (jobless and seeking work) in 2013 stood at 6.5 per cent, compared with 4.7 per cent for undergraduate leavers. Only one of the 50 most commonly studied subjects, preschool education, had an employment rate of over 95 per cent. According to MyCOS, 38 per cent of vocational college graduates in 2013 were working in fields other than their major within six months of graduation, while according to one survey nearly half (48 per cent) of new vocational college graduates in 2010 reported that they had switched fields by 2013.

Regardless of the type of programme, the government's focus on graduate employability is now greater than ever. Higher education institutes are now paying closer attention to the employability of their graduates, with surveys such as those conducted by MyCOS giving educators a glimpse of what happens to their graduates as they venture into China's highly competitive labour market.



Despite high demand for applicable skills, vocational qualifications remain on a much lower footing than academic programmes in China.

GAOKAO: THE SOFT-SKILL KILLER?

China's education system is divided into academic and vocational tracks that diverge at both the secondary and tertiary levels. The *zhongkao* (middle school exams taken at age 15) and *gaokao* exams (university entrance exams taken at age 18) are academic crucibles that often decide a student's entire professional trajectory long before he or she enters the workplace. In particular, *gaokao* performance determines the university into which candidates are admitted, in what is arguably one of the most competitive university admissions systems in the world.

The highest-scoring *gaokao* candidates typically gain admission to prestigious institutes such as Peking or Tsinghua University. The worst-performing, or the bottom 40 per cent of the roughly nine million candidates who sit the exam each year, are not admitted to university at all and tend to end up in the labour force or pursuing tertiary studies at vocational colleges or overseas universities.

The *gaokao* system is set for reform in the next few years. The changes are already being trialled in Shanghai and Zhejiang, with the first students under the new system set to take their final exams in 2017. The system will be rolled out nationwide to new first-year senior secondary school students later that year, with these students due to earn their qualifications in 2020.

The largest change in this new system will be increased flexibility. Students will still be required to study maths, English and Chinese, but instead of taking a single large exam in either arts or science subjects they will be able to choose their best three scores from six subjects studied in high school. In the case of English, students will be allowed to sit the exam twice and choose their best result.

These changes will reduce the importance of a single final exam. However, the emphasis on standardised exam performance will remain. Whether or not this emphasis is desirable is a subject of heated national debate. Indeed, many of the HR managers we spoke to in the course of this project identified this as the origin of major skills shortages in their workforces. The prevailing system has skewed the primary and secondary education system towards test preparation, leaving limited classroom time for the cultivation of analytical and creative skills.

Yet, there remains a strong view that standardised exams remain the most effective way to promote social mobility, especially in a country plagued by rampant corruption. Peking University's decision to accept recommendations for specific students from designated headmasters in 2009 led to an outcry from students over concerns of abuse of power and nepotism.

REFORMS IN CHINA'S TVET SECTOR

Aside from universities, technical vocational education and training (TVET) institutes also produce large numbers of highly trained graduates. These institutions have historically suffered from policy neglect in China, and are a mixed bag in terms of quality – unlike academic-track programmes, which tend to be subject to stricter regulatory guidelines and standardisation, TVET institutions are much more diverse.

Since the beginning of 2011, however, China's TVET sector has received a great deal of attention from the highest ranks of Chinese policy makers. In 2014, both President Xi Jinping and Premier Li Keqiang publically expressed support for vocational education in China, emphasising the sector's strategic importance in developing a more skilled labour force and achieving better employment outcomes. 'Imagine the scale and level of Chinese products and services if most of the 900 million strong labour force can be trained to master medium- and high-level skills,' Li told a national vocational education forum in June.

In 2012, China enrolled 21.1 million students in vocational secondary education programmes, with another 9.64 million students in tertiary vocational education. By 2020, China plans to increase vocational secondary enrolments to 23.5 million students and raise the number of students in vocational tertiary education to 14.8 million, according to the *2014–2020 Plan for Establishing a Modern Vocational Education System*.

One way for China's government to boost enrolment in vocational education is to promote greater industry–institution links. The introduction of a modern apprenticeship programme, which will be piloted in select cities before being expanded across China, aims to produce work-ready graduates from TVET institutions. The programme will enhance links between TVET institutions and relevant industries in order to improve employment outcomes and ensure that vocational students receive the necessary

skills and training required by employers. Under the modern apprenticeship programme, students will register as students at TVET colleges and as apprentice employees at relevant companies, with the TVET colleges and partner industries jointly responsible for recruiting, training and evaluating students.

China's reforms also aim to put vocational education on a more equal footing with conventional universities and thereby attract greater numbers of high performing students to enrol in TVET institutions. One method of doing so is to allow students to transfer between vocational education institutions and conventional universities. This promotes mutual recognition of curriculum and credits by universities and TVET institutions, and introduces exams that will make it easier for students to transfer or progress from vocational schools to universities. Another method is the transformation of some 600 local universities into 'applied technical universities', which will focus on educating engineers, advanced technicians and other skilled workers. The 600 universities will be selected from among the universities which have been upgraded from three-year diploma colleges since 2000, and will create a middle ground between traditional TVET institutions and more academically inclined universities.

One final reform is the introduction of a new vocational *gaokao* exam for technically inclined students, which will be offered alongside the traditional *gaokao*. The vocational *gaokao* will assess students' technical skills as well as their textbook knowledge, leading students to enrol in tertiary TVET institutions, particularly newly introduced applied technical universities. The vocational *gaokao* has already been piloted in a few locations and will be expanded nationwide in the coming years, with more than half of new enrolments in TVET institutions to be selected from vocational *gaokao* participants in 2015. Only time will tell if these reforms will succeed in changing the perception of vocational education in China.

4. EMPLOYERS' PERCEPTIONS OF CHINA'S SKILLS GAP

4.1 INTERVIEW SCOPE AND METHODOLOGY

In order better to understand the skills gaps and shortages that organisations in China are facing, 25 interviews* were conducted with multinational corporations, recruitment firms, education and training institutes, and government officials. In terms of industry sector, engineering and automotive firms comprised the largest share of interviews.

Given the broad scope of the project, we adopted a qualitative approach (rather than a quantitative survey-based approach), asking interviewees to describe the staffing challenges and solutions in their companies and the broader job market. The purpose of the interviews was to determine:

1. where skills gaps and shortages exist
2. how organisations are approaching skills development training
3. how organisations work with third-party training providers
4. where opportunities for international education providers may lie.

Thus, in addition to recommending where demand for education and training existed, we imposed an additional criterion that the demand be unmet by the current landscape of domestic education and training providers. Two distinct questionnaires were constructed – one for vertical organisations (i.e., most businesses) and one for horizontal ones (for instance, HR firms and education institutes). The table below lists some of the questions that were asked.

Sample questions for verticals	Sample questions for horizontals
<ul style="list-style-type: none"> • Which professional qualifications do you value in your recruitment programmes for core operational staff? • How would you characterise the availability of such qualifications among job market candidates? • To what extent does your organisation engage in staff training programmes to ensure an adequate supply of skills in your operational workforce? • Do such programmes currently satisfy your organisational requirements for employee skills development? 	<ul style="list-style-type: none"> • In which professional and skill area does China currently face the greatest challenge in terms of developing a highly skilled workforce? • Which emerging sectors/skills are likely to be in greatest demand in the coming years? • How is education policy going to change to address new demand for highly skilled workers? • What will be the role of private education institutes in training highly skilled workers?

*Asian Development Bank, Bank of New York Mellon, Bayer, Corning, CPA Australia, Deloitte, Delphi, Dongguan Technical College, Faurecia, Gold Millennium Group, Hays, HPO Group, International SOS, Ivey Business School, LF Logistics, Ministry of Human Resources and Social Security, Motorola Mobility, MyCOS, Nexeo Solutions, New Leaders Group, Odgers Berndtson, Rolls Royce, SPX, Standard Chartered, United Technologies.

4.2 FINDINGS

SECTION SUMMARY

- Most interviewees reported that a lack of technical expertise was rarely a problem in their recruitment, outside of niche fields, but employers reported a continuing lack of soft skills, particularly at the middle management level.
- Interviewees expressed demand for more practical and tailored courses, with many saying that it was difficult to find programmes specific enough to meet their needs.
- There is increasing demand for training related to companies' internationalisation, as well as in areas such as project management, quality control and production optimisation.

In the sections that follow, we outline the key issues identified in interviews and look at how they may present opportunities for international education and training providers.

4.2.1 EMPLOYERS GENERALLY DO NOT SEE CHINA AS FACING A CRITICAL SHORTAGE OF TECHNICAL SKILLS

Although China clearly has strong demand for a wide range of technical skills, most interviewees reported that a lack of technical expertise was rarely a problem in their recruitment. Those few who did report difficulties in this area were generally referring to niche fields – interviewees at a chemicals firm reported that China still did not have a critical mass of expertise in specific chemical processes, while those at

an automobile manufacturer reported similar issues regarding certain types of engines.

This finding is supported by information from other published studies. According to a 2012 survey carried out by the UK's Chartered Institute of Personnel and Development (CIPD) and the Hong Kong Institute of Human Resource Management (HKIHRM)¹, only 37 per cent of HR managers in China saw technical skills as one of their skill-raising priorities, ranking it third after business and communication skills. Similarly, in a large-scale 2013 survey conducted by international recruitment and HR consulting firm Randstad², only a third of respondents in China reported that a lack of specialist skills was one of their key productivity challenges.

This is not to say that there is little demand for technical skills. The high employment rates enjoyed by graduates of engineering and other technical disciplines, discussed in Section 3.3, show that companies are keen to hire staff with these skills, and wages are continuing to rise rapidly for staff in these positions. In a recent survey by the US–China Business Council³, 34 per cent of respondents (the second largest group) believed that wages for technical staff were rising at a faster level than any other employee groups, while in another survey⁴ 82 per cent of businesses in the engineering and manufacturing field reported that their employees' wages were rising faster than inflation, significantly higher than the national average.

Nevertheless, the high demand for these skills is, on the whole, matched by a correspondingly high supply. As described in Section 3.3, almost a quarter of engineering students leave the sector after graduation, while the level of graduate unemployment, although significantly lower than that seen in the West, is not negligible. This illustrates that China is not experiencing

¹ *Learning, Talent and Innovation in Asia* – Chartered Institute of Personnel and Development and Hong Kong Institute of Human Resource Management, 2012.

² *2013/14 Randstad World of Work Report* – Randstad, 2013.

³ *2014 China Business Environment Survey* – US China Business Council, 2014.

⁴ *China 2014 Salary and Employment Forecast* – Michael Page, 2013.

a crisis in the field of technical skills, at least among entry level candidates.

4.2.2 THERE IS A SERIOUS PERCEIVED LACK OF SOFT SKILLS

The verticals we spoke to were unequivocal in reporting that a lack of soft skills, particularly those required for managerial roles, represented a major challenge in their staffing. With the exception of certain niche, specialist skills, all interviewees agreed that recruiting employees with the necessary soft skills presents a far greater organisational challenge than finding the requisite hard skills. In particular, several firms in the engineering and automotive sectors complained that many of their candidates lacked commercial and financial acumen, while other interviewees reported shortages of communication skills.

Multinational corporation interviewees saw particular gaps in international and cross-cultural communication skills, which have become a more prominent challenge as companies integrate their China functions more tightly with global operations. Local managers are increasingly expected to work directly with their counterparts in other countries, increasing the demand for these skills. As one regional head of a Europe-based engineering firm put it:

'One crucial function of our middle management in China is to communicate the situation on the ground to decision makers in HQ. The ability to describe local challenges in a way that people unfamiliar with China can relate to, propose solutions and influence stakeholders so as to implement those solutions – that's something we're struggling with.'

Others noted that communications skills per se were not the problem, but rather that the challenge lay in knowing when, and in what circumstances, to communicate, emphasising that self-motivated problem solving was a deeper problem.

Again, these interview findings are in line with other recent research on the HR challenges faced by Chinese businesses. Viewed as a whole, respondents to the CIPD/HKIHRD survey referred to in the previous section see soft skills as the runaway leader in terms of their skill development priorities. The leading factor was general business skills and commercial acumen, which 65 per cent of respondents described as a priority, while the second ranked skill area was communication skills. In addition to these, three other soft skills – creativity and innovation, management and leadership skills, and customer service – were also seen as important priorities by at least 30 per cent of HR managers.

Another recent illustration of the importance of soft skills comes from a survey conducted by recruitment firm Michael Page, which reported that the three sectors with the highest expectation of professional skills shortages in 2014 were retail and sourcing, marketing, and real estate. The importance of soft skills to the former two sectors is clear, while interviewees in the real estate field identified project management as one of their key in-demand skill sets. Expectation of upcoming skills shortages in all three of these sectors stood above 40 per cent, while HR managers in the engineering, manufacturing and high-technology fields were less likely to expect a skills shortage compared with the survey's overall national average of 31 per cent.

A third survey illustrating the perceived importance of soft skills comes from the World Bank's STEP employer survey, carried out in Yunnan in 2012⁵. Employers were asked to identify the most important type of skills for both highly skilled 'Type A' employees (including managers, professionals, associate professionals and technicians) and more junior 'Type B' employees (including clerical workers, service workers, sales staff and manual workers).

⁵ *Developing Skills for Economic Transformation and Social Harmony in China: A Study of Yunnan Province* – Xiaoyan Liang and Shuang Chen, World Bank, 2014.

Job-related technical skills were generally not seen as the most important factor in either category, with only 27 per cent of interviewees saying this was the most important skill type for Type A employees, while the proportion saying the same for Type B employees was just 23 per cent. In comparison, 36 per cent of interviewees believed that leadership skills were more important for Type A employees, with a further 17 per cent saying that communication skills were the most important. Communication skills were seen as even more important for Type B employees with 43 per cent rating these as the most important.

Despite the high level of consensus on the challenge represented by soft skills, there is little agreement regarding the root of the problem. Some interviewees point to China's exam-driven education system, which has often been criticised for placing too much emphasis on rote learning, thereby crippling critical thinking and initiative. Others point to differences in corporate culture, with Asian companies exhibiting a tendency to be more hierarchical and driven from the top.

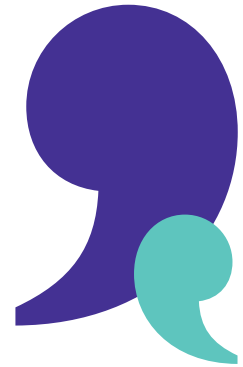
4.2.3 THE SOFT SKILLS CRISIS IS MOST ACUTE AT THE MIDDLE MANAGEMENT LEVEL

The soft skills gap in the Chinese workforce, according to the regional director of a global recruitment firm interviewed for this project, tends to become most critical in the 30–40 year old age range, when employees with technical and operational experience are tapped for leadership roles. Other interviewees agree with this finding, describing a pool of candidates for middle-management positions which generally lacks communication skills, creativity, accountability, and 'big-picture thinking'. One interviewee expressed frustration with the lack of proactivity shown by Chinese managers in their organisation:

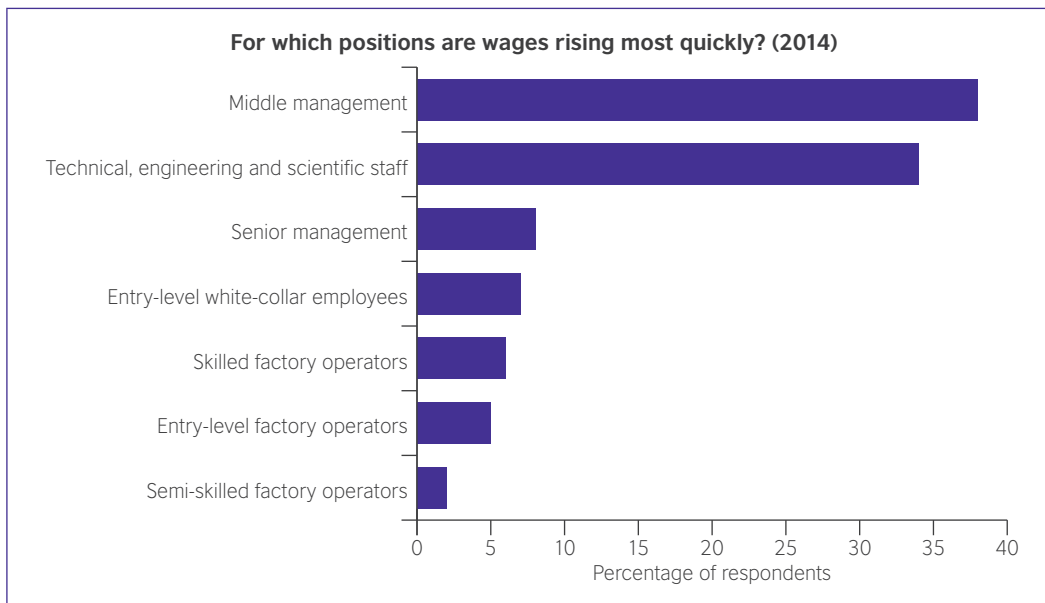
'As a manager, you are expected to act autonomously to find solutions to problems as they arise, instead of waiting to be told what to do. Analysing a problem, formulating a plan and executing that plan are part of a manager's job. That requires some degree of self-awareness about how one is expected to behave in an organisation.'

The cross-cultural communication issues described in Section 4.2.2 are particularly acute at the middle-management level, and HR managers interviewed in this project told us that the shortage of capable middle managers in the local talent pool has pushed salaries for qualified applicants beyond the standard for comparable talent in many Western markets.

Once more, this interview finding is supported by third-party data. Against a general background of increasing wages across all employee types, the US–China Business Council's 2014 Business Environment Survey found that this trend was the most rapid among staff at the middle management level, with 38 per cent of respondents saying that this group saw the fastest salary rises. The proportion of respondents giving this response was the highest since the survey was first carried out in 2012, and is now higher than the 34 per cent of interviewees reporting that technical staff salaries have the fastest growth and far above the eight per cent saying that senior management had the fastest-rising salaries. Regarding the specific soft skills that middle managers lack, the CIPD/HKIHRM survey revealed that HR managers believe their largest gaps come in the fields of performance management and managing change, followed closely by general business and commercial skills.



The soft skills gap in the workforce tends to become most critical in the 30–40 age range, when employees with technical and operational experience are tapped for leadership roles.



Source: US–China Business Council, 2014.

The same study also reports that middle managers showed a faster turnover rate than any other type of employee by a substantial margin, implying that skilled managers are highly sought after. At the same time, improving these managers' skills is many companies' top priority when it comes to talent development – the results of Randstad's 2013 World of Work report showed that, as with elsewhere in East Asia, developing leadership skills was the productivity challenge identified by the highest number of Chinese respondents.

Taking a longer-term view, interviewees generally believe that closing the management gap may simply be a matter of time. The 'first wave' of Chinese entrepreneurship gave rise to an initial generation of firms characterised by family ownership and strong political connections of corporate leaders, with organisational performance thus largely determined by a handful of individuals at the top. Yet as these companies continue to grow in scale and internationalise, there is an increasing need to groom a broad base of professional managers. As time goes on, the pool of experienced middle managers is likely to expand, with some interviewees noting that

this trend is already in progress and that the next frontier in China's skills shortage may be senior management skills. In the meantime, though, the pool of professional managers to recruit from in China remains relatively small, and employers are forced to invest in training to develop their skills base from scratch.

Several interviewees took pains to point out that, although they believed that the skills gap was most acute among middle managers, it is by no means limited to employees at this level. A well-established approach to management-level skills shortages has been to sponsor high-potential employees for MBA or Executive MBA programmes or to receive business education abroad, but this is not a scalable approach across a wider cross-section of the workforce – especially as China's demand for business and management skills now exceeds the number of workers who have the language skills to participate in foreign MBA programmes. Based on interview findings, there appears to be increasing interest in soft skills training at more junior levels too – a finding which is explored in more detail in the next section.

4.2.4 THERE IS INCREASING DEMAND FOR MORE PRACTICAL COURSES TAILORED TO COMPANIES’ INDIVIDUAL SOFT SKILLS TRAINING NEEDS

While some relevant third-party training consultancies exist, a common finding from interviews was that it was difficult to find programmes tailored and specific enough to meet the company’s needs. For example, a partner at a global professional services firm told us that his industry has a market for highly targeted problem-solving skills training. While consulting staff are excellent at applying existing methodologies and solutions, devising strategies for dealing with unstructured problems in unfamiliar environments still remains a challenge. Meanwhile, a regional head at an engineering firm expressed interest in training on managerial behaviour and interpersonal skills.

Some firms are also looking at expanding their soft skills training beyond managers to all levels of staff. As an HR director for an international bank told us, ‘we have soft skills training for upper management, but we currently have no training for junior employees to encourage creativity, communication skills, and self-motivation’. Even at the middle to senior management level, one interviewee pointed out that existing executive training programmes do not place sufficient emphasis on areas such as cross-cultural communication and performance-driving behaviour in the organisational context.

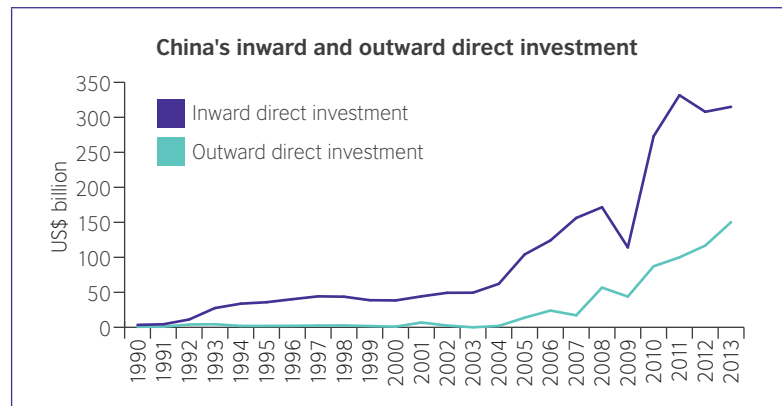
Against this background, it is perhaps unsurprising to learn that more practical training methods are becoming more prevalent in China. According to a series of surveys carried out by Chinese training consultant UICC⁶, task-based training was used by 39 per cent of interviewed companies, up from around 24 per cent in 2010, while action learning was seeing even faster growth, almost doubling from 16 per cent in 2010 to 31 per cent in 2013.

It should be noted that UICC is a proponent of action learning and so the proportion of its contacts using this training method may be higher than that in the overall market, but the overall trend is nevertheless very clear.

Other training methods seeing significant growth between the company’s 2010 and 2013 surveys include mentoring (increasing from around 19 per cent in 2010 to 34 per cent in 2013) and e-learning (21 per cent in 2010; 32 per cent in 2013). But as in 2010, classroom-based learning still remains the most common training method, adopted by 68 per cent of the survey’s 329 respondents.

4.2.5 INTERNATIONALISATION IS CREATING DEMAND FOR NEW TYPES OF SKILLS

One staffing issue identified by a number of interviewees is a lack of skills related to overseas business. After years of being the world’s top recipient of foreign direct investment (FDI) inflows, China is now becoming a source of capital for projects around the globe, with outward investment now increasingly coming from private Chinese companies and flowing into developed Western countries rather than being focused on resource-rich developing countries as in the past. In 2013, outward direct investment (ODI) from China reached US\$150 billion, making it the world’s second-largest outbound investor.



Source: The Economist Intelligence Unit.

⁶ 2013 China Action Learning Survey Report – Universal Ideas Consultants Corp, 2014.

Staffing issues for Chinese firms making their first foray overseas mirror those experienced by foreign multinational corporations investing in China. There is a general lack of knowledge of, and familiarity with, overseas business practice and regulation, with firms on a steep learning curve for issues ranging from cross-cultural communication to tax compliance. Training needs here are not limited to knowledge on regulatory compliance but also extend to such areas as sales training – an interviewee at an HR training company reported that its domestic clients were beginning to take a more scientific attitude towards sales training as it expanded its international operations and competed with overseas players at a global level.

In a different way, internationalisation is having a major effect on the demand for project management and quality control qualifications. An interviewee involved in this sector reported that domestic companies often enrolled their employees on project management courses in response to contracts with foreign partners requiring that managers hold relevant certificates. One certificate in this field, the Project Management Professional (PMP) certification governed by the US-based Project Management Institute, saw demand double from 2010 to 2013, currently surpassing 36,000 certificate recipients per year. Aside from certification, this interviewee believes that there are significant opportunities in test preparation services, as the pass rate for these certifications in China is currently substantially lower than the international average.

In a 2013 report⁷, the Project Management Institute forecasted an increase of 8.2 million project manager roles in China between 2010 and 2020. Another source which identifies project management as a key area of skills demand is a recent employer survey conducted by HR consulting company Michael Page, in which respondents across the engineering, manufacturing, property

and construction, sourcing and technology sectors all reported high demand for skilled project managers and consequently rising salaries for employees in this role.

Another key area where skills are lacking is in quality control and productivity optimisation. In particular, interviewees reported that Six Sigma 'Black Belts', who can implement and oversee quality control of large-scale projects, are in high demand. Interviewees noted that many companies have developed their own internal programmes for quality control and efficiency processes, but that the quality of these programmes was difficult to judge as there is no central governing body for Six Sigma.

The Michael Page survey mentioned above also found that Six Sigma – along with lean manufacturing, a production philosophy derived from the Toyota production system – was a key area of high demand for recruitment in China. This demand was especially pronounced in Tier 1 cities – as low-end manufacturing shifts towards less developed regions, cities like Shanghai are repositioning as high technology hubs with advanced production techniques.

Finally, interviewees reported a growing demand for foreign vocational and professional qualifications in China – a finding which is supported by data from sources such as the CFA Institute's Chartered Financial Analyst exams. Mainland China candidates at all levels increased by 41 per cent in the 2010–13 period, reaching 25,750 in 2013. Over the same period, the UK and US saw a four per cent rise and a four per cent fall respectively.

⁷ *Project Management Between 2010 and 2020* – Project Management Institute, 2013.

TRAIN TO RETAIN?

In addition to skills gaps, high turnover in China means that employers have to redouble efforts to retain staff and train new hires more rapidly. In this respect, training can also be a retention tool. Rapid annual growth in urban wages has exacerbated staffing issues, particularly in lower-tier cities that struggle to attract talent.

Training therefore makes up a crucial part of most companies' staff retention policies. In a survey on retention carried out by recruitment firm Hays⁸, over 90 per cent of those employers who reported having a retention strategy in place said that training and development was part of this strategy – more than any other factor. The same survey found that almost three quarters of employees rate training as 'very important' or 'extremely important'.

This training is particularly important for younger employees – in a separate survey by Hays⁹, this was rated as the top factor when choosing an employer by 45 per cent of 18–30 year olds. A survey carried out by competing recruitment firm Michael Page came to a similar conclusion, with career development and training rated as particularly important by younger employees – 40 per cent of respondents under the age of 25 said that this was the top factor that would keep them in their current role.

However, while training is definitely seen as valuable, employees do not believe it is the most important factor. Despite the seemingly high importance of training in the Hays retention survey, several other factors scored even higher.

The proportion of employees rating this as important fell substantially short of the top two self-reported factors for employee retention, salary and career development opportunities, and was also slightly behind three other factors including management quality, work–life balance and the employee's fit with the company culture. Similarly, in the Michael Page survey, only 15 per cent of all employees said that career development and training was the most important factor, behind salary, company culture and leadership.

In addition, some companies – particularly local firms – feel that training can have a negative effect on employee retention. The regional president of a chemicals distribution company told us that, although his staff often request training, the company's local joint venture partner is cautious about providing resources because it fears that too much investment in skills will empower employees by giving them the skills required to leave for other opportunities. A similar issue is seen in the 'big four' accountancy firms, which are often viewed by graduates as a stepping stone to a career in finance – often, the search for greener pastures begins immediately after completion of the Chinese Certified Public Accountant qualification, which all new joiners are encouraged to obtain.

⁸ *Retention: Is it getting enough attention?* – Hays, China 2013.

⁹ *Gen Y and the World of Work* – Hays, China 2013.

5. OPPORTUNITIES FOR INTERNATIONAL EDUCATION PROVIDERS

THERE IS LITTLE DOUBT THAT THE MARKET FOR EDUCATION AND TRAINING IN CHINA IS VAST AND GROWING RAPIDLY.

A 1.3 billion-strong population, combined with the rapid development of technology and a knowledge-based economy means there is ever-increasing demand for skills as the country enters the final phase of its economic transition.

Yet, the market is also geographically dispersed, diverse and difficult to penetrate. With over 20,000 private training institutes in China, competition is fierce, with most local providers operating at a fraction of the cost of their foreign counterparts. Standing out from the crowd is essential. Foreign brands are typically synonymous with quality in China, and thus enjoy a head start over local brands. However, while buyers may be willing to pay a hefty premium for foreign brands in consumer goods markets, corporate customers tend to be less forgiving and are more value-conscious. A number of interviewees said, without being asked, that price would be an important consideration in evaluating the attractiveness of training programmes, particularly since the onset of the global financial crisis.

International education providers' most easily accessible market for corporate education and training is likely to be multinational corporations with a medium-to-large presence in the country, which are typically headquartered in Shanghai, Beijing and, to a lesser extent, Guangzhou. Most, if not all, of the Fortune 500 companies have a presence in China.

The next tier of market opportunity will be domestic companies that are expanding overseas. However, state-owned companies can be difficult to gain access to, while private domestic firms tend to place less

value on staff training and often have tighter budgets, although exceptions will always exist. Brand recognition of international education providers is also likely to be lower among domestic firms.

In terms of the content of the programmes offered, the findings of this report are summarised below in the form of recommendations.

1. THERE IS AN ACUTE SHORTAGE OF SOFT SKILLS

The greatest skills gap facing multinational corporation employers in China relates to soft skills. Interviewees were unequivocal in expressing this. Leadership, communication and critical thinking were among the most cited skills that were found to be lacking in employees. More broadly, understanding what constitutes 'performance-driving behaviour', as one interviewee put it, was a crucial challenge for employees.

Nearly all interviewees emphasised the need for bespoke programmes suited to a particular industry or management challenge, and noted the absence of local training providers that could offer such options. Many also noted that, although there was a developed market for MBA and similar high-level qualifications, their needs are far wider than this narrow niche, and it was more difficult to find high-quality training options for staff at more junior levels of management and with less advanced English skills.

Interviewees involved in the training sector also report that both multinational corporations and domestic clients increasingly prefer courses structured as part of an ongoing training and development

solution rather than one-off courses and seminars, while interviewees and third-party survey data show companies are shifting towards more practical forms of training.

The most accessible opportunities for international education providers therefore appear to be courses presented as part of a highly customised staff development plan, provided in Chinese for a slightly wider base of management-level employees.

2. A HARD-SKILLS MARKET IN TECHNOLOGY EXISTS, BUT HAS LARGELY BEEN SERVED

While a deficiency in soft skills poses the greatest challenge to companies interviewed for this report, the importance of hard skills should not be downplayed. Some of the engineering firms interviewed recruit thousands of engineers a year, all of whom eventually end up working with highly specialised technology.

The key difference between hard and soft skill requirements, however, is that interviewed employers either believe that the job market is already able to supply candidates with the skills that they need, or accept that their requirements are specialised enough that they need internal systems to bring their employees up to speed. Some interviewees have established extensive internal training programmes – sometimes in co-operation with external providers – to train specialists in the niche skills they need.

Information from some interviewees suggests that this trend may be less apparent in the services sector, with healthcare industry interviewees describing their demand for service-oriented healthcare training, while an HR director at an international bank pointed to a need to familiarise new hires with banking industry regulation in China. As these sectors are currently underdeveloped in China compared to more advanced countries overseas, there is likely to be strong future growth in these fields. Opportunities for hard skills training might therefore be more common in the services sector than in traditional industry.

3. CHINESE COMPANIES NEED KNOWLEDGE OF OVERSEAS MARKETS AND BUSINESS PRACTICES

A decade or two ago, China's corporate presence beyond its own borders was nearly non-existent. Today, China is one of the world's largest investors, with domestic companies investing heavily in virtually all international markets. In many cases, domestic firms going overseas lack knowledge of overseas business environments and familiarity with local regulations and cross-cultural management.

In addition to investing in developing their knowledge of foreign markets, increasing internationalisation also means that Chinese firms are seeing the need to bring their own management practices, along with sales and marketing techniques, into line with global best practice. At home, as Chinese businesses seek to move up the value chain and towards a higher level of professionalism across a variety of industries, there is an increasing market for training and qualifications in fields such as project management, quality control and productivity optimisation.

There is scope for international education and training providers to participate in China's rapidly growing market for skills training and there remains a high degree of interest in learning from foreign institutions. The main area of unmet demand, according to interviewees, is currently the soft side of personal development, but skills associated with sectors that remain underdeveloped in China are also likely to be areas where international education providers can gain more traction in preparation for growth in the near future.

Absorbing foreign management know-how and technology still very much remains a pillar of China's economic development strategy, decades after the country first opened up to foreign investment. The task ahead is for international education providers to take advantage of these opportunities while helping to address the skills gap in the most populous country on the planet.

5.1 OPPORTUNITIES FOR THE UK

Main finding	Main constituency	Opportunities for the UK	Opportunity size	Key challenges
There is an acute shortage of soft skills.	Primarily multinational corporations in China, some local firms, and local higher education institutions.	<ul style="list-style-type: none"> Partnering with local tertiary institutes in delivering soft skills modules for graduating students. Independently providing soft skills training for recent graduates, focusing on employability. Delivering continuing professional development training focused on developing soft skills of existing staff. 	Medium to large	<ul style="list-style-type: none"> Delivering content through local higher education institutions. Finding local industry partners. Delivering course content in local language. Providing a unique value proposition of partnering with UK institutions.
There is less demand for hard skills, and more difficulty providing hard skills training.	Service industries, particularly in healthcare and finance, and local degree providers.	<ul style="list-style-type: none"> Partnering with local higher education institutions offering degrees in healthcare and finance. Offering intensive training in relevant skills, focusing on new hires/junior staff in particular. 	Medium	<ul style="list-style-type: none"> Largely limited to a few industries. Creating links with relevant local industries. Offering continuous rather than one-off training programmes. Providing a unique value proposition of partnering with UK institutions.
Chinese companies need more knowledge of overseas markets and international business practice.	Chinese firms with international business operations.	<ul style="list-style-type: none"> Offering training in international business practice for new hires/junior staff in partnership with local industry. Delivering international business skills training to company staff. Leveraging UK business practice/qualifications. Focusing on companies with strong UK trade and investment links. 	Smaller	<ul style="list-style-type: none"> Developing appropriate content for Chinese firms. Delivering course content in the local language. Providing a unique value proposition of partnering with UK institutions.

5.2 CONCLUDING REMARKS

Skills gaps do exist in China, but there is huge variation between different fields. In some areas – particularly soft skills, finance, healthcare and certain professional qualifications, as described in previous sections – there is a definite shortage of high-quality training options and therefore strong potential for UK companies and education providers to get involved. At the same time, these sectors are not completely free of competition – interviewees complained about the quality of training available, not about a complete lack of options. Outside of the areas identified above, employers in most other fields appear to be generally satisfied with existing training options, meaning that competition will be even tougher.

Opportunities for the UK, therefore, are limited to companies and institutions that have (or can create) compelling and customised courses or training programmes that meet the needs of potential customers – either by addressing a currently unmet demand or by focusing on a field where the training provider already has specialist expertise.

In most cases, creating an attractive offer will involve localising for the Chinese market. At the most basic level, this includes making sure that courses can be delivered in Chinese – a factor which may seem obvious, but which several interviewees mentioned as a key problem with some of their current training providers. Other important factors include making sure that course content is relevant to local needs, and building links with customers to deliver an ongoing training programme instead of one-off courses and training sessions. This localisation could be done alone but in many cases may require co-operation with a local partner. In either case, UK training providers should carefully consider the costs and other trade-offs that may be involved in localising their services for the Chinese market, and weigh these against the potential benefits.

China's training market is a long-term game that requires a high level of customisation, localisation, investment and commitment. In short, UK training providers should not allow themselves to be mesmerised by reports of the huge size of China's skills gap, because the real opportunities for foreign companies are much narrower. Instead, they should ask themselves whether their services can address real needs in the Chinese market. If the answer is yes, then there are strong opportunities to benefit from the Chinese skills gap. But if the answer is no, even the huge size of the market will not compensate for this missing factor.

APPENDIX: GRADUATE EMPLOYMENT BY SUBJECT

A.1 EMPLOYMENT RATE FOR UNIVERSITY GRADUATES BY SUBJECT, 2013

Rank	Subject	Percentage of graduates in employment six months after graduation
1	Architecture	98.3
2	Nursing	96.1
3	Engineering management	95.3
4	Information management and information systems	94.9
5	E-commerce	94.9
6	Thermal energy and power engineering	94.7
7	Financial management	94.6
8	Marketing	94.3
9	Automotive engineering	94.2
10	Accounting	94.0
11	Materials forming and control engineering	94.0
12	Civil engineering	93.9
13	Mechanical design, manufacturing and automation	93.7
14	Logistics management	93.7
15	Electrical engineering and automation	93.5
16	Software engineering	93.4
17	Tourism management	93.1
18	Computer science and technology	93.0
19	Primary education	93.0
20	Automation	92.6
21	Japanese	92.6
22	Mechanical engineering and automation	92.6
23	Advertising	92.5
24	Human resource management	92.1
25	International economics and trade	92.0
26	Business administration	92.0
27	Materials science and engineering	92.0
28	Finance	91.8
29	Network engineering	91.8

Rank	Subject	Percentage of graduates in employment six months after graduation
30	Electronic science and technology	91.8
31	Administration	91.7
32	English	91.6
33	Communication engineering	91.5
34	Industrial design	91.1
35	Musicology	91.0
36	Chinese language and literature	90.9
37	Economics	90.8
38	Environmental engineering	90.7
39	Chemical engineering and technology	90.6
40	Public sector management	90.6
41	Animation	90.5
42	Economics	90.4
43	Sociology	90.1
44	Materials chemistry	90.0
45	Biotechnology	89.8
46	Physics	89.6
47	Law	89.1
48	Mathematics and applied mathematics	88.9
49	Music performance	88.4
50	Biological science and engineering	86.3

Source: MyCOS. This table covers the 50 most common subjects by student number.

A.2 EMPLOYMENT RATE FOR TERTIARY VOCATIONAL AND TECHNICAL SCHOOL GRADUATES BY SUBJECT, 2013

Rank	Subject	Percentage of graduates in employment six months after graduation
1	Preschool education	97.5
2	Accounting	93.7
3	Machinery manufacturing and automation	93.7
4	Petrochemical production technology	93.6
5	Marketing and planning	93.6
6	Electrical automation technology	93.2
7	Mechatronics	93.1
8	Vehicle inspection and maintenance technology	92.9
9	Applied automotive technology	92.8
10	Road and bridge engineering technology	92.7
11	Automotive technical service and marketing	92.6
12	International trade practice	92.6
13	Real estate management and valuation	92.5
14	Marketing	92.4
15	Telecommunications technology	92.4
16	Applied chemical technology	92.3
17	Electronic and information engineering	92.1
18	Applied electronics technology	91.9
19	Logistics management	91.8
20	Project costing	91.7
21	Computer multimedia technology	91.6
22	Computer numerical control technology	91.5
23	Customs and international freight	91.3
24	Building decoration engineering	91.2
25	International business	91.2
26	Secretary	91.1
27	Computer network technology	91.0
28	Commercial English	91.0
29	Mold design and manufacturing	91.0
30	Architectural engineering and technology	90.7

Rank	Subject	Percentage of graduates in employment six months after graduation
31	E-commerce	90.7
32	Automotive technology	90.7
33	Software technology	90.2
34	Construction project management	90.0
35	Computer application technology	89.9
36	Tourism management	89.8
37	Mechanical design and manufacturing	89.6
38	Automobile manufacturing and assembly technology	89.6
39	Financial management	89.5
40	Computer information management	89.4
41	Business administration	89.3
42	Accounting and auditing	89.2
43	Computerised accounting	89.1
44	Interior design technology	89.1
45	Advertising design and production	89.1
46	Nursing	89.0
47	Hotel management	88.1
48	Animation design and production	88.0
49	Environmental art and design	87.9
50	Art and design	85.1

Source: MyCOS. This table covers the 50 most common subjects by student number.

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