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THE GLOBAL SKILLS DILEMMA
HOW CAN SUPPLY KEEP UP WITH DEMAND?

The Hays Global Skills Index 2019/20

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INTRODUCTION

Welcome to the 2019/20 edition of the Hays Global Skills Index (the 'Index'), our comprehensive guide to the trends currently facing the global labour market. Based on research into professional employment markets across 34 major economies, we produce an annual report which examines the macro trends, challenges and opportunities facing the world's workers and employers.

This year has been another significant year of change, from the tensions rising over trade relations between the US and China to the uncertainty around Britain leaving the European Union; the increasing levels of scrutiny against 'Big Tech' and the ensuing debate surrounding privacy and content.

Many would argue that fear of the unknown plays a large part in determining future growth prospects, and this year saw the IMF forecast a slowdown in global real GDP growth. What this year has explicitly shown is that uncertainty is on the rise for both companies and their workers, emphasising the value in tracking and examining labour market trends in order to help anticipate and navigate these unfamiliar waters.

The Index provides a unique perspective on the challenges and opportunities facing workers and their employers, particularly against an increasingly uncertain backdrop. As the world's largest specialist recruiter, Hays places over 300,000 people into new roles every single year, across 34 markets and over 20 professional disciplines.

While this year's Index indicates that issues flagged in previous years – such as 'talent mismatch' – continue to be a problem, it also reveals several new factors impacting the world of work. What has stayed consistent throughout the years are some of the underlying trends pulling the strings on these issues that are impacting professional lives, from educational choices through to day-to-day tasks. Explicitly, one of the major trends continues to be the exponential growth of AI and machine learning, and its overarching impact on many of the issues described within this report.

> "The Index provides a unique perspective on the challenges and opportunities facing workers and their employers, particularly against an increasingly uncertain backdrop."

Although the Index's average score remains unchanged from last year at 5.4, there is a much wider story to tell among the 34 labour markets featured within the report. This year's Index examines two pressures facing numerous workforces worldwide; firstly, that talent mismatch is becoming worse in a number of markets, and secondly, that there is now a global threat of wage stagnation. These issues can be partially explained by the rapid growth of technology, but also through other trends, such as the rise of outsourcing, globalisation and uncompetitive labour markets.

Our research has again showcased the growing issue of talent mismatch, as the Indicator has risen since last year as employers struggle to find suitably skilled workers to fill the required vacancies. The problem continues to be exacerbated by the speed of technology development, with the most sought-after skills seemingly more difficult to come by, creating a real global skills dilemma and causing those unemployed to lose confidence, in turn pushing up underemployment and reducing wage pressure, as well as output.

Global unemployment continues to stay at a multi-year low, but what continues to puzzle economists is why traditional mechanisms aren't coming into play. Wage stagnation is a global phenomenon. Research has revealed multiple theories are making an impact, which could be causing traditional economic mechanisms to be obsolete. However, none appear to satisfactorily explain the current paradox.

Another issue of ongoing debate is the gender pay gap. However, one aspect of this that hasn't been considered in detail is the implications male- versus female-dominated careers have on gender pay. In fact, there is a very real concern around technology taking over roles largely dominated by women, as a number of studies show that female-dominated careers are more susceptible to automation and globalisation. These are just a few of the issues impacting the world of work which are explored further within this report.

Our position as a global leader in recruitment means that Hays regularly receives requests for feedback from both institutions and governments. As with previous years, we have developed a list of recommendations for policymakers and business leaders to consider as part of their wider drives to solve the world's employment challenges.

1. **Invest in education, life-long learning and reskilling programmes as a priority for governments and businesses**

   Developing skillsets for workers that are less vulnerable to the forces of outsourcing, automation and globalisation should help ease some of the overall downward pressure on wages. The boost in human capital from training will also increase productivity which should in turn stimulate wage growth. There is also a real opportunity for businesses to work with educational institutes to ensure the skills of tomorrow are being taught and people are suitably ready for the world of work.

2. **Employers should actively motivate employees to take advantage of flexible working and geographically distant opportunities**

   Organisations should embrace flexible working practices to encourage more people to participate in the workforce. In addition, technology in the workplace has increasingly led to more flexible working, providing workers with more geographically distant opportunities. These polices also support employers to enlarge their pool of candidates and improve the matching of talented individuals and vacancies.

3. **Companies should embrace diversity in the workforce in all its forms**

   Resolving the division within gender-dominated occupations will not only help reduce the gender pay gap but will also help increase the talent pool on offer for employers. Organisations should offer return to work schemes for mothers who have left employment, helping to encourage participation in the workforce. As part of this, governments and businesses alike should ramp up programmes that encourage women to seek careers in traditionally male-dominated sectors, such as technology.

These are but a handful of potential remedies that will contribute to resolving the issues facing today's labour markets and could help to resist any further exacerbation. However, these recommendations alone won't solve our problems. We need to work collaboratively, across business and government, to ensure we're prepared for the challenges that lie ahead.

I hope that this year's Index provides not only some valuable insight into the issues facing workers across the globe, but also some considerations for potential remedies that institutions and policymakers alike can take forward into the future.

> "Global unemployment continues to stay at a multi-year low, but what continues to puzzle economists is why traditional mechanisms aren't coming into play. Wage stagnation is a global phenomenon."

Alistair Cox, Chief Executive, Hays plc

EXECUTIVE SUMMARY

The Hays Global Skills Index (the 'Index') is an annual assessment of the issues and trends impacting skilled labour markets and examines the dynamics at play across 34 markets, determining how easy or difficult it is for organisations to find the skilled professionals they need.

In addition to the deep analysis of some of the world's largest labour markets, the report highlights several factors impacting economies globally, including wage stagnation and its potential causes, the disappearance of mid-skilled jobs and occupational gender segregation.

This year's Index, the eighth edition to date, reveals two pressures are having particularly important and opposing impacts on skilled labour markets around the world. Our research has found that 'talent mismatches' are worsening in many of the labour markets featured within the Index, at the same time wage premiums paid for high-skilled occupations are typically easing.

The divide between the skills held by jobseekers and those sought by employers continues to grow and is evidenced by our talent mismatch Indicator, which has increased in 16 of the 34 featured labour markets this year – amid a landscape of rising long-term unemployment and growing numbers of unfilled job vacancies. This is a critical issue which has worsened since the inception of the Index in 2012, as the average talent mismatch score has increased since that date, reaching its highest-ever level this year.

In contrast, the wage premium paid to workers in high-skilled occupations has widely fallen, relative to those in low-skilled roles. Whether this is driven by stagnating wages in high-skilled roles, or stronger wage growth among low-skilled occupations, differs from labour market to labour market. The largest overall reduction in wage premiums has been experienced across the Americas region, with beneficial knock-on effects for employers' costs.

Overall, labour market conditions remain similar to last year, with the average Index score unchanged at 5.4 – halting a steady rise since the Index began in 2012. Underneath this figure, however, are widespread variations among the 34 labour markets featured. To help tell the wider story, the data for each market is complemented by the insights of Hays experts on the ground to describe the unique challenges each labour market is facing today.

One positive development of recent years has been the widespread drop in unemployment rates across the economies in the Index. However, this decline in the number of jobseekers has not typically seen an increase in wages, as might have been expected. This report investigates some of the possible reasons behind the continued wage stagnation across the globe.

One potential explanation is the increased concentration of firms geographically, particularly in local labour markets, which reduces competition for talent and gives hiring firms more power in setting wages. This, alongside the increased prevalence of 'non-compete' and 'no-poach' agreements, may be reducing competition in some labour markets.

An alternative explanation is the so called 'fissuring' of workplaces, whereby large firms trim their workforces to focus on their core business while outsourcing other tasks, such as IT support and cleaning services. This ends the practice of offering a general pay rise to all staff, including non-core workers. Meanwhile, specialist providers of the outsourced services compete primarily on price, applying downward pressure on wages at these firms.

A third explanation is the rise of machines in many workplaces, which has shifted wage bargaining power in favour of firms as they become evermore able to replace the roles which are vulnerable to automation.

But the reality is likely to be a complex blend of all these trends, and the Index offers market-specific insights into what is really going on.

Outsourcing and automation are also having other impacts on skilled labour markets. In many industrialised economies, they are driving the disappearance of the 'mid-skilled' job (such as clerical work and repetitive production tasks) – leading to a hollowing out of the labour market, whereby the amount of low- and high-skilled jobs continues to grow while the number employed in mid-skilled jobs declines. As many roles remain highly gendered, the implications of this job polarisation for female and male workers – and their wages – may differ greatly, as this report explores.

Labour markets across the globe continue to be placed under pressure as businesses are struggling more than ever to find the skilled talent they need. Outlined in this report are some of the most important challenges facing the global labour market at present, and failure to address these issues will only exacerbate them over time. Continued access to skilled labour and the development of a robust talent pipeline will provide businesses with the opportunity to thrive and allow for long-term economic success.

Regional overview

Europe and the Middle East (EME)

- The Overall Index Score for Europe and the Middle East has fallen from 5.5 in 2018 to 5.4, suggesting that, on average, pressure on EME countries' skilled labour markets has eased.
- Downward pressure on the Overall Index Score is driven by lower wage premiums paid to high-skilled workers, with wage inequality decreasing between high- and low-skilled workers whether organised by industry or occupation.

Asia Pacific

- Economic growth in this region is forecast to be 4.9% this year – higher than the global average of 3.3%, driven by strong growth in China and India.
- Asia Pacific's Overall Index Score rose to 5.0 in 2019 from 4.9 last year, suggesting skilled labour market conditions have tightened and that employers will find it more difficult to attract and retain talent in the region.
- The main driver of this change was the increased wage gap between high- and low-skilled industries, plus a growing talent mismatch.

The Americas

- The Overall Index Score for the Americas fell to 5.6 this year, from 5.7 in 2018.
- Wage growth in high-skilled occupations has been generally outpaced by wage growth in low-skilled roles across the Americas, driving down the Index score for wage pressure in high-skilled occupations.

WAGE STAGNATION AND STRUCTURAL CHANGES IN THE GLOBAL LABOUR MARKET

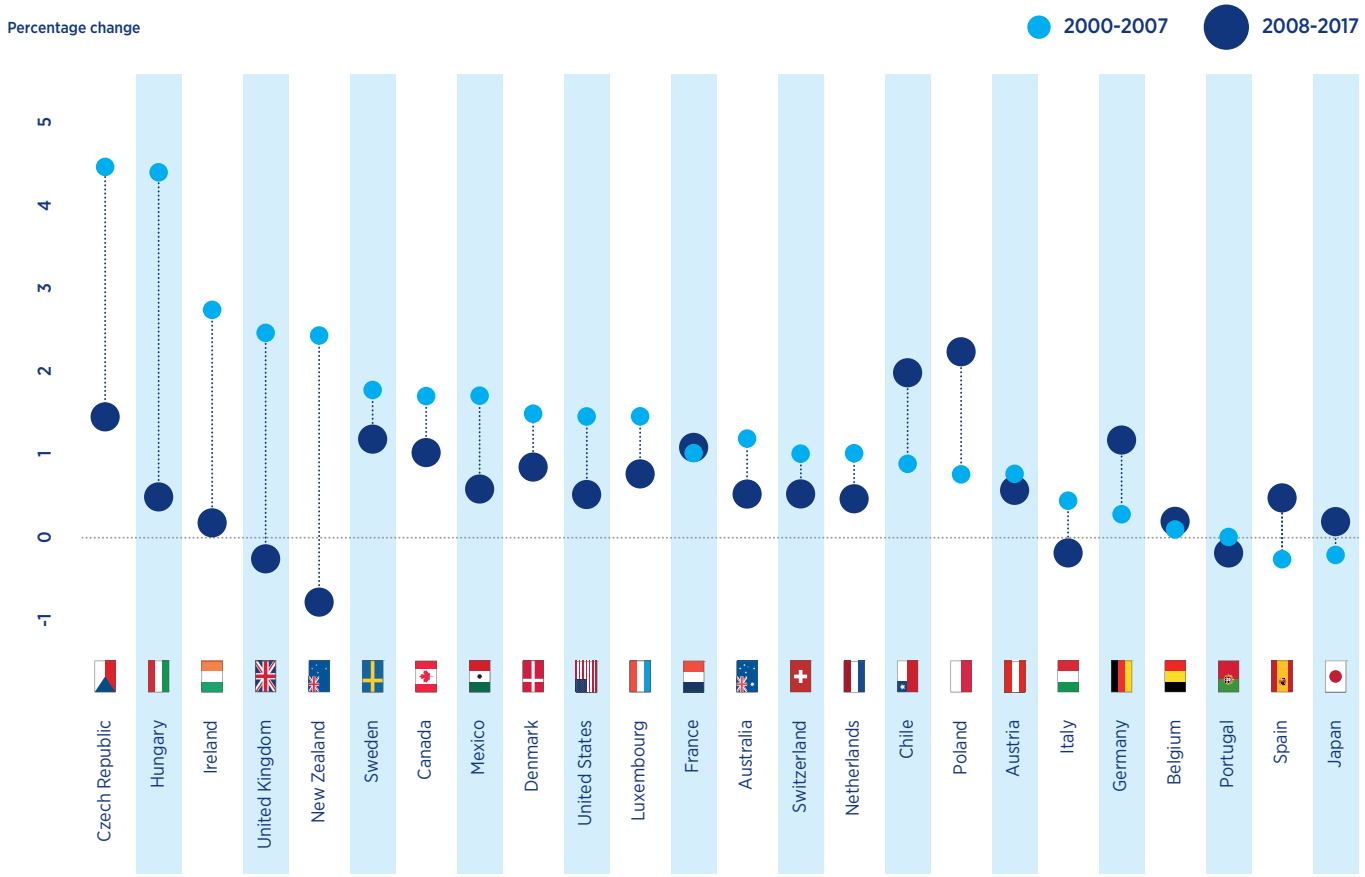
While falling unemployment continues to be a positive economic development across the world, it has coincided with an alarming slowdown in wage growth which is having damaging impacts on living standards. We explore some of the major forces behind this wage stagnation – namely uncompetitive labour markets, the rise of outsourcing, technological change and automation.

What is causing wage stagnation?

Since the financial crisis, real wage growth has slowed considerably compared to the levels seen during the pre-crisis period, more than halving from an average of 1.5% a year to 0.7% (see Figure 1). However, the fact that this stagnation has been accompanied by record low levels of unemployment has puzzled economists.

Traditional mechanisms – whereby high levels of employment were associated with rising wages as companies increased pay to retain staff and offered higher salaries to attract new employees – no longer seem to apply (see Figure 1).

Figure 1. Average annual real wage growth



Source: OECD (2018)

Recent research has pointed to a potential culprit; the increased concentration of firms, particularly in local labour markets, which reduces competition amongst hiring firms.

This, alongside the increased prevalence of 'non-compete' and 'no-poach agreements', the growth of outsourcing, globalisation and automation have placed downward pressure on wages.

Uncompetitive labour markets

The classic example of an uncompetitive labour market – or to give it its technical term, 'monopsony' – is a mining town. Here, a single firm – the mine – is the sole employer, giving the owner the ability to set the wages of those employed.[1] Although less extreme today, the increased concentration of firms in some labour markets, and the lack of alternative opportunities, have been shown to place downward pressure on wages.

Local labour markets matter. High housing costs, family responsibilities, job-specific knowledge and the costs associated with the search for new opportunities limit worker mobility.[2] Therefore, while national labour markets are relatively competitive, recent research suggests that there are high levels of firm concentration in the average local labour market, and this matters to a significant proportion of individuals. This concentration means there are fewer firms competing for labour, giving these firms wage-setting power, with this concentration higher in developing countries.[3] In the US, moving from a location which had a low concentration of employers in a given occupation, to a high concentration area, was estimated to cause a 17% decline in wages.[4]

Further research in the UK and the US finds that greater levels of labour market concentration are linked not only to lower wages, but also to a fall in employees' share of business productivity growth.[5] Historically, the splitting of productivity gains between employee and employer ensured that wage growth closely tracked productivity growth. However, recent evidence has suggested that the employees' portion is shrinking, with the greatest falls in the most concentrated industries. This implies that growth is less inclusive in these concentrated markets, as workers receive a falling proportion of what they produce.[6]

Against this backdrop, it is unsurprising that wages have stagnated across many advanced economies.[7] The story, however, doesn't end there. Several recent legal cases have shone new light on the practices that employers are using to reduce worker mobility. 'Non-compete agreements', once the preserve of top company executives or those with insider knowledge, by 2014 affected no fewer than one-in-five US workers.[8] In states where such agreements are enforceable, wages have been found to be 4% lower than in non-enforcing states.[9]

But non-competes are not the only mechanism through which worker mobility can be constrained. In 2015, Adobe, Apple, Google and Intel agreed a settlement of almost $500 million for their part in an agreement not to poach each other's software developers. These 'no-poach agreements' stymied wage growth by limiting an employee's ability to move, or threaten to move to another firm, thereby lowering their bargaining power in negotiations with employers. Had these 'no-poach agreements' not been in place, it is estimated that the 64,000 affected workers could have earned an additional $3 billion – almost $50,000 per worker – over the period of the agreements.[10]

In the short term, limiting an employee's ability to change employer allows companies to retain their most talented staff, prevents sensitive information being obtained by a competitor – which may affect a firm's competitive standing – and allows firms to stifle wage growth. However, worker mobility, in the long run, can be beneficial for businesses. It has been suggested, for example, that one key element of Silicon Valley's success in the tech sector is California's effective ban on non-compete agreements.[11] By allowing workers to change firms, or start their own, know-how and innovation spreads and competition increases, with potential productivity-enhancing effects.

In contrast, by limiting workers' employment mobility and prospects through use of 'non-competes' and 'non-poach agreements', employers are curtailing the spread of entrepreneurship and innovation. Restricting competition within the labour market gives them a degree of wage-setting control they may not have otherwise had, but the knock-on effects may be negative for them as well as workers.

"In contrast, by limiting workers' employment mobility and prospects through use of 'non-competes' and 'non-poach agreements', employers are curtailing the spread of entrepreneurship and innovation."

1. The Economics of Imperfect Competition, Robinson. (1938)
2. Imperfect competition in labour markets, Manning (2011), Monopsony in online labour markets, Dube et al. (2018)
3. Monopsony in labour markets: a meta-analysis, Sokolova and Sorensen. (2018)
4. Labour market concentration, Azar et al. (2017)
5. Monopsony in the UK, Abel et al. (2018); Strong employers and weak employees, Benmelech et al. (2018)
6. Rent sharing and inclusive growth, Bell et al. (2019)
7. Although evidence is only available for the UK and the US, it seems likely that similar trends would be observed in other labour markets.
8. Non-competes in the US labour force, Starr et al. (2019)
9. Mobility constraint externalities, Starr et al. (2018)
10. See the United States, Department of Justice for further details. (2010)
11. A little-known California law is Silicon Valley's secret weapon, Timothy B Lee, VOX. (2017)

The rise of outsourcing

'Monopsony' and restricting labour market competition artificially are evidently playing a role in this recent puzzle, with monopsony power found to be greater in recessionary periods.[12.] The problem of wage stagnation cannot, however, be viewed through a single lens. Another key factor is the so-called 'fissuring' of workplaces.[13.] Fissuring relates to the way in which the boundary of the firm and hiring has evolved in recent years. Where previously a large firm might have directly employed an IT support, a catering and a customer service representative, today they instead rely on external agencies and contractors for non-core services.

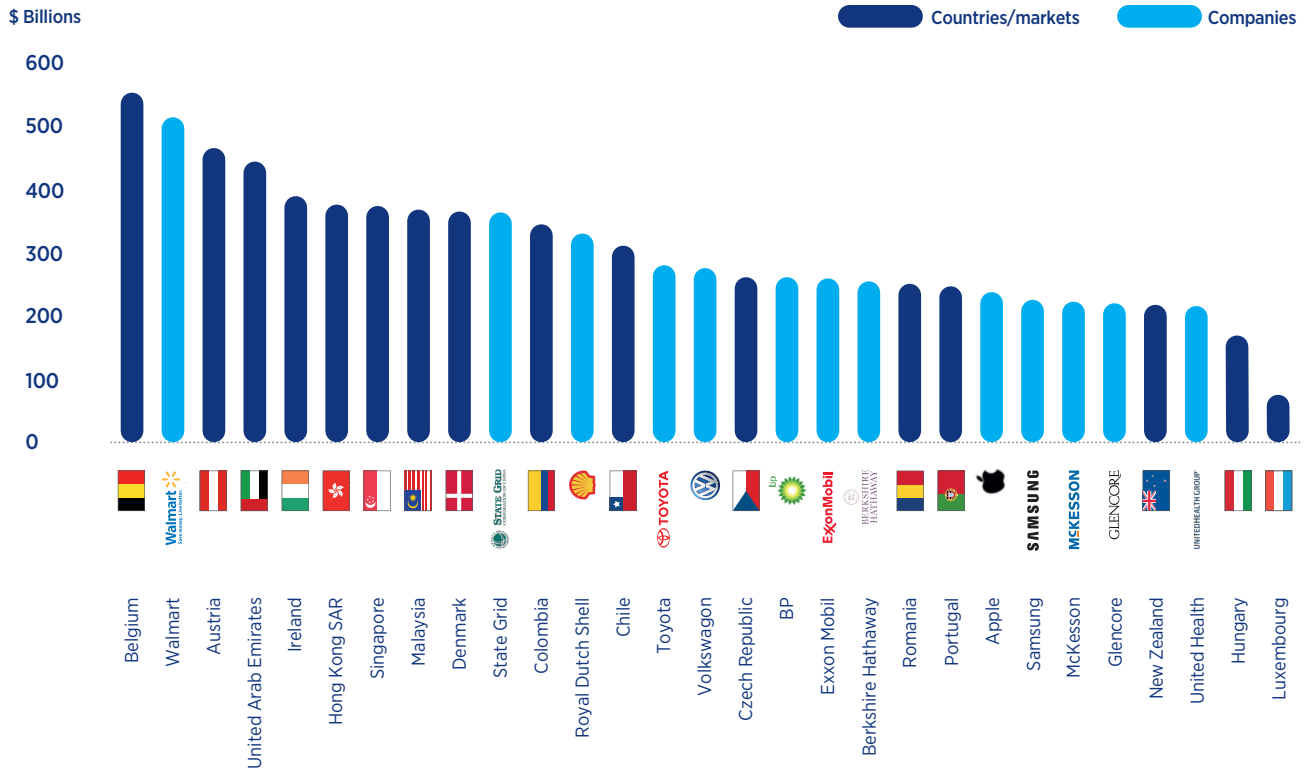
By outsourcing work, a large firm can rely on competition between service providers to ensure costs are low. However, this means those employed at the external firm may lose out. Working norms once dictated that lower-skilled workers receive pay rises alongside the more highly skilled core workers but now, detachment means employees receive a smaller cut as competition squeezes margins at outsourced service providers.

Evidence from Germany and the US confirms this, with outsourcing being attributed to a 10% and 3% reduction in wages, respectively.[14.] Data for Brazil, Japan, Sweden and the UK also suggests that in recent years, increases in inequality have been driven by greater wage inequality between firms, not by wider distribution of wages within a firm. This pattern points, at least in part, to greater outsourcing.[15.] Importantly, this rise in wage inequality will be observed as wage stagnation when the average worker sees little change in their wages.

Both monopsony and fissuring are connected to the growth of 'superstar' firms (Figure 2). These firms, or small groups of firms, have large market shares, superior productivity to their competitors, and are often highly specialised, dominating industries in many developed nations.[16.17.] The obvious examples are high-tech firms such as Facebook or Snapchat, whose supremacy stems from the network effects associated with communication technologies, i.e. the fact that each additional user increases the value of the technology to all other users. After all, there's no point in being on a social network if your friends aren't. Beyond technology, there are other obvious examples of superstar firms; major pharmaceutical firms such as GlaxoSmithKline and Sanofi, and well-known consumer goods businesses such as Walmart and CocaCola.[18.]

These firms are more productive than their counterparts and can offer the low-cost, high-quality products that consumers desire. To maintain their high levels of productivity, the firms continue to concentrate on core competencies, resulting in rising levels of outsourcing and rising wage inequality. Low costs allow superstar firms to gain even more market share which results in industries becoming more concentrated. This grants these firms market power in both the product and labour markets, giving them the power to potentially set prices and wages.

Figure 2. Countries/markets vs Company GDP



Source: Oxford Economics, Fortune 500 Global

12. The elasticity of labour supply over the business cycle, Depew and Sorenson (2013); Do employers have more monopsony power in slack labour markets? Hirsch. (2018)
13. The fissured workplace, Weil. (2014)
14. Rise of domestic outsourcing and the evolution of the German wage, Goldschmidt and Schmieder (2017); Domestic outsourcing in the United States, Dorn et al. (2018)
15. Firming up inequality, Song et al. (2018); Wage, Inequality and firm growth, Mueller, Ouimet and Simintzi. (2017)
16. The Fall of the Labor Share and the Rise of Superstar Firms, Autor et al. (2017)
17. A recent study suggests that these firms may not be superstars but rather fading stars, whose productivity has fallen in recent years. This would imply exploitation of market power rather than superior productivity. Fading Stars, Guitierrez and Phillipon. (2019)
18. Superstars: The dynamics of firms, sectors, and cities leading the global economy, McKinsey Global Institute. (2018)

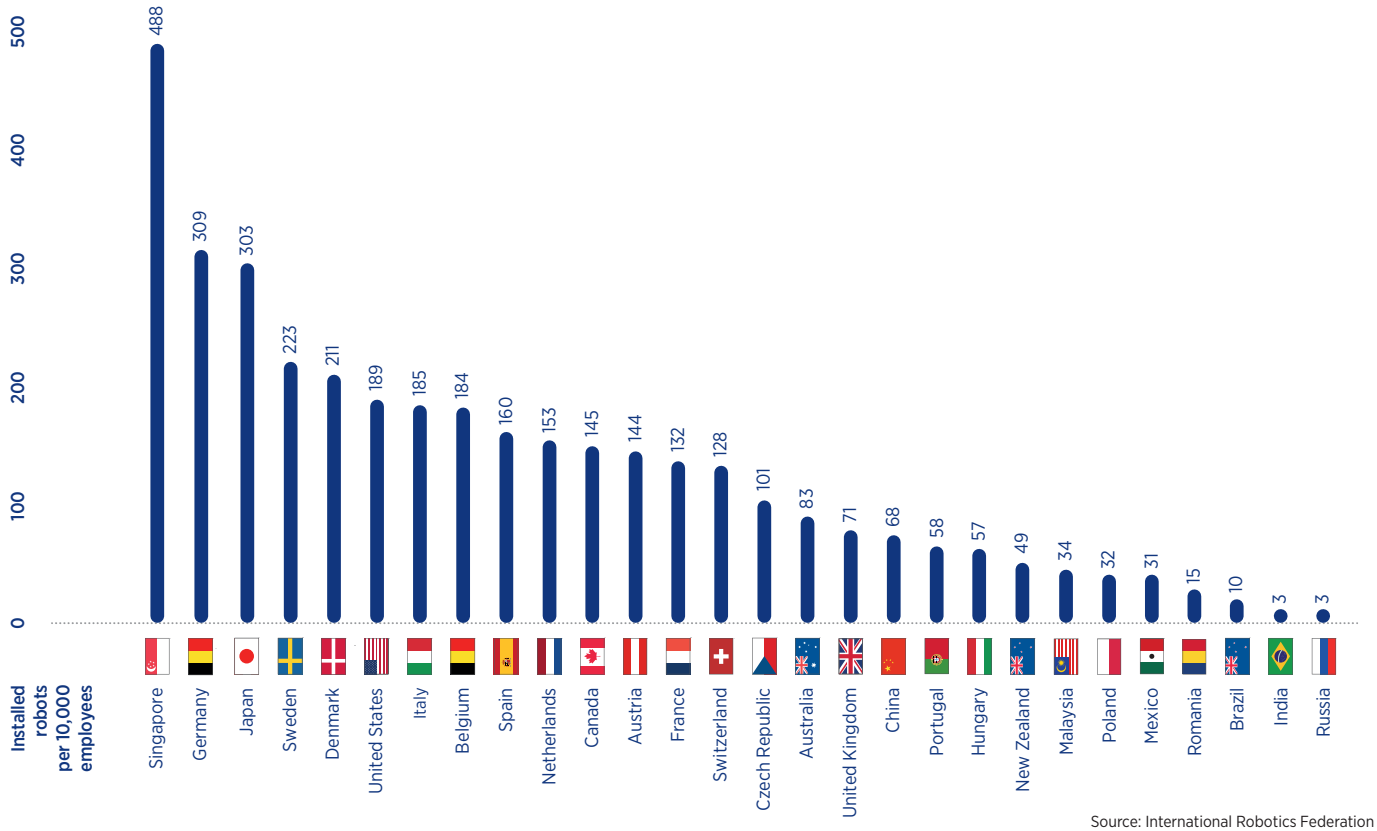
Automation and globalisation

Work by the International Monetary Fund (IMF) suggests that in advanced countries 50% of the decline in the labour share, which is closely linked to wage stagnation, can be attributed to technology, whilst a further 25% is credited to globalisation.[19.]

In recent years, the cost of investment goods has fallen steeply whilst technological improvements have made routine – and increasingly non-routine – tasks vulnerable to automation. These complementary forces increase the incentive for firms to substitute capital for labour, shedding jobs in the short run and shifting bargaining power in favour of the employer. This places downward pressure on wages, with a recent influential paper finding that one extra robot per 1,000 workers lowers wages by between 0.25 and 5%.[20.]

The limited numbers of robots installed in many countries relative to the best performer, Singapore, suggests that this is likely to place further downward pressure on wages in years to come (Figure 3). The lower cost of information and communication technologies (ICT) has increased the internationalisation of firms' supply chains. Global supply chains split a production process into individual tasks with the optimal production location chosen for each task. The choice of optimal location will depend on quality concerns, speed to consumer requirements or cost minimisation. For labour-intensive processes, optimal locations are typically those where wages are low relative to developed economies. The threat of potential offshoring further reduces the bargaining power of labour pushing down wages and conditions.

Figure 3. Installed robots per 10,000 employees in 2016



Source: International Robotics Federation

Potential responses

Wage stagnation is a major concern for workers and policymakers alike. It affects the purchasing power of consumers, which in turn reduces consumer demand or induces individuals to increase personal borrowing to maintain living standards. Whilst globalisation and automation remain the key structural factors leading to wage stagnation, firm market power and pervasive outsourcing are exacerbating them.

Life-long education and reskilling programmes should be a priority for governments and firms facing these issues. By developing skillsets which are less vulnerable to the forces of outsourcing, automation and globalisation, such as basic computer and coding knowledge, as well as creative and critical thinking, the skew in bargaining power towards the firm can become less extreme, alleviating some of the downward pressure on wages.[21.] The boost to workers' human capital from training will also increase productivity which should in turn stimulate wage growth.

The rise in firms' labour market power suggests that anti-trust agencies should increasingly seek to identify excessive market power both on the supply and the demand side of the market, taking appropriate action when breaches are observed. In particular, it has been suggested that this should form a key part of analysis when assessing the societal impact of mergers.[22.]

More broadly, the greater use of technology in the workplace has, in recent years, increased opportunities for flexible working, tying workers less to their relatively concentrated local labour market and enabling them to benefit from more geographically distant opportunities. Such policies are also advantageous for businesses, enlarging their pool of candidates and improving the match of candidates and vacancies. To have a transformative effect, however, these technological solutions must be adopted more broadly, and employees actively encouraged to take advantage of them.

[19.] Note that labour share is labour's total share of compensation in total Gross Value Added; it therefore accounts for both wage and employment changes
[20.] Artificial Intelligence, Automation and Work, Acemoglu and Restrepo (2018)
[21.] The A.I. Paradox. How robots will make work more human, Oxford Economics (2017)
[22.] Antitrust remedies for labor market power, Naidu, Posner and Weyl (2018)

UNDERSTANDING THE INDEX

The Hays Global Skills Index measures how easy or difficult it is for firms to attract and retain the most talented workers in 34 of the world's labour markets.

To give a complete picture of each labour market, our seven Indicators are chosen to highlight supply-side issues, demand-side issues, or both supply- and demand-side issues relating to the hiring of skilled workers. Together, they give a comprehensive picture of demand and supply conditions in each skilled labour market, reflecting the experiences of the people on both sides of hiring tables in The Americas, Europe and the Middle East, and Asia.

As you explore this report, keep in mind that the Index is not a league table, where labour markets on one end of the spectrum could be considered 'the best' and the others 'the worst'. Each economy has its own labour market strengths and challenges, which are scored relative to conditions in the past. For a clearer picture of the complex labour markets featured and the dynamics at play, you must examine each of their Indicator scores.

Detailed description of each Indicator

Each Indicator measures pressure in the local labour market now relative to a period of economic tranquillity. Higher scores mean that a labour market is experiencing more pressure than has historically been the case. Lower scores mean that a labour market is experiencing less pressure. Each of the seven Indicators are given equal weight when calculating the Overall Index Score for each labour market.

Education Flexibility
(supply-side Indicator)

In today's global and technology-driven economies, raising educational standards is crucial to bridging skills gaps. This Indicator provides a comprehensive view of the state of education. The lower the score, the more likely the education system is flexible enough to meet labour market needs. The higher the score, the less likely an education system is equipped to build a solid talent pipeline for the future.

Labour Market Participation
(supply-side Indicator)

Bringing more people into the workforce expands the talent pool from which employers can choose. The lower the score, the larger the potential pool of workers. The higher the score, the lower the number of workers there are available.

Labour Market Flexibility
(demand-side Indicator)

Governments play an important part in determining how well labour markets function. For instance, they can cut red tape, avoid laws that discourage hiring, and adapt policies that welcome talented people from abroad. The lower the score, the better aligned governmental policies are with labour market dynamics. A higher score suggests there are barriers in place restricting the local labour market.

Talent Mismatch
(supply- and demand-side Indicator)

This Indicator measures the gap between the skills businesses are looking for and the skills available in the labour market. A higher score indicates that businesses face serious difficulty in matching available talent with unfilled jobs. A lower score suggests employers are having an easier time finding workers with the skills they need.

Overall Wage Pressure
(supply- and demand-side Indicator)

Skills shortages are likely to be an important issue when wages are growing faster than the overall cost of living. A higher score indicates the presence of overall wage pressures that are higher than the historic norm for that labour market. A lower score tells us wages are not rising quickly and those pressures aren't as apparent.

Wage Pressure in High-Skill Industries
(supply- and demand-side Indicator)

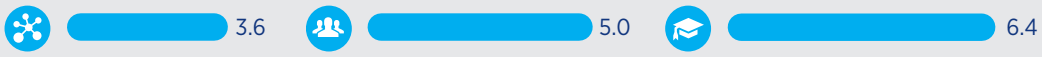
Some industries require higher-skilled staff than others. As it takes time to complete the training necessary to work in those industries, it potentially makes them more vulnerable to skills shortages as the number of people qualified to start work cannot change quickly. A higher score indicates that wages in high-skill industries are growing faster than in low-skill industries relative to the past, which is indicative of sector-specific skills shortages (such as in engineering or technology). A lower score tells us wages for those in high-skill industries are rising more slowly or in line with wages in low-skill industries.

Wage Pressure in High-Skill Occupations
(supply- and demand-side Indicator)

Some occupations require a higher than average amount of training, education and experience. These are called high-skill occupations. Rising wage pressure in this category signals that these occupations are experiencing shortages of workers with the necessary skills. The higher the score, the greater the presence of skills shortages affecting high-skill occupations. A lower score tells us that wages for those in high-skill occupations are rising more slowly than those in low-skill occupations.

How we display the Indicators

Each labour market's Overall Index Score is accompanied by a visual indicating the score range for each Indicator (see below).



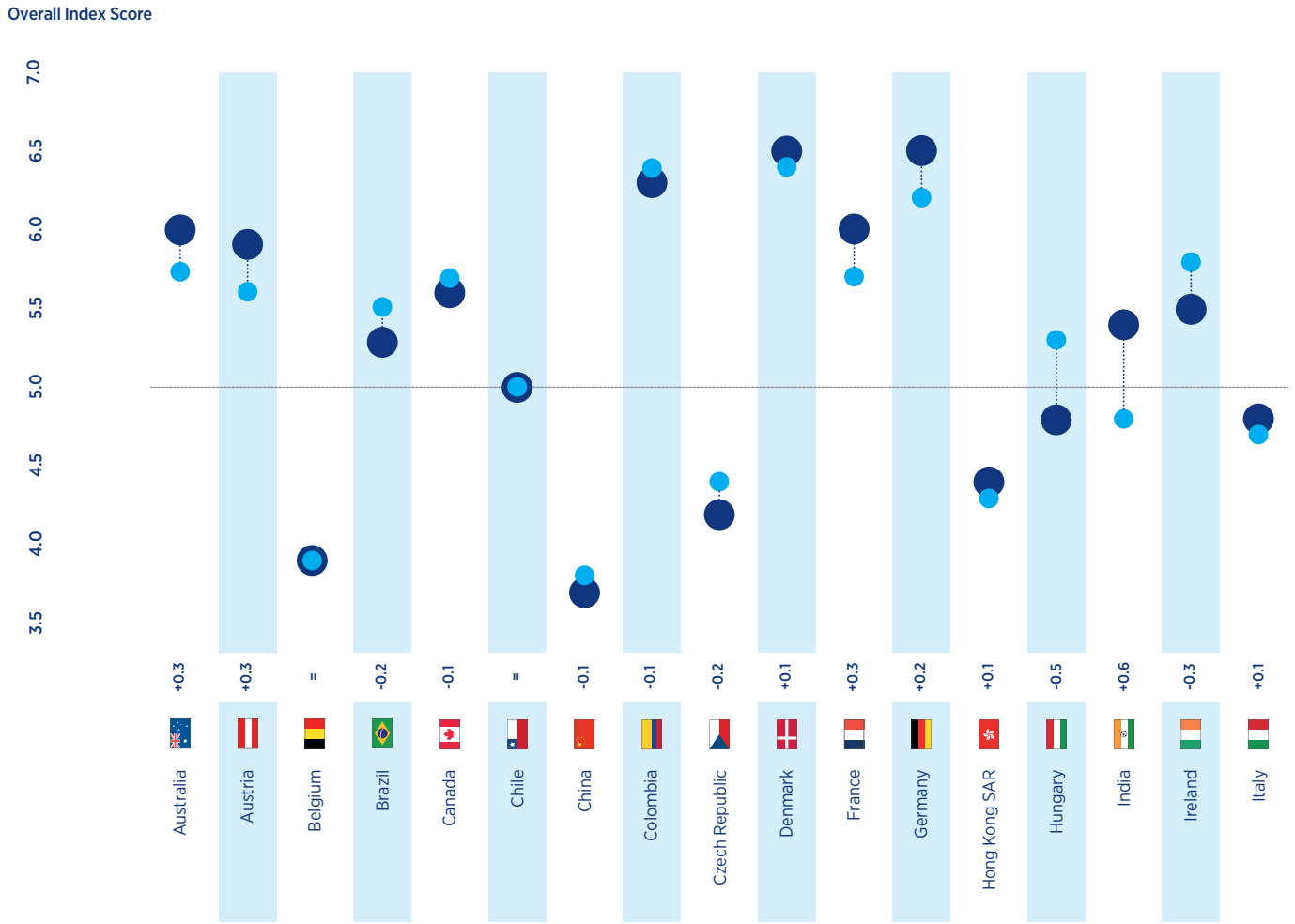
The analysis on which the Hays Global Skills Index was based used data as of Q2 2019. Developments subsequent to this date are not reflected in the 2019 findings.

THE MACROECONOMIC BACKDROP

How labour market conditions have changed since last year's Index

This year's Hays Global Skills Index ('The Index') continues to investigate the performance of skilled labour markets across the globe, and for the first time includes Romania (see Figure 4). While the average score across the new sample of 34 markets is 5.3, the average excluding Romania – 5.4 – is unchanged from 2018.[23] Beneath the Overall Index Scores, however, there has been considerable variation in some key components of the Index.

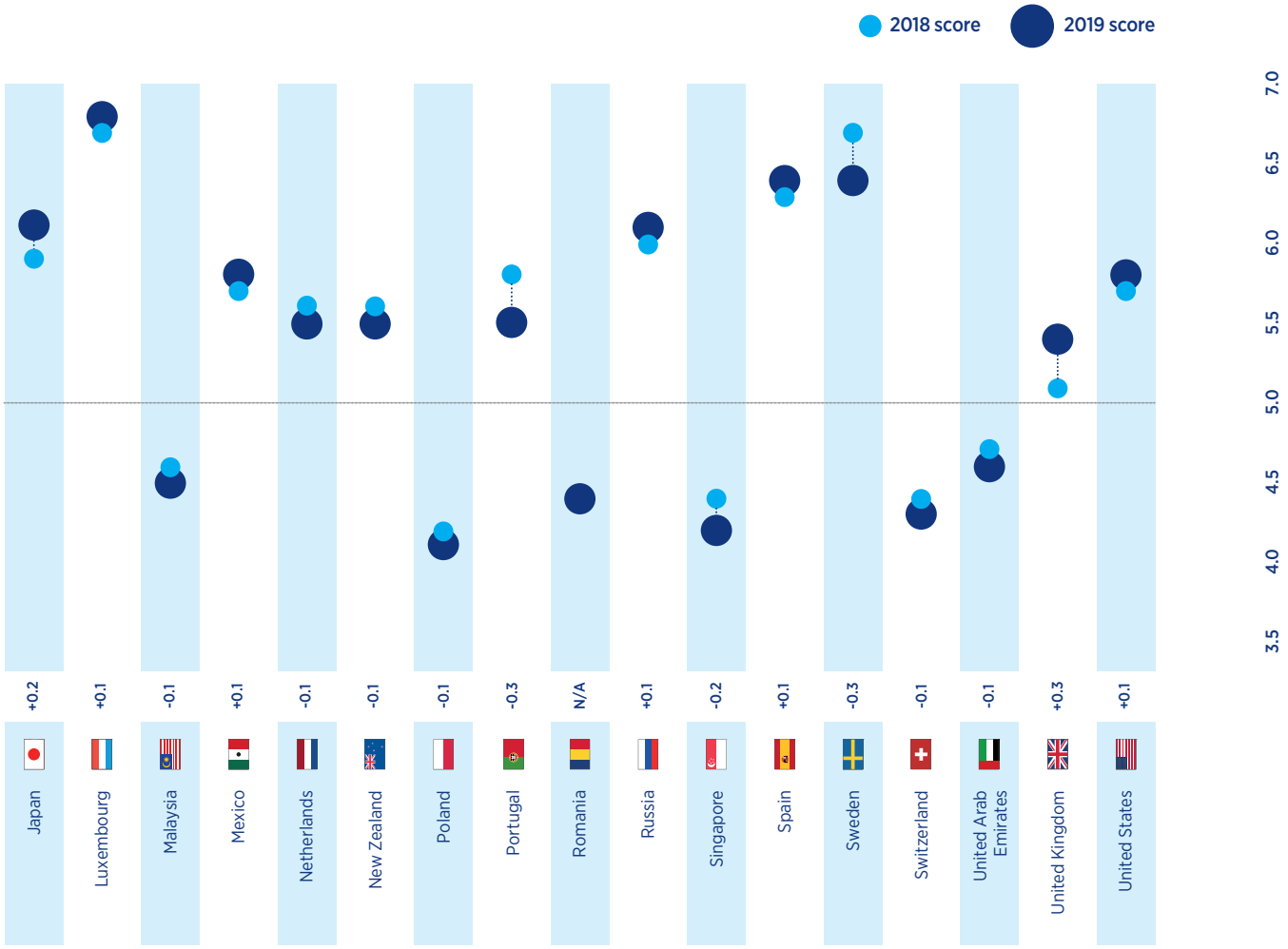
Figure 4. Hays Global Skills Index scores (by market)



> "This Indicator score has risen in 16 markets since 2018, driven largely by rising long-term unemployment as a share of total unemployment, and a rise in unfilled job vacancies."

[23] From hereon, all stated 2019 HGSI scores omit Romania to facilitate comparisons with 2018.

> In Switzerland and the US, wage growth for workers in high-skilled occupations was outpaced by wage growth for low-skilled occupations, reducing the occupational wage skill premium to below its historical norm.



The main pressure pushing up the average Overall Index Score comes from the Talent Mismatch Indicator, which rose to 6.7 in 2019 from 6.6 last year (see Figure 4). This Indicator score has risen in 16 markets since 2018, driven largely by rising long-term unemployment as a share of total unemployment, and a rise in unfilled job vacancies. This suggests that in these markets, there is a growing mismatch between the skills that job applicants possess and those that are being sought by employers. This marks a continued trend of a growing talent mismatch over recent years, with the average Indicator score steadily rising since the Index began in 2012 – and reaching its highest level this year.

The degree to which talent mismatch is an issue varies significantly between our three global regions. The average score rose by 0.1 in the Americas, driven in particular by a growing skills gap in Canada and the US. Elsewhere, the talent mismatch score rose by 0.2 in the Asia Pacific, and 0.1 in Europe and the Middle East.

Talent mismatch is problematic in that vacant positions are open for longer, resulting in higher unemployment and reduced output. It can also result in new hires being less well matched to job requirements, as companies settle on workers who don't have the required skill-set, which adversely impacts their productivity.

Two other noteworthy Indicators in this year's Index reflect the changes in wage differentials between high- and low-skilled workers, both across different occupations and industrial sectors.

The average score for the wage pressure in high-skill occupations Indicator fell to 4.0 in 2019, down from 4.2 in 2018 – offsetting this year's overall rise in the Talent Mismatch Indicator – as the premium paid to workers in high-skilled occupations relative to low-skilled has declined. The Wage Pressure in High-Skill Occupations Indicator has eased in all regions, with the most significant drop (0.5) occurring across the Americas.

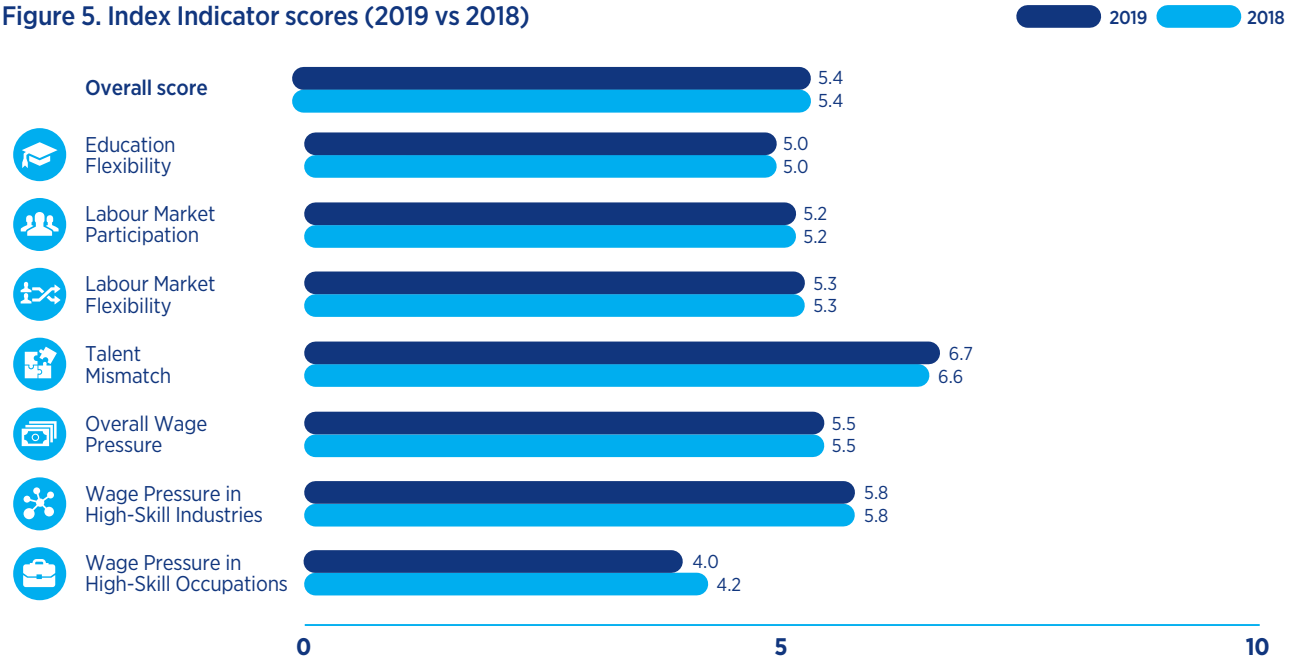
At a labour market level, the largest decreases in this Indicator were experienced in Switzerland, Spain, and the US. In Switzerland and the US, wage growth for workers in high-skilled occupations was outpaced by wage growth for low-skilled occupations, reducing the occupational wage skill premium to below its historical norm.

In Spain, the impact was two-fold: wages paid to those in high-skilled occupations fell, while there was strong wage growth among low-skilled roles.

Meanwhile, the greatest regional variation among the Overall Index Score and seven Indicators was seen in wage pressure in high-skill industries. In Europe and the Middle East, this Indicator score fell by 0.2 from 2018, suggesting a pattern of narrowing industry wage gaps as wage growth in low-skilled industries outpaces that in high-skilled sectors.

In contrast, this Indicator rose by 0.6 in the Asia Pacific region, making it the main upward driver for that region's Overall Index Score. This growing industry wage gap, driven by strong wage growth in high-skilled sectors, increases the pressure on firms operating in these sectors.

Figure 5. Index Indicator scores (2019 vs 2018)



Global economic outlook

Global economic growth is expected to slow in 2019, with the International Monetary Fund (IMF) forecasting real GDP growth of 3.3% – down from 3.6% in 2018. This follows a period of relatively strong, sustained growth since the financial crisis, with global GDP growth having averaged 3.8% between 2010 and 2018.

The slight slowdown is mirrored by the 34 markets featured in the Index. For these markets, the IMF forecasts economic growth to average 2.9% in 2019, down from 3.2% in the previous year. This would be expected to slow the growth in corporates' demand for high-skilled labour.

Key insight: Has underemployment been placing downward pressure on wages?

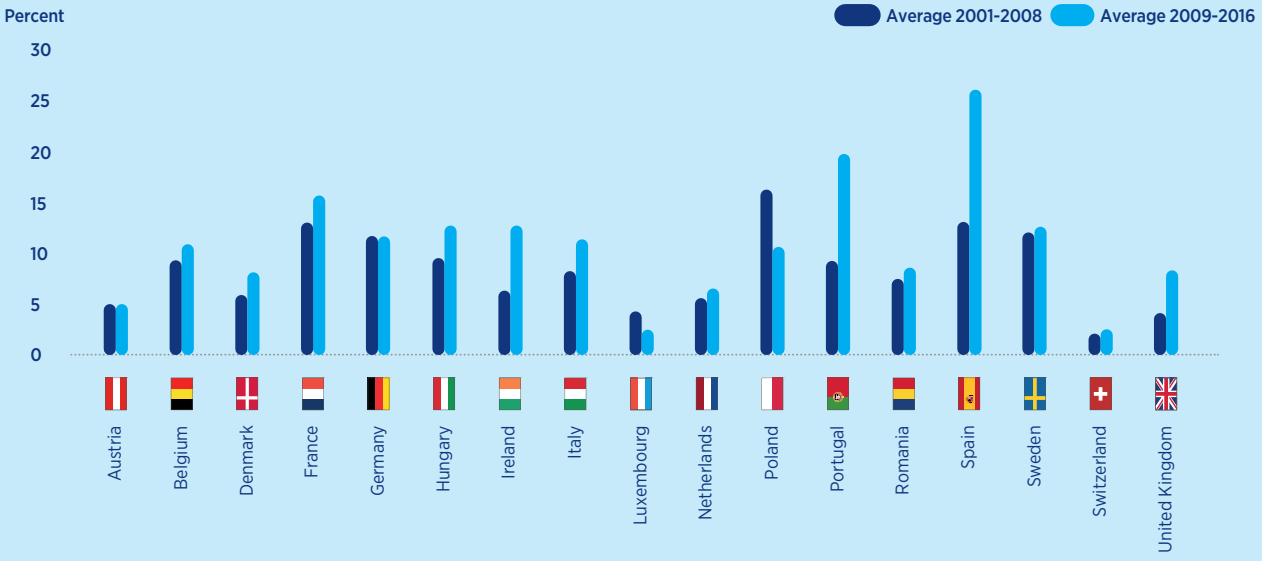
As unemployment rates plummet, economists have become increasingly perplexed by the lack of wage growth in most developed economies. Low unemployment is usually associated with an upward pressure on wages, as there are fewer people without jobs competing for work. The breakdown in this relationship has encouraged economists to examine underlying labour market trends (Figure 6). The answer may, however, be hiding in plain sight; unemployment may be a poor proxy for labour market slack, i.e. the number of additional workers which could be employed without prompting inflationary wage pressure.

It is useful to define unemployment: the unemployed are those who are without work, who are available to work and are actively seeking work. Individuals working less than they would like are classified as underemployed, whilst those who are not actively seeking work are out of the labour force.

Evidence suggests that some of those not participating in the labour force continue to seek work. This figure falls during recessions and is found to rise during recovery periods.[24] This implies that during recoveries, the amount of labour market slack is greater than suggested by the unemployment rate, placing downward pressure on wages.

Underemployment occurs when an employee wants to work more hours than they currently do at the prevailing wage rate. This could plausibly place downward pressure on wages, as hours can be increased at the current wage, rather than at the higher wage which would prevail if hiring externally. Recent research has found considerable evidence that, since the 2008 recession, underemployment has become a better predictor of real wage growth than unemployment and that it is associated with lower wage growth.[25] Underemployment has also been shown to have increased almost universally across Europe since the Financial Crisis, whilst unemployment has fallen.

Figure 6. Change in underemployment across EU countries[26]



Source: Bell and Blanchflower (2019)

[24] The aggregate matching function and job search from employment and out of the labour force, Sedlacek (2016)
[25] Underemployment in the US and Europe, Bell and Blanchflower (2019); More Slack than Meets the Eye? Recent Wage Dynamics in Advanced Economies, IMF (2018)
[26] A positive figure indicates that underemployment is greater than unemployment, i.e. there are employees who are working less than the hours they would optimally. A negative figure implies that individuals within work would like to reduce their hours.

THE REGIONAL OVERVIEW

Focus on Europe and the Middle East (EME)

Economic growth in the Europe and the Middle East (EME) region is forecast to slow to 1.4% this year, having grown by 1.9% in 2018. Subdued growth is expected in many European economies amid wavering consumer and business confidence.

The Overall Index Score for the 19 countries in the EME region has decreased slightly, from 5.5 in 2018 to 5.4. This suggests that, on average across EME countries, pressures on high-skilled labour markets have eased slightly, meaning that firms should find it easier to attract and retain workers with the required skills. That being said, there is some variation between countries within the region, and between different components of the Index, as shown in Figure 7.

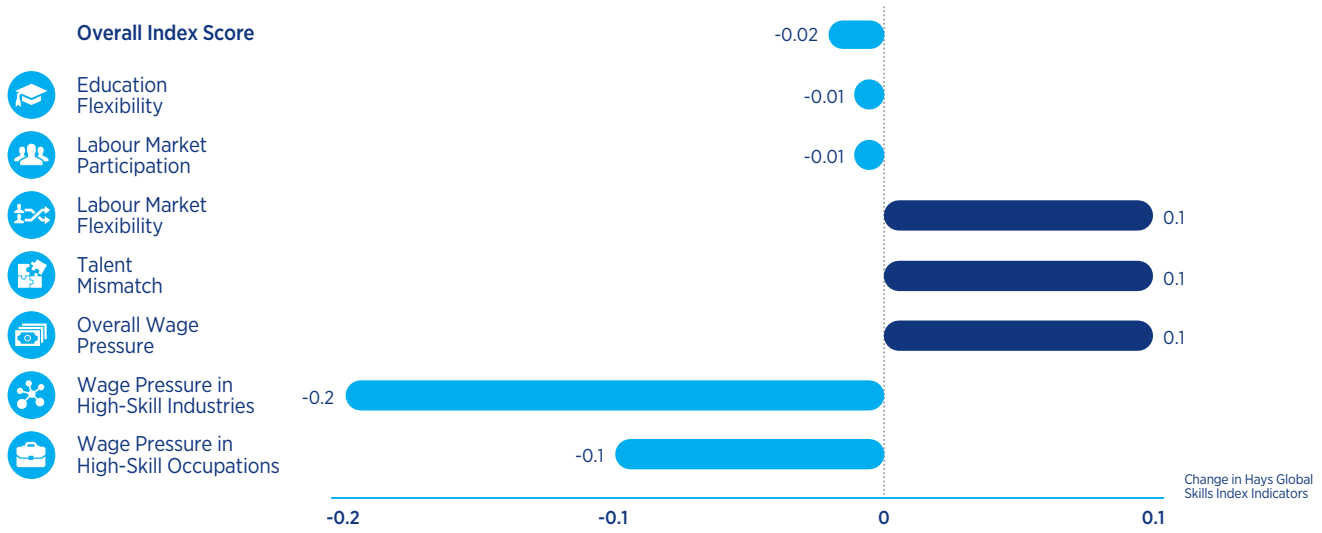
Downward pressure on the Overall Index Score in the EME region comes from a narrowing of the wage premium paid to high-skilled workers – with wage inequality decreasing between high- and low-skilled workers when organised both by industry and occupation. Wage Pressure in High-Skill Industries Indicator fell in 12 of the 19 EME countries, with Portugal, Hungary and the Czech Republic experiencing the largest drops – driven by relatively weak wage growth in high-skilled sectors such as finance and insurance.

Meanwhile six countries saw their Wage Pressure in High-Skill Occupations Indicator fall, with the most significant decreases visible in Switzerland and Spain.

In contrast, the pressure on labour markets arising from talent mismatch increased in the EME region overall. This Indicator score was up in 9 EME countries, driven by gradually rising long-term unemployment and unfilled job vacancy rates. Indeed, of the 17 EME countries with available data, 12 experienced rising long-term unemployment last year, while only three countries (Hungary, Poland and Portugal) had a lower rate of job vacancies than the year before.

Real wage growth has also maintained pressure within the EME region's labour markets. It is estimated to be slightly greater in 12 EME countries, with the largest increases occurring in the United Arab Emirates (4.73% in 2019 versus 2.58% in 2018), the United Kingdom (1.39% versus 0.31%) and Spain (0.74% versus – 0.34%).

Figure 7. EME changes in Index Indicator scores (2018 to 2019)



Focus on Asia Pacific

Economic growth in the Asia Pacific region is forecast by the IMF to be 4.9% this year – slightly below the 2018 figure of 5.0%, but still significantly higher than the global average of 3.3%. This is largely driven by China and India, where real GDP growth is forecast to be 6.3 and 7.3% respectively in 2019. Excluding these two countries, growth across the rest of the Asia Pacific region is forecast to be only 1.5% this year (compared to 1.9% last year).

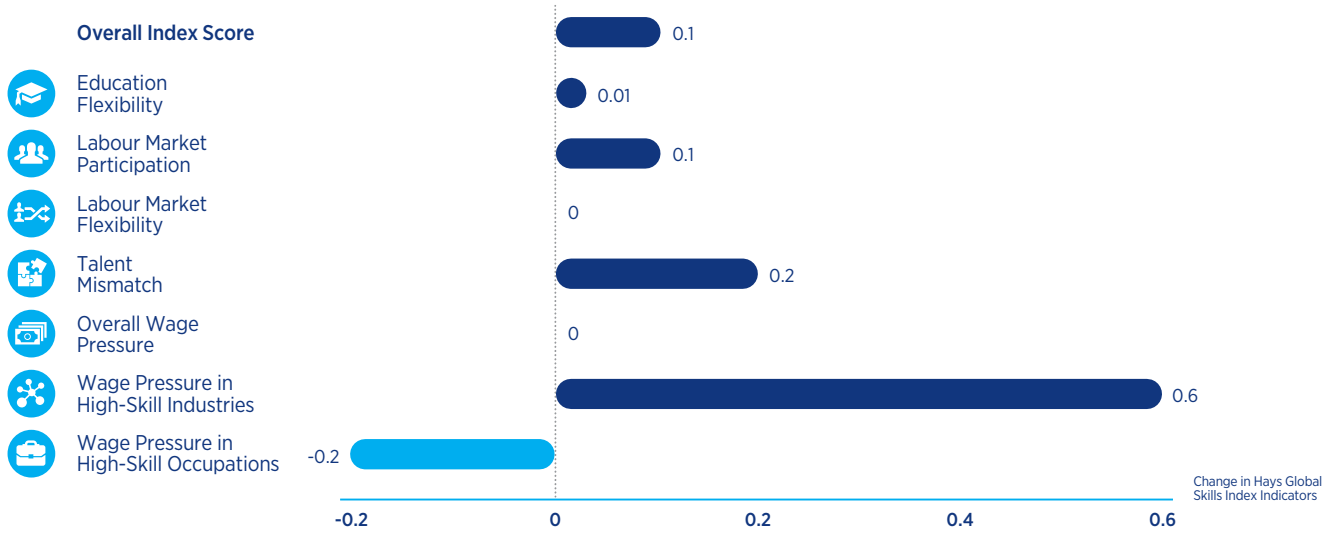
Asia Pacific's Overall Index Score rose to 5.0 in 2019, up from 4.9 last year, suggesting that labour market conditions have tightened slightly across the region, making it harder for organisations to find skilled labour. Among the seven Indicators that contribute to the Overall Index Score, four increased and one dropped from 2018, as shown in Figure 8.

The main driver of the increased pressure in Asia Pacific labour markets is the growing wage gap between high- and low-skilled industries.

This is largely due to a significant rise in high-skilled wage premiums in India, following three years of decline, which was reinforced by a slight rise in the average Talent Mismatch Indicator across the region. In 5 of the 7 Asia Pacific markets for which data was available, the unfilled job vacancy rate increased, while rising long-term unemployment drove the Talent Mismatch score upwards in New Zealand.

This upward movement in both the wage pressure in high-skill industries and Talent Mismatch Indicators is, however, partly offset by a fall in the high-skilled wage premium when assessed by occupation. In Singapore and New Zealand in particular, wage growth among high-skilled occupations was outpaced by wage growth in low-skill roles in 2019.

Figure 8. Asia Pacific changes in Index Indicator scores (2018 to 2019)



Focus on the Americas

The IMF forecasts that economic growth in the Americas region is to slow to 2.2% in 2019, well below the 2.7% growth achieved in 2018. GDP growth is projected to slow in four of the region's six countries that feature in the Index, compared to 2018; Brazil and Colombia the two countries featured within the Index expected to see stronger growth this year.

The Overall Index Score for the Americas fell to 5.6 in 2019, down from 5.7 last year. This suggests that conditions in the region's high-skilled labour markets have remained broadly stable, although this is not reflected by the Indicators. As Figure 9 illustrates there has been opposing movement across the Indicators, with three Indicators rising compared to last year, while the other four fell.

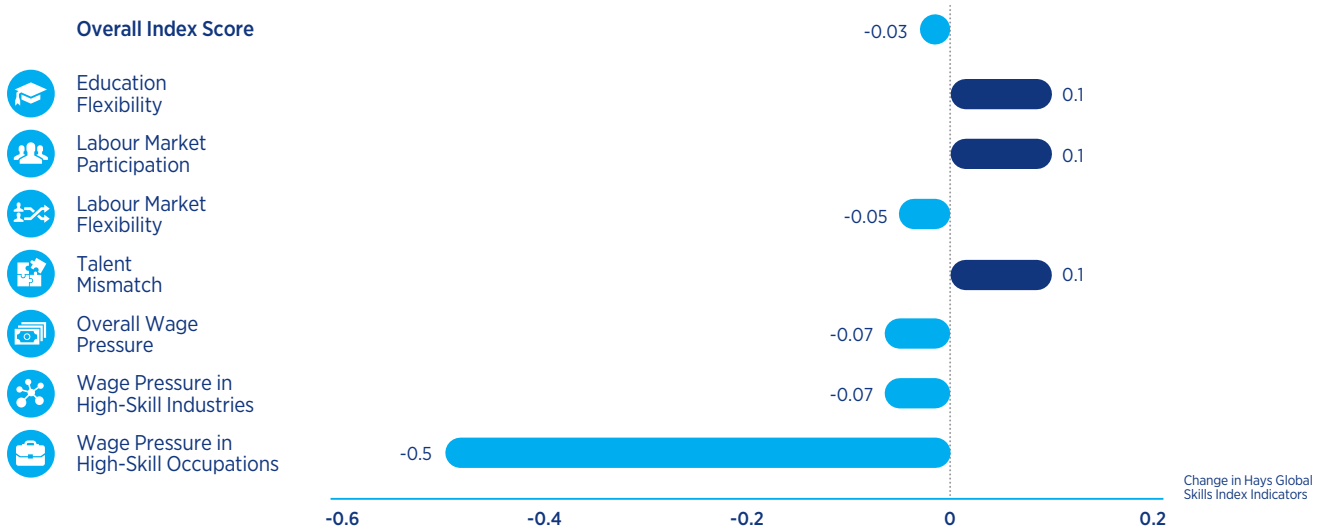
A large drop in the occupational wage premiums paid for high-skilled labour created downward pressure on the Overall Index Score. This Indicator fell for all countries in the Americas region except Brazil, which experienced a very slight rise.

In Chile, the drop was triggered by falling wages in several high-skilled occupations – most notably, public administration roles – while in the other countries that saw a decline, wage growth in high-skilled occupations was outpaced by low-skilled jobs. In Brazil, meanwhile, strong wage growth in high-skilled service roles prevented the occupational wage gap from narrowing, and thus its Indicator score from falling.

As with our other two global regions, the Americas has faced increased problems of talent mismatch, with this Indicator score rising by 0.1. However, there is some disparity within the region, with the Latin American countries of Colombia, Chile, and Brazil all seeing their Talent Mismatch scores ease. Lower unemployment in these countries suggests the attributes that job seekers possess are now better suited to employers' needs than in the recent past.

The overall increase in the Americas' Talent Mismatch score is therefore driven by sizeable rises in the US and Canada. In both countries, long-term unemployment as a share of total unemployment has steadily risen above pre-recession levels, while in the US, the unfilled jobs vacancy rate has also increased significantly.

Figure 9. The Americas changes in Index Indicator scores (2018 to 2019)



Conclusions

Understanding what is changing in the global labour market, and what is driving these changes, is important for educators, businesses, policymakers and of course for workers themselves. The Hays Global Skills Index highlights the latest changes in the global labour market by analysing a broad selection of 34 markets around the globe.

Overall, high-skilled labour market conditions remain similar to last year across the markets featured within the Index. The most significant drivers in the 2019 Index have had an opposing effect on labour markets, with the slight increase in pressure arising from worsening talent mismatch offset by easing high-skilled wage premiums when assessed by occupation.

In the EME region, wage gaps between high- and low-skilled workers have narrowed both by industry and occupation. This counteracted the combined effects of decreasing labour market flexibility, a growing talent mismatch and an increase in overall wage pressures.

In contrast, the wage gap between high- and low-skilled industries has presented the main issue for the Asia Pacific region. The rise in this Indicator is driving the region's overall score upwards, along with (to a lesser extent) increasing talent mismatch.

Within the Americas region, talent mismatch continues to dampen hiring in North America. The effect of this – as well as falling participation rates and reduced education flexibility – has outweighed the impact that shrinking wage premiums for high-skilled workers have had on the Overall Index Score, both across industries and occupations.

Key insight: How does occupational gender segregation affect jobs and wages?

The idea of specifically male or female jobs conjures up outdated ideas, in which almost all women worked in administrative or caring positions whilst men did the physically and intellectually demanding work. Although things certainly have changed since the mid-20th century, the occupational structure in many countries remains highly gendered. Figures from the International Labour Organisation (ILO) indicate that the vast majority of managers, craftsmen and operators are men, whilst women tend to dominate clerical roles (Figure 10).

This may seem reasonably benign, but in these female-dominated occupations, wages are lower, even when educational differences are accounted for.[27] The forces of automation and globalisation also interact with occupational segregation leading to effects which can impact one gender disproportionately.

A recent report by the International Monetary Fund (IMF) finds that women tend to work in occupations which contain a greater proportion of routine tasks and fewer abstract tasks than men.[29] It is now widely accepted that the automation of many routine tasks is technologically possible, implying that women are more vulnerable to automation – 11% of women are at high risk relative to 9% of men. Women's predominance in routine occupations is also found to explain almost 5% of the gender wage gap. However, their tendency to work in the health and education sectors, which require greater use of personal and social skills, mitigates some of this automation risk in the long run.[30]

Designing and programming artificial intelligence occupations are particularly segregated with women making up a mere 22% of workers.[31] The lack of diversity in a job that is pivotal to the creation of new and potentially ubiquitous technologies is a cause for concern.

The unconscious bias of programmers and the use of data which is unrepresentative of the underlying population could reinforce current inequalities and possibly exacerbate them in the future. For example, an algorithm may interpret the lack of senior women in the corporate world as a reflection of lower levels of ability amongst women. This could result in women not being selected for interviews for senior positions.

Occupational segregation can also lead to gendered globalisation impacts. In advanced economies, certain sectors and occupations have been particularly susceptible to external cost competition, with tradeable sectors such as manufacturing most exposed. Whilst both genders are vulnerable, shocks affecting male-dominated occupations have been associated not only with job losses and wage contractions, but also changes in social norms.[32] For instance, in the US, a policy change which enabled greater Chinese imports of cheaper goods disproportionately affected males and was associated with a decline in marriage rates, a decline in fertility and an increase in the number of children living below the poverty line.[33]

In developing countries, occupational segregation may also limit women's ability to take advantage of the benefits of globalisation.[34] For example, women may be impeded from taking up roles made available by globalisation in tradeable sectors such as manufacturing. Whilst some evidence suggests that globalisation brings more employment opportunities for women in the formal sector, these positions have tended to be in lower-skilled positions. Structural constraints, such as lower levels of education, may also prevent women from filling high-value positions, made available by globalisation. Globalisation thereby has the potential to both exacerbate and mitigate current segregation and reinforce existing gender inequalities.

Figure 10. Average occupation employment share by gender[28]

Source: ILO 2018, Oxford Economics calculations

Key insight: Where have all the jobs gone? The decline of mid-skill employment

Across the developed world, there has been a reallocation of employment from mid-skill to high- and low-skill jobs. This is ultimately a function of technological change which has reduced the demand for mid-skill, typically non-higher-educated workers. Figure 11 demonstrates this phenomenon: between 2000 and 2017, industrialised countries tended to shed mid-skill jobs whilst adding high- and low-skill positions.

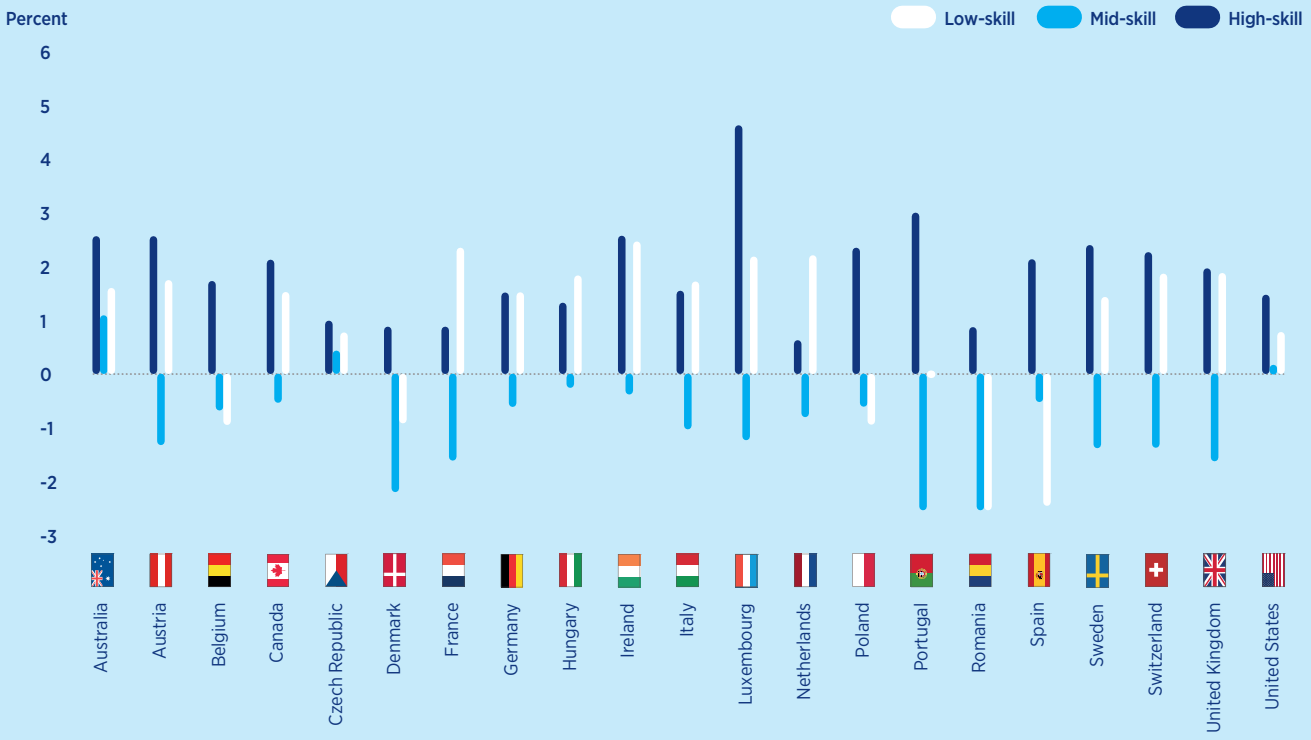
Rapid technological development has enabled machines and software to complete many routine and increasingly non-routine tasks. As the cost of these machines and programmes falls, they become increasingly close – and sometimes superior – substitutes for the humans who previously completed the tasks, leading to employment losses in vulnerable occupations. These include bookkeepers, paralegals and ICT support, as well as other traditional mid-skill jobs.

Technological advances have also dramatically lowered the cost of international communication, enabling discrete components of a production process to be offshored to the most cost-competitive location. In theory, virtually any task could be offshored provided it does not have to be completed in person.[35] Mid- and low-skill positions such as customer service roles have, however, tended to be more susceptible to offshoring than high-skill roles, in which developed countries continue to have a comparative advantage, despite high costs.

This hollowing out of the middle has created a two-tier economy of high-skill, high-wage jobs and low-skill, low-wage jobs. Mid-skill workers have tended to be pushed into lower-skilled areas creating an excess supply of less-educated labour thereby depressing wages.[36] Conversely, for high-skill workers, demand has continued to outstrip supply, meaning the higher education wage premium continues to grow.

Recent research analysing newly introduced occupation titles indicates that this hollowing out of mid-skill jobs is set to continue. Almost all new occupations can be classified into three well-defined categories; frontier, last-mile and wealth-related jobs.[37] The first includes high-skill, high-wage and technically advanced occupations such as programmers, whilst the second includes low-skill, low-wage occupations which continue to require human input such as call centre workers. The third category, 'wealth work', requires limited technical skill and is typically low-wage. 'Wealth work' jobs typically involve the provision of a service to the more affluent, for example, a yoga instructor or nanny. The fact that the polarisation of job quality looks set to continue suggests that policies such as Universal Income and upskilling programmes may be required to mitigate its impacts.

Figure 11. Change in employment by occupation type 2001 to 2017



Source: Eurostat (2019)

[27] The gender pay gap varies greatly by occupation, Wrohlich (2017); World employment social outlook, ILO (2018)
[28] This is based on a weighted average for all markets in which Hays operates. Weighting is by share of employment.
[29] Gender, Technology and the Future of Work, Brussevich et al. IMF (2018)
[30] Will robots really steal our jobs? Hawksworth, Gillham and Berriman (2018)
[31] The Global Gender Gap Report 2018, World Economic Forum (2018)
[32] Note that the impact of globalisation on men and women who work in manufacturing does not differ significantly. It is the fact that men are more likely to work in manufacturing which matters.
[33] When work disappears: manufacturing decline and the falling marriage-market value of young men, Autor et al. (2018)
[34] Gender Equality and Trade Policy, Womenwatch (2010)
[35] Alternative measures of offshorability: A survey approach, Blinder (2009). This paper estimates that almost 20% of US jobs might be offshored within the next 20 years.
[36] David Autor (2019) has recently shown how in America, this hollowing out of the mid-skill and declining wages is primarily an urban phenomenon.
[37] Work of the Past, Work of the Future, Autor (2019)

THE REGIONAL PICTURE

The labour market dashboards present a detailed breakdown of labour market pressures for each of the 34 markets featured in the Hays Global Skills Index. Seven Indicators contribute equally to the Overall Index Score for each market,* providing insights into the state of the economy, the makeup of the labour market, education, and wage pressures by industry and occupation.

* Due to the lack of availability of Colombian occupational wage data, the Overall Index Score was calculated using six Indicators. Due to the lack of availability of Malaysian structural unemployment data, we did not calculate the country's Talent Mismatch score and therefore the Overall Index Score was calculated using six Indicators. Due to the lack of availability of UAE structural and long-term unemployment and vacancies data, we did not calculate the country's Talent Mismatch score and therefore the Overall Index Score was calculated using six Indicators.

BRAZIL

GDP rose by just over 1% in 2018, as the economy continued its slow recovery following the severe recession of 2015-2016.

The unemployment rate fell to 12.5% in 2018. However, most of the jobs created in the past year have come from the informal. This brings with it concerns about its potential to reverse the recent fall in income inequality and dilute the tax base. The appetite for hiring in the formal sector is still being hit by the lack of certainty in Brazilian politics. Jobless rates are also far higher among young people, women and Afro-Brazilians.

In the medium term, the unemployment rate is expected to gradually fall and labour productivity to slowly rise due, in part, to increased flexibility in employment contracts. GDP growth is expected to accelerate to over 2% annually over the next five years.

	2018	2019†
Population	211.1m	**212.6m**
GDP		
GDP (Billion BRL*)	7,070	**7,118**
GDP growth	1.1%	**0.7%**
GDP/head (BRL*)	33,500	**33,500**
Unemployment		
Unemployment rate	12.5%	**12.5%**
Long-term unemployment rate	n/a	**n/a**
Net migration (% of population)	0.1	**0.1**

* 2019 prices † Average forecast figure for 2019

Key drivers

Talent Mismatch

The mismatch between the skills employers are seeking and the skills available among job applicants has improved but remains high compared to the past.

Wage Pressure in High-Skill Industries

Wage growth in low-skilled industries – particularly in the trade and wholesale sectors – has continued to outpace wage growth in high-skilled industries.

Labour Market Flexibility

The legal and regulatory framework surrounding the labour market in Brazil is ranked as one of the most restrictive across the 34 markets featured in the Index. Despite a small decrease in the Indicator, it remains high.

View from the ground

A change in government initially brought with it a wave of optimism among Brazilian employers. However, the lack of initial traction has tempered this enthusiasm and GDP growth downgrades have followed. Despite this, we are seeing positive momentum in the skilled labour market, with a number of major projects being undertaken, indicating an underlying confidence in the near future. In general, candidates are taking a more considered approach before moving jobs and businesses are offering more balanced opportunities. This has resulted in a slowdown in wage growth for high-skill occupations. Furthermore, changes in labour regulations are now starting to take effect as Brazil becomes more comfortable with what they mean in practice. As such, a closer equilibrium can be seen that will support employment growth as macro conditions gain momentum.

Jonathan Sampson, Managing Director, Hays Brazil

Key skills in demand

- Chief Finance Officers
- IT Scrum Masters (Dev Team Facilitator)
- Rewards & Benefit Specialists
- Purchasing Managers
- Regional Sales Managers

Note: The analysis on which the Hays Global Skills Index was based utilised data as of Q2 2019. Developments subsequent to this date are not reflected in the 2019 findings.

For a full list of Indicator Scores, view page 54

CANADA

GDP growth fell to 1.9% in 2018 and is expected to reduce further in 2019 due to oil production cuts in Alberta and sluggish business investment.

There is some evidence of labour shortages. The unemployment rate in Canada fell to a 45-year low, reaching 5.8% in 2018. The Bank of Canada's Business Outlook Survey reported that an average of 34% of firms surveyed were facing labour shortages restricting their ability to meet demand, across the four surveys in 2018. A net balance of +38% of firms reported the intensity of their labour shortages had increased relative to decreased compared to a year earlier – albeit both Indicators eased somewhat in the Q1 2019 survey.

In 2018, the Government introduced measures to incentivise women to participate in the labour force. They have also announced a plan to raise annual immigration targets to 340,000 by 2020, up from 300,000 in 2017. Both should boost the supply of skilled labour.

	2018	2019†
Population	37.0m	**37.5m**
GDP		
GDP (Billion CAD*)	2,244	**2,283**
GDP growth	1.9%	**1.7%**
GDP/head (CAD*)	60,700	**60,900**
Unemployment		
Unemployment rate	5.8%	**5.6%**
Long-term unemployment rate	0.7%	**0.7%**
Net migration (% of population)	5.7	**5.7**

* 2019 prices † Average forecast figure for 2019

Key drivers

Labour Market Participation

The participation rate is forecast to increase slightly this year, after falling for nine out of the last ten years, meaning the number of people available for firms to recruit will increase.

Talent Mismatch

The share of unemployed people that have been out of work for over a year has risen in Canada, giving rise to concerns about the erosion of these peoples' skills.

Overall Wage Pressure

Real wage growth is forecast to slow in Canada this year, easing the pressure on employers' wage bills.

View from the ground

2018 was a strong year for the Canadian economy. Despite the declining unemployment rate, the skills gap continues to widen. The higher Talent Mismatch score signifies that employers are struggling to find the highly skilled talent they require. As a result, the bulk of employers are spending outside of their budgets to attract and secure highly skilled talent. Changing organisational structure and policies is also more common than providing internal training and development when it comes to addressing productivity concerns. Professionals must continually upskill and find new experiences in order to remain relevant and employable. Employers can better attract and retain talent by focusing on career growth and development programs for their hires.

Rowan O'Grady, President, Hays Canada

Key skills in demand

- Software Developers
- Cyber Security Professionals
- Construction Estimators
- Skilled Tradespeople
- Construction Project Managers

Note: The analysis on which the Hays Global Skills Index was based utilised data as of Q2 2019. Developments subsequent to this date are not reflected in the 2019 findings.

For a full list of Indicator Scores, view page 54

CHILE

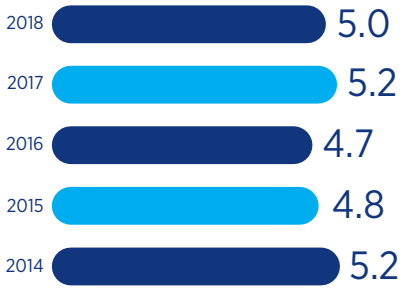
Chile's economy grew rapidly in 2018, with GDP expanding by 4.5%. The outlook appears positive, with growth expected to be average 2.6% over the coming five years. The risks to this benign outlook are mainly external, including rising global protectionism, a tightening of global financial conditions, and unexpectedly low growth for Chile's main trading partners.

Strong immigration caused the growth in the size of the labour force to outpace employment growth in 2018, resulting in the unemployment rate rising to 7%. The increase in the unemployment rate is expected to be reversed by the growth in demand, falling to 6.6% in the medium term.

The Government has introduced initiatives to encourage greater female labour force participation and has amended the curricula of vocational schemes with the objective of addressing the needs of the new digital economy.

	2018	2019†
Population	18.2m	**18.4m**
GDP		
GDP (Billion CLP*)	196,699	**201,169**
GDP growth	4.5%	**2.3%**
GDP/head (CLP*)	10,795,800	**10,962,900**
Unemployment		
Unemployment rate	7.0%	**6.6%**
Long-term unemployment rate	n/a	**n/a**
Net migration (% of population)	0.3	**0.3**

* 2019 prices † Average forecast figure for 2019



Key drivers

Wage Pressure in High-Skill Occupations

Wage growth in low-skill occupations has outpaced wage growth in high-skill occupations. Wages which have fallen include office employees and mid-level professionals.

Education Flexibility

The share of graduates in Chile's population has fallen, increasing the pressure on employers seeking skilled workers.

Talent Mismatch

The unfilled job vacancy rate has fallen in Chile and is now well below its historical average.

View from the ground

The political-economic framework in Chile has advanced a lot over the last decade and the country has been one of the fastest-growing economies in Latin America, as well as one of the most stable. The political situation abroad, mainly in South America, represents a significant challenge to Chile, as this impacts the volume of expats and workers in the country – even though there are plenty of opportunities at the moment. The Government's efforts to rationalise the tax system, facilitate employment mobility, reduce bureaucracy, improve the pension system and strengthen the financial system will be crucial for maintaining growth and reducing Chile's vulnerability to external risks. Despite predictions, the big employment boom, which was expected across several industries such as mining, lithium and antimony tin oxide, didn't happen as fast as anticipated. However, now that a number of major projects are set to start, the demand for professionals is expected to increase.

Luis Fernando Martins, Managing Director, Hays Chile & Colombia

Key skills in demand

- Key Account Managers
- Digital Marketing Managers
- Developers
- Industrial Managers/ Engineering, Maintenance
- HSE Managers (Mining & Energy)

Note: The analysis on which the Hays Global Skills Index was based utilised data as of Q2 2019. Developments subsequent to this date are not reflected in the 2019 findings.

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COLOMBIA

The Colombian economy picked up in 2018, growing by 2.9%. In the medium term, the recovery from the sharp fall in oil prices in 2015-16 is forecast to strengthen, with the value of fuel exports increasing and investment in the fuel sector picking up. Labour market conditions are also expected to follow suit and improve, despite unemployment continuing to rise, reaching 9.1% in 2018, as the drag from lower oil prices continued to feed through in continued labour shedding.

The positive outlook for Colombia's economy is driven in part by expectations that recent structural reforms aimed at promoting economic diversification and productivity will start to have a significant impact.

Payroll tax cuts and improvements in educational attainment have caused the informal labour market, in which employees work for unregistered firms, to shrink in the last decade. However, over 60% of workers remain in the informal sector, restricting the rate at which productivity increases and the economy expands.

	2018	2019†
Population	49.4m	**49.8m**
GDP		
GDP (Billion COP*)	1,009,299	**1,034,000**
GDP growth	2.9%	**2.4%**
GDP/head (COP*)	20,422,900	**20,754,700**
Unemployment		
Unemployment rate	9.1%	**9.2%**
Long-term unemployment rate	n/a	**n/a**
Net migration (% of population)	0.6	**0.6**

* 2019 prices † Average forecast figure for 2019

Key drivers

Talent Mismatch

The mismatch between the skills held by job applicants and the skills employers are seeking has improved slightly in Colombia.

Education Flexibility

The share of graduates in Colombia's population rose again this year, increasing the supply of skilled workers.

Labour Market Participation

While Colombia has a modest participation rate, its growth has been slow in recent years, and this is forecast to continue this year. This will limit the rate at which the pool of skilled labour expands.

View from the ground

Colombia's economy is forecast to grow by 2.4% in 2019. However, the economy and the employment market are currently facing big challenges, including external factors such as the global economy, the geopolitical landscape and the oil industry. The Government must overcome these by enacting measures such as undertaking a fiscal adjustment, promoting export diversification, developing mechanisms to protect oil wealth, addressing social tensions and promoting necessary reforms to the economy. Unemployment recently returned to two figures, the main explanation being a failure to create new jobs, in part due to poor productivity and a lack of investment. The productivity challenge can be tackled by improving the training of skilled workers.

Luis Fernando Martins, Managing Director, Hays Chile & Colombia

Key skills in demand

- Sales Managers
- Finance Managers
- Plant/Operations Directors
- Developers (Front & Back End)
- Data & Analytics Specialists

* Due to the lack of availability of Colombian occupational wage data, we did not calculate the country's Wage Pressure in High-Skill Occupations score and therefore the Overall Index Score was calculated using six Indicators.

Note: The analysis on which the Hays Global Skills Index was based utilised data as of Q2 2019. Developments subsequent to this date are not reflected in the 2019 findings.

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MEXICO

Following the uncertainty created by the renegotiation of NAFTA, economic growth in Mexico slowed marginally to around 2% in 2018, down from 2.2% the previous year.

The economic growth rate is expected to average 2.1% annually across the next five years, as the economy reaps the fruits of the structural reforms of 'Pacto por Mexico'. These reforms included breaking state monopolies and promoting competition in the telecommunications sector.

Unemployment fell slightly in 2018, standing at 3.5% in the last quarter, while real wages are starting to grow. Looking ahead, the labour market challenges that Mexico faces include reducing the size of the informal labour market (in which employees work for unregistered firms) and increasing the female labour force participation rate, which is 34 percentage points lower than the corresponding rate for men (43.5% versus 77.4%, respectively).

	2018	2019†
Population	131.0m	**132.5m**
GDP		
GDP (Billion MXN*)	24,520	**24,741**
GDP growth	2.0%	**0.9%**
GDP/head (MXN*)	187,200	**186,700**
Unemployment		
Unemployment rate	3.5%	**3.7%**
Long-term unemployment rate	1.2%	**1.4%**
Net migration (% of population)	1.7	**1.8**

* 2019 prices † Average forecast figure for 2019

Key drivers

Labour Market Participation

The participation rate is forecast to fall this year, having grown the year before. This will lower the potential pool of recruits employers have to pick from.

Wage Pressure in High-Skill Occupations

The wage gap between high- and low-skilled occupations has narrowed further. Those in management occupations experienced the lowest wage growth.

Wage Pressure in High-Skill Industries

Weak wage growth in social services and the transport and communications industries contributed to a widening of the industry skills wage gap.

View from the ground

Driven by continued strength and confidence in investment for private industry and ongoing structural reforms, the Mexican economy remained stable and is expected to grow despite local political changes and uncertain trade relations with the US. Mexico anticipates several challenges over the coming years, including: reducing the high levels of informal labour, currently 60% of Mexicans; the slowdown in consumer trends; and the gap in the labour participation rate between women and men which is still high, indicating that there are substantial opportunities in terms of improving diversity and inclusion. The digital revolution is transforming Mexico's labour market, despite the major structural challenges the country is facing. Sectors relating to STEM, automation and Industry 5.0, are concentrating on attracting in-demand skilled professionals to successfully complete their expansion plans. Broadening employee training to upskill the Mexican workforce is crucial in order to increase the competitiveness of the country in the near future.

Axel Dono, Managing Director, Hays Mexico

Key skills in demand

- Finance/Accounting Managers
- Sales/Product Managers - Life Sciences
- SQA Managers/Quality – Manufacturing
- Developers (Back End and Front End)
- eCommerce Managers/Directors

Note: The analysis on which the Hays Global Skills Index was based utilised data as of Q2 2019. Developments subsequent to this date are not reflected in the 2019 findings.

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UNITED STATES

In 2018, the United States GDP grew by 2.9%, slightly above the average of 2.2% in the previous five years. The economy was given impetus by the recent fiscal stimulus, recovering private investment and supportive financial conditions.

Unemployment has fallen dramatically since the recession and global financial crisis. It has been driven lower by persistent employment growth, with employment increasing by 1.6% in 2018. As a result, the unemployment rate published by the Bureau of Labor Statistics fell to 3.9% in 2018. The majority of those who were unemployed had either lost their jobs (47% of total) or were re-entrants into the labour market (31%) as opposed to voluntarily leaving their jobs or being a new entrant.

The proportion of people working part time for economic reasons rather than other causes has declined steadily since the recession. In 2010, 33% of part time workers were doing so because they could only find part-time work or business conditions were slack. This percentage has declined to 18% in 2018.

	2018	2019†
Population	327.9m	**330.3m**
GDP		
GDP (Billion USD*)	20,850	**21,383**
GDP growth	2.9%	**2.6%**
GDP/head (USD*)	63,600	**64,700**
Unemployment		
Unemployment rate	3.9%	**3.7%**
Long-term unemployment rate	1.1%	**0.9%**
Net migration (% of population)	3.9	**3.9**

* 2019 prices † Average forecast figure for 2019

Key drivers

Talent Mismatch

The vacancy rate has risen, suggesting there is an imbalance between the skills sought by employers and those held by jobseekers.

Wage Pressure in High-Skill Occupations

Wage growth in professional service occupations, and other high-skill roles has been slower than their low skill counterparts, narrowing the occupational skills wage gap.

Labour Market Participation

The participation rate is forecast to rise this year, increasing the size of the available labour pool.

View from the ground

2018 was a year of good news for the US economy, with GDP growing by 2.9%. Highly skilled workers remain in high demand with unemployment reaching levels below 2% in areas like IT, accounting and construction management professionals. Wages continue to increase, but the limited supply of workers is putting increasing pressure on companies to keep up in these highly competitive markets. There is no end in sight to the skills shortage as companies look for ways to attract, retain and develop people with the key skills they need. Although the demand is widespread, the areas in which we see the greatest demand are in cyber security, construction and big data.

David Brown, CEO, Hays USA

Key skills in demand

- Software Developers
- Cyber Security Professionals
- Construction Estimators
- Construction Superintendents
- Big Data Professionals (Data Analysts/Scientists)

Note: The analysis on which the Hays Global Skills Index was based utilised data as of Q2 2019. Developments subsequent to this date are not reflected in the 2019 findings.

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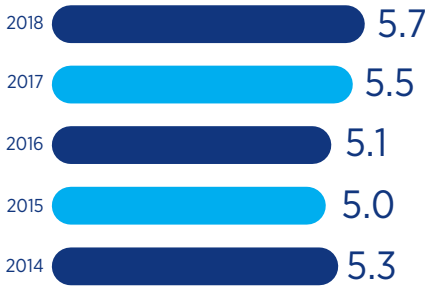
AUSTRALIA

The Australian economy continued to perform strongly in 2018, expanding by 2.9%. The robust economic performance was accompanied by improved labour market conditions. The numbers employed rose by 2.7%, with particularly rapid growth in the employment of people working under 35 hours a week, up 4%. This led to a decline in the unemployment rate to 5.3%, down from 5.6% in 2017. The progression of the economy into 2019 however has seen a more modest level of growth.

The Hays Australia 2019-20 Salary Guide shows that while employers will continue to add to their headcount, 70% simultaneously acknowledge that skill shortages are likely to impact the effective operation of their business or department, up from 67% in 2018-19.

	2018	2019†
Population	25.0m	**25.4m**
GDP		
GDP (Billion AUD*)	1,938	**1,965**
GDP growth	2.9%	**1.4%**
GDP/head (AUD*)	77,400	**77,400**
Unemployment		
Unemployment rate	5.3%	**5.1%**
Long-term unemployment rate	1.0%	**1.0%**
Net migration (% of population)	5.6	**5.5**

* 2019 prices † Average forecast figure for 2019



Key drivers

Labour Market Participation

The growth in Australia's participation rate is forecast to slow this year, reducing the rate at which the pool of available skilled labour is expanding.

Talent Mismatch

The unfilled job vacancy rate has risen in Australia, further above its historical average. This suggests there is a growing mismatch between the skills held by workers, and those sought by employers.

Education Flexibility

The number of graduates as a share of the total population has fallen in Australia, reducing the pool of skilled labour employers can recruit from.

View from the ground

Over the past year we've seen skill shortages intensify and the talent mismatch widen. It's no wonder then that Australia's overall Hays Global Skills Index score has climbed for the fourth consecutive year. As we move further into the fourth industrial revolution, the demand for highly skilled professionals is surpassing that of low-skill workers. Yet while demand for highly skilled professionals exceeds supply, wage growth remains stubbornly subdued. Employee turnover is consequently rising since a higher salary increase can be achieved by changing jobs. Employers in 2019-20 must therefore find other compelling ways to attract, retain and engage staff, including reinvesting in training, career development and genuine work-life balance.

Nick Deligiannis, Managing Director, Hays Australia

Key skills in demand

- Business Analysts
- Systems Engineers
- Project Managers with major infrastructure experience
- Risk & Compliance Managers
- Marketing & Content Managers

Note: The analysis on which the Hays Global Skills Index was based utilised data as of Q2 2019. Developments subsequent to this date are not reflected in the 2019 findings.

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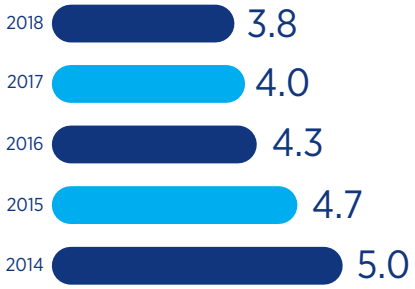
CHINA

China's economy continued to grow rapidly, expanding by 6.6% in 2018. Some 60% of the growth in GDP came from the service sector. An expansion in economic output by the mining and quarrying, manufacturing, utilities, and construction sectors was responsible for 36% of the GDP growth and agriculture, forestry and fishing the remaining 4%.

In 2018, employment remained virtually unchanged. This masked a 2.3% or 9.6 million rise in the numbers employed in urban areas. This mostly offset a 2.9% or 10.1 million decline in rural employment. This continues the long-term trend of urbanisation. The unemployment rate based on the numbers of registered unemployed fell by 0.1 percentage points to 3.9%. The survey-based measure of unemployment for urban areas suggested the urban unemployment rate was slightly higher at 4.9%

	2018	2019†
Population	1,415.6m	**1,420.6m**
GDP		
GDP (Billion CNY*)	92,216	**97,648**
GDP growth	6.6%	**5.9%**
GDP/head (CNY*)	65,100	**68,700**
Unemployment		
Unemployment rate	3.9%	**3.7%**
Long-term unemployment rate	n/a	**n/a**
Net migration (% of population)	0.4	**0.4**

* 2019 prices † Average forecast figure for 2019



Key drivers

Overall Wage Pressure

This year the growth in economy-wide wages is forecast to fall to its lowest rate since the turn of the millennium.

Wage Pressure in High-Skill Industries

Workers in high-skill industries – in particular scientific activities – experienced strong wage growth last year, widening the wage gap from those workers in low-skill industries.

Talent Mismatch

The vacancy rate fell slightly in China. This suggests employers are more able to find workers with the right skills.

View from the ground

In recent years, China's local labour market has increasingly been able to meet the hiring demands of employers, represented over the past five years by a steadily decreasing Overall Index Score. However, there are exceptions to this trend, where skills shortages have the potential to hamper business operations: these are typically within high-tech sectors and STEM job functions. In addition, employers are becoming more selective in their hiring decisions, and focusing greater attention on soft skills, culture fit and aptitude for ongoing learning. Various new technologies and heightened consumer expectations continue to bring about unparalleled changes across retail banking, which indicates transformation within the sector is far from complete.

Simon Lance, Managing Director, Hays Greater China

Key skills in demand

- Data Scientists
- Clinical Physicians
- eCommerce Managers
- Senior Engineers – R&D
- Digital Finance Experts

Note: The analysis on which the Hays Global Skills Index was based utilised data as of Q2 2019. Developments subsequent to this date are not reflected in the 2019 findings.

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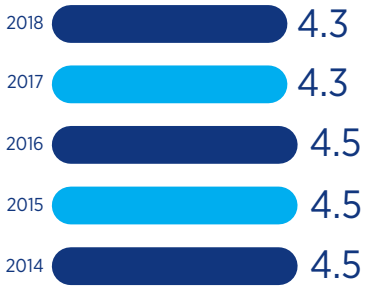
HONG KONG SAR

In 2018, the Hong Kong SAR economy expanded by 2.9%. This was in line with its average for the previous five years of 2.9%. The growth had a positive impact on the demand for labour. The number of job vacancies (excluding civil servants) rose by 3.6% and unemployment continued to fall last year, reaching a 21-year low of 2.8%.

Low unemployment combined with an ageing population points to a lack of spare capacity in the labour market with potentially significant ramifications for future growth – the size of the labour force is expected to shrink by 10% by 2030. In a bid to alleviate these pressures, last year's budget included more spending on improving childcare support, aimed at raising female labour force participation.

	2018	2019†
Population	7.4m	**7.5m**
GDP		
GDP (Billion HKD*)	2,893	**2,972**
GDP growth	2.9%	**2.7%**
GDP/head (HKD*)	388,800	**396,300**
Unemployment		
Unemployment rate	2.8%	**2.7%**
Long-term unemployment rate	n/a	**n/a**
Net migration (% of population)	1.7	**1.7**

* 2019 prices † Average forecast figure for 2019



Key drivers

Talent Mismatch

An increase in job vacancies in the social and personal service and professional business service sectors drove the rise in the vacancy rate.

Labour Market Participation

The growth in the participation rate is forecast to slow this year. This reflects an expected decline in the participation rate of 15-24 year olds.

Education Flexibility

The ranking of educational standards relative to the other 33 markets featured in the report slipped slightly last year but remains very high, meaning the education system is equipped to provide graduates with relevant skills.

ASIA PACIFIC

View from the ground

The past year in Hong Kong SAR was all about the recruitment market shift in traditional finance industries to a surging demand from both employers and candidates in fintech and virtual banking. These hot new industries have created numerous jobs in the market. The majority of these roles are tech-based with developers, data analytics and project managers in high demand; but legal, compliance and marketing have also benefited. While an influx of investment capital in these new industries has kept recruitment buoyant, the same cannot be said for more traditional finance industries where cost control continues to be a major factor and a more conservative recruitment strategy has been implemented, replacing only the most critical vacancies. There is also high demand in supply chain and demand planners, as Hong Kong SAR remains a regional hub for supply chain and procurement, and the demand for eCommerce and logistics of goods remain high. Overall the recruitment market remains healthy.

Dean Stallard, Managing Director, Hays Greater Bay Area

Key skills in demand

- Data Scientists
- Web/Mobile Developers
- Supply and Demand Planners
- Business Development/ Key Account/Partnership Managers – Fintech
- Marketing Directors

Note: The analysis on which the Hays Global Skills Index was based utilised data as of Q2 2019. Developments subsequent to this date are not reflected in the 2019 findings.

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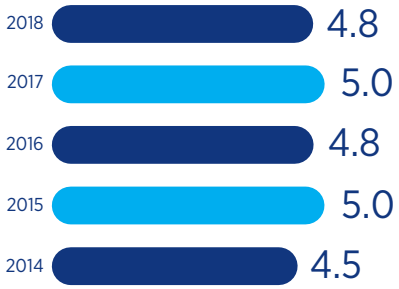
INDIA

India's economy continued to perform strongly in 2018, growing by 7.5%, slightly higher than the average GDP growth for the previous five years of 7.2%. Two of the main drivers of this growth were the construction and manufacturing industries, which grew by 8.9% and 8.1% respectively in 2018. This strong growth has been supported by India's young and growing labour force. The working-age population grew by 1.5% in 2018 to over 900 million.

There are marked differences in labour market participation rates between males and females. The International Labour Organisation estimates the labour market participation rate for females in India was 23.6% in 2018, compared to 78.6% for males. Changes made in 2017 to improve maternity benefits and a 2018 scheme to extend healthcare insurance to one hundred million poor and vulnerable families may help close this gap.

	2018	2019†
Population	1,356.0m	**1,370.6m**
GDP		
GDP (Billion INR*)	192,846	**204,689**
GDP growth	7.5%	**6.1%**
GDP/head (INR*)	142,200	**149,300**
Unemployment		
Unemployment rate	5.6%	**5.6%**
Long-term unemployment rate	n/a	**n/a**
Net migration (% of population)	n/a	**n/a**

* 2019 prices † Average forecast figure for 2019



Key drivers

Wage Pressure in High-Skill Industries

In contrast to recent years, the wage gap between low-skill industries and high-skill industries has expanded, suggesting employers are paying a premium for skills in short supply.

Overall Wage Pressure

Real wages are forecast to grow at the highest rate of any of the 34 markets featured in the report.

Labour Market Participation

Labour market participation is forecast to rise slightly this year. This will increase the size of the skilled labour pool employers can recruit from.

View from the ground

India remains one of the fastest-growing economies globally. The core industries continue to register a consistent growth rate, and Government initiatives such as 'Start-up India', 'Make in India', 'Ease of Doing Business', as well as foreign direct investment policy reforms, are instrumental in facilitating this growth. This may mean an improvement in the employment outlook for most industries as the sentiment seems to indicate fresh recruitment plans will be high on the agenda for many businesses. There is a general focus on moving towards digital, creating high demand for skills already in short supply, meaning organisations are offering higher wages to those workers. The consumer industry is another sector that continues to attract the best talent and higher salary increases compared to other sectors. Industries are also focusing on closing their skills gaps by engaging with key talent and upskilling them through training and talent development.

Shane Little, APAC Managing Director, Hays Talent Solutions

Key skills in demand

- Cloud Computing Engineers
- Artificial Intelligence Professionals
- Semi-conductor Engineers
- Sales and Marketing Professionals for FMCG
- Mobile Application Developers

Note: The analysis on which the Hays Global Skills Index was based utilised data as of Q2 2019. Developments subsequent to this date are not reflected in the 2019 findings.

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JAPAN

In 2018, GDP growth in Japan was 0.8%. This was below its average of 2% over the previous five years. That said, the population declined by 300,000 or 0.2% over the year, so this represents a slightly better economic performance than at first glance.

Despite the moderate growth rate, unemployment fell for the ninth consecutive year, falling to 2.4% at the end of 2018. The Labour Economic Trends Survey points to the existence of skill shortages. Some 45% of firms surveyed in 2018 thought there was an insufficient supply of full-time employees, compared to just 3% of respondents who thought there was an excess supply. This situation may worsen over the medium term. With the population ageing rapidly, there is a concern about the country's ability to replace retiring workers.

	2018	2019†
Population	127.1m	**126.8m**
GDP		
GDP (Billion JPY*)	552,306	**555,934**
GDP growth	0.8%	**0.7%**
GDP/head (JPY*)	4,344,100	**4,384,000**
Unemployment		
Unemployment rate	2.4%	**2.4%**
Long-term unemployment rate	1.0%	**0.9%**
Net migration (% of population)	n/a	**n/a**

* 2019 prices † Average forecast figure for 2019

Key drivers

Wage Pressure in High-Skill Industries

The wage gap between high-skill industries and their low-skill counterparts is higher than it has been for several years.

Education Flexibility

The number of graduates as a share of the population has declined, reducing the proportion of skilled workers that firms can choose from.

Talent Mismatch

The long-term unemployment rate has fallen in Japan, although it remains above the historical average. This may reflect a reduction in the mismatch between jobseekers' skills and the skills potential employers demand.

ASIA PACIFIC

View from the ground

The shortage of AI engineers, mobile/application development engineers and cyber security engineers persists across most industries in Japan, but the main demand comes from eCommerce, fintech and consulting firms. To address the dearth in skills, companies are turning to overseas talent, compromising on their Japanese language proficiency requirement. Employers are placing strong emphasis on training programmes to upskill talent to meet talent demands, while displaying high levels of flexibility around their requirements. Japan also continues to be a popular tourist destination, and now even more so due to major upcoming events such as the Rugby World Cup, 2020 Olympics in Tokyo and the World Expo in Osaka. There is therefore unprecedented hiring activity in the hospitality industry, particularly for bilingual young locals.

Richard Eardley, Managing Director, Hays Japan

Key skills in demand

- Data Scientists
- Advanced Driver-Assistance Systems Experts
- Human Resource Business Partners
- Indirect/Direct Procurement Specialists
- M&A Experts

Note: The analysis on which the Hays Global Skills Index was based utilised data as of Q2 2019. Developments subsequent to this date are not reflected in the 2019 findings.

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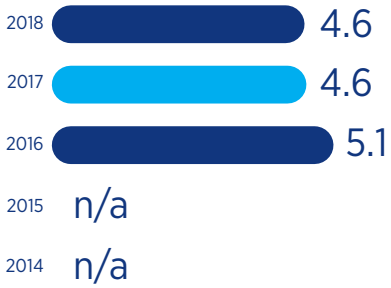
MALAYSIA

Strong household spending and a temporary pick-up in export growth, notably of electronics, underpinned another year of robust GDP growth in Malaysia during 2018, as the economy grew by 4.6%. Looking forward, the economy faces rising external headwinds, in part due to falling Chinese demand for Malaysian exports, low oil prices lowering petroleum export earnings, and a tightening of global financial conditions. Growth is expected to average 4% over the coming five years.

In the labour market, female labour market participation has risen sharply. The participation rate for females was 50.9% in 2018, up from 43.1% in 2008, marking a decade of strong growth. If this trend continues, it will add to the availability of skilled labour over the next decade. This is already forecast to rise, as the UN predicts the population of working age will increase by 10.8% or 2.4 million between 2018 and 2028.

	2018	2019†
Population	32.1m	**32.5m**
GDP		
GDP (Billion MYR*)	1,468	**1,507**
GDP growth	4.6%	**2.6%**
GDP/head (MYR*)	45,800	**46,400**
Unemployment		
Unemployment rate	3.3%	**3.3%**
Long-term unemployment rate	n/a	**n/a**
Net migration (% of population)	0.3	**0.3**

* 2019 prices † Average forecast figure for 2019



Note: Malaysia was included in the Hays Global Skills Index for the first time in 2016.

Key drivers

Labour Market Participation

The labour market participation rate for 15-24-year olds is forecast to decline slightly this year, meaning there are fewer young people available to join the labour market.

Labour Market Flexibility

The restrictiveness of the legal and regulatory framework surrounding the Malaysian labour market has increased relative to the others featured in the report.

Overall Wage Pressure

Real wage growth is forecast to slow this year, following strong growth of 7.7% in 2018. This will ease the pressure on employers' wage bills.

View from the ground

Malaysia has had yet another robust year in the jobs market, owing to the ongoing shortage of in-demand talent across all industries, which is expected to continue into 2020. Candidates from technical backgrounds such as computer and information technology (IT), artificial intelligence (AI), cyber security and data science, have been in high demand as businesses look to advance their technological capabilities. This demand is also supported by the continued growth of Malaysia's tech industry, which saw many fintech and eCommerce businesses receive funding to help them further service Southeast Asian markets. There is an especially high demand for candidates with strong project management skills, as companies are seeking out agents of change who can lead projects to further digitalise their businesses.

Tom Osborne, Managing Director, Hays Malaysia

Key skills in demand

- Programmers/Software Engineers
- Data Scientists/Analysts/Engineers
- Financial Technology Specialists
- Cyber Security ICT Engineers
- Mobile App Developers

* Due to the lack of availability of Malaysian structural unemployment data, we did not calculate the country's Talent Mismatch score and therefore the Overall Index Score was calculated using six Indicators.

Note: The analysis on which the Hays Global Skills Index was based utilised data as of Q2 2019. Developments subsequent to this date are not reflected in the 2019 findings.

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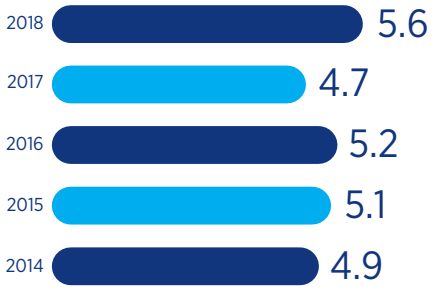
NEW ZEALAND

New Zealand's economy grew by 2.7% in 2018, slightly below its average growth of 3.2% in the previous five years. Growth in the manufacturing sector – New Zealand's third-largest – slowed from 2.7% in 2017 to 1.4% in 2018.

Positive net inward migration boosted New Zealand's labour force in 2018, increasing the economy's productive potential. New Zealand had 145,800 permanent and long-term migrant arrivals in 2018 and 97,500 departures. The annual net inward permanent migration figure of 48,300 was lower than the 2017 figure of 52,700. Going forward, the tighter visa requirements that were introduced in late 2017 will impact future migration levels and could impact business' access to skilled labour.

	2018	2019†
Population	4.9m	**4.9m**
GDP		
GDP (Billion NZD*)	299	**304**
GDP growth	2.7%	**1.9%**
GDP/head (NZD*)	61,500	**61,800**
Unemployment		
Unemployment rate	4.3%	**4.3%**
Long-term unemployment rate	1.8%	**1.7%**
Net migration (% of population)	2.2	**2.2**

* 2019 prices † Average forecast figure for 2019



Key drivers

Wage Pressure in High-Skill Industries

The wage premium for high-skilled industries remains well above the historical average in New Zealand.

Talent Mismatch

The Ministry of Business, Innovation & Employment Vacancy Index increased by 6.4% last year. This growth was partly stimulated by faster growth in high-skill vacancies.

Labour Market Participation

The rate at which the participation rate is increasing is forecast to slow in New Zealand. This will reduce the growth in the pool of skilled labour.

ASIA PACIFIC

View from the ground

New Zealand's unshakable skill shortage underpins many of the challenges facing organisations today. The economy is at near full employment, yet employers tell us they intend to add to their headcount. Naturally then, demand exceeds supply for highly skilled professionals and in high-skill industries. In fact, the gap between the skills employers need and those available has reached its highest level in the history of this Index. Add several years of wage stagnation, and it's understandable that top talent now prioritises a pay rise. However, employers are not succumbing to this pressure, instead keeping salary increases firmly in check. As a result, turnover is rising as employees recognise that their skills attract a higher salary when changing jobs.

Adam Shapley, Managing Director, Hays New Zealand

Key skills in demand

- Software Development
- Civil Engineers
- Construction Managers
- Salespeople
- Building Tradespeople

Note: The analysis on which the Hays Global Skills Index was based utilised data as of Q2 2019. Developments subsequent to this date are not reflected in the 2019 findings.

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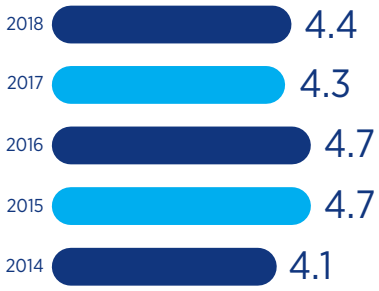
SINGAPORE

The Singapore economy continued to perform well in 2018, driven by export growth. However, decelerating demand from China, the primary destination for these exports, means the rate of economic expansion is forecast to slow to 0.8% in 2019, well below the annual growth of 5% seen earlier this decade.

Looking ahead, the Government has created ambitious programmes to rebalance the economy. These plans principally involve exploiting new digital technologies and enhancing workers' skills to compensate for an ageing population and tighter laws on foreign labour. As with other countries, the move to a more digital and automated economy is likely to cause some displacement of labour from some sectors, with the consequent need to reskill those workers, and the growth in employment in new industries.

	2018	2019†
Population	5.7m	**5.8m**
GDP		
GDP (Billion SGD*)	498	**502**
GDP growth	3.6%	**0.8%**
GDP/head (SGD*)	87,500	**86,900**
Unemployment		
Unemployment rate	2.1%	**2.3%**
Long-term unemployment rate	0.8%	**0.8%**
Net migration (% of population)	13.6	**13.1**

* 2019 prices † Average forecast figure for 2019



Key drivers

Wage Pressure in High-Skill Occupations

Weak wage growth among workers in managerial roles has narrowed the occupational wage skills gap.

Labour Market Participation

Having declined last year, the participation rate is forecast to grow strongly this year. This will increase the supply of skilled workers for firms looking to recruit.

Education Flexibility

Singapore has the highest educational standards of the 34 markets featured in the report, indicating that education institutes are producing the skills necessary for the world of work.

View from the ground

Singapore's dependence on global trade continues to be a major concern for the Government, and recent initiatives have been aimed at alleviating this dependence through digitalising the economy and reskilling the workforce. Programmes such as 'Scale-Up SG' and 'Innovation Agents' are aimed at attracting tech start-ups, whilst the continued provision of Government-funded credits through 'SkillsFuture' (which Singaporeans can use to upskill themselves), signifies the push to ensure the local workforce have the necessary skills to remain productive. As market participation in Singapore continues to grow, those who possess digital skills -no matter their occupation- will be the most attractive to Singapore's expanding industries. Cyber Security skills at all levels will be in high demand over the coming year, particularly within the Infocommunications sector as Singapore prepares for its 5G rollout. Such skills have been labelled as "critical", with Singapore's education sector considered the grass roots for ensuring sufficient supply in the coming years.

Grant Torrens, Regional Director, Hays Singapore

Key skills in demand

- Incident Responders (Cyber Security)
- Business Development Managers
- Data/Customer Analytics Specialists
- Cloud Engineers
- Financial Planning and Analysis Experts

Note: The analysis on which the Hays Global Skills Index was based utilised data as of Q2 2019. Developments subsequent to this date are not reflected in the 2019 findings.

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AUSTRIA

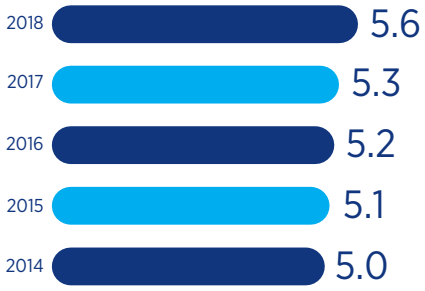
In 2018, Austrian GDP rose by 2.7%, up slightly from 2.5% in the previous year. This in part reflected particularly rapid growth in the economic output produced by the utilities, mining and quarrying, and transport sectors. The first two of which have been the fastest-growing sectors over the previous five years.

Unemployment fell to 4.8%, its lowest since 2011. Youth unemployment (15- to 24-year olds) also fell to 9.3%. The tight labour market has led to strong wage growth: wages went up by 2.6% in 2018.

The labour force grew by 6.2% between 2011 and 2017, but its composition has also changed. The share of non-Austrians rose from 11.5% to 16.2% in that same timeframe. However, the unemployment rate among immigrants stood at 9% in the last quarter of 2018, suggesting they need to be better integrated into the economy.

	2018	2019†
Population	8.9m	**8.9m**
GDP		
GDP (Billion EUR*)	393	**399**
GDP growth	2.7%	**1.5%**
GDP/head (EUR*)	44,400	**44,800**
Unemployment		
Unemployment rate	4.8%	**4.7%**
Long-term unemployment rate	1.6%	**1.6%**
Net migration (% of population)	5.2	**4.8**

* 2019 prices † Average forecast figure for 2019



Key drivers

Talent Mismatch

The job vacancies rate has continued to rise in Austria, suggesting there is a growing skills mismatch in the labour market.

Overall Wage Pressure

Real wages are forecast to continue growing this year in Austria, maintaining pressure on employers' wage bills.

Labour Market Participation

The growth in Austria's participation rate is expected to slow slightly this year, reducing the rate at which the supply of skilled labour expands.

View from the ground

Overall, the Austrian economy is doing well. Looking back at 2018, the positive momentum from the first half of the year couldn't be maintained for the third and fourth quarters. Industry demand for certain skills fell, which coincided with a general economic slump and negative tendencies from the German market – led by the weak automotive industry. However, the mood in the domestic export industry remains optimistic and the skilled labour market in Austria continues to develop well with a strong focus on technical skill sets in the IT sector and roles connected to Industry 4.0. Growth is coming from all over the industrial sector, as well as the service sector. This growth is providing skilled workers with a generally positive environment. We are seeing a strong and continuously growing demand across several sectors, especially in IT, engineering, life sciences and finance. As a result, pressure in high-skill sectors are increasing.

Mark Frost, Managing Director, Hays Austria

Key skills in demand

- Software Developers
- IT Consultants
- Project Managers
- SAP Consultants
- Hardware Developers

Note: The analysis on which the Hays Global Skills Index was based utilised data as of Q2 2019. Developments subsequent to this date are not reflected in the 2019 findings.

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BELGIUM

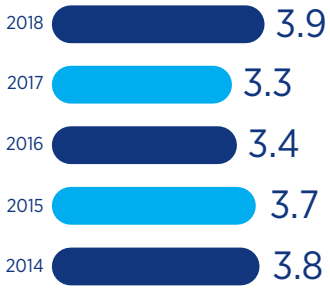
In 2018, GDP in Belgium grew by 1.4%, marginally below the average of 1.5% for the previous four years.

The numbers of jobless fell, with the unemployment rate decreasing from 7.1% in 2017 to 6% in 2018, its lowest level in 40 years. That said the youth unemployment rate (under 25 year-olds) remains higher at 15.8%, despite being down from 19.5% in 2017.

The Government introduced several measures to boost flexibility, fluidity and participation in the labour market. It narrowed the eligibility criteria for unemployment benefit, permitted shorter notice periods during the first few months of employment, introduced working-hour flexibility in the eCommerce industry and handed tax benefits to employers hiring their first worker.

	2018	2019†
Population	11.5m	**11.5m**
GDP		
GDP (Billion EUR*)	459	**463**
GDP growth	1.4%	**1.1%**
GDP/head (EUR*)	40,000	**40,300**
Unemployment		
Unemployment rate	6.0%	**5.5%**
Long-term unemployment rate	3.1%	**2.7%**
Net migration (% of population)	5.6	**5.4**

* 2019 prices † Average forecast figure for 2019



Key drivers

Education Flexibility
An increase in the number of graduates as a share of the total population has improved average skill levels.

Labour Market Participation
The participation rate is forecast to increase in Belgium this year, having fallen last year. This will increase the pool of skilled labour employers have to recruit from.

Overall Wage Pressure
Wages are forecast to continue growing in Belgium this year, continuing to exert upward pressure on employers' wage bills.

View from the ground

The unemployment rate in Belgium has never been so low, yet despite that only 70% of the active working population has a job – which is a direct consequence of companies being unable to find people with the right skills. To stimulate the labour market, the Belgian Government took several measures, including tax reductions, which did lead to an increase in the number of jobs. However, the lack of the right skills and the rising number of vacancies has created pressure on the temporary worker market, because companies are choosing permanent workers over temporary ones in order to increase their chances of retaining the key talent within their company. Skilled workers also have the luxury of being in demand and are turning to permanent positions instead of temporary ones.

Robby Vanuxem, Managing Director, Hays Belgium

Key skills in demand

- Engineers (Industrial and Civil)
- Technicians R&D/Sciences
- Accountants
- IT Developers/Analysts
- Multilingual Sales Support

Note: The analysis on which the Hays Global Skills Index was based utilised data as of Q2 2019. Developments subsequent to this date are not reflected in the 2019 findings.

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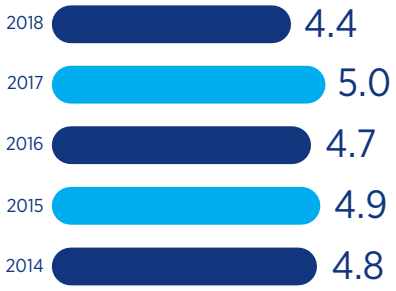
CZECH REPUBLIC

The Czech Republic had the lowest unemployment rate in the EU in 2018, following continued strong growth in GDP at 3.2% which boosted the demand for labour.

Employment levels continue to reach new highs, increasing by 1.4% in 2018. This in part reflected a small growth in the size of the working population (which has been in decline since 2010) and small growth in the participation rate (which has been increasing since 2011). But skill shortages persist: firms are reporting hiring issues as there are now more recorded vacancies than unemployed people. Some 16.7% of firms in the service sector and 11.4% of firms in manufacturing reported the availability of labour would limit production, according to the European Commission's Business Survey in 2018.

	2018	2019†
Population	10.6m	**10.6m**
GDP		
GDP (Billion CZK*)	5,466	**5,634**
GDP growth	3.2%	**2.9%**
GDP/head (CZK*)	515,100	**530,000**
Unemployment		
Unemployment rate	2.2%	**2.1%**
Long-term unemployment rate	1.0%	**0.7%**
Net migration (% of population)	2.3	**2.3**

* 2019 prices † Average forecast figure for 2019



Key drivers

Wage Pressure in High-Skill Industries

Wage growth in the low-skill industries has once again outpaced that in the high-skill industries. Wage growth in the financial sector was particularly low.

Wage Pressure in High-Skill Occupations

Wage growth in low-skilled occupations has also outpaced high-skilled occupations, with the lowest wage growth in managerial occupations.

Education Flexibility

The Czech Republic's educational attainment has worsened relative to the other labour markets featured in the report.

View from the ground

Despite the slight economic slowdown in the region, the Czech Republic still enjoyed considerable strong growth from 2018 through to 2019. Apart from traditionally strong exports, household spending was the main driver of the recent positive economic performance. There is an ongoing trend in which companies are replacing low-added-value roles with more complex and specialised positions. As the unemployment level remains very low, companies are encouraged to become more innovative and flexible in what they offer their employees in their people and culture strategy. Automation, information technology and service sectors are increasing their market presence, each growing in double digits in their demand for new staff. There is a tradition of strong industry and technological know-how in the Czech Republic, which provides a good environment for start-up communities and projects to be developed, mainly in Prague and Brno.

Ladislav Kučera, Managing Director, Hays Czech Republic

Key skills in demand

- Sales Representatives
- IT Developers
- English-speaking Accountants
- PLC Programmers
- Service Representative with German

Note: The analysis on which the Hays Global Skills Index was based utilised data as of Q2 2019. Developments subsequent to this date are not reflected in the 2019 findings.

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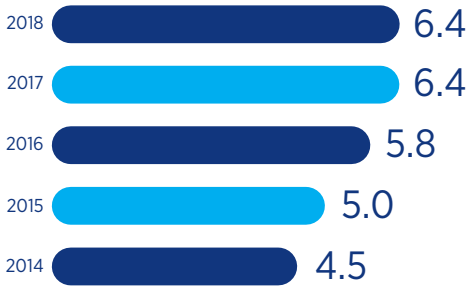
DENMARK

In 2018, the Danish economy grew by 1.6%. This growth reflected a 2.6% rise in domestic demand, partly offset by a negative net trade contribution. This benign economic performance is expected to continue over the medium term, driven by private consumption and business investment spending.

Employment rose by 1.8% in 2018. This increase reflected an expansion in employment in business services, transport and logistics, and the public sector. There is some evidence that skills shortages are rising and are being increasingly reported as a limitation to production, particularly in services and cyclical sectors such as construction. Reported job vacancies have continued to rise. The unemployment rate has declined to its lowest post-financial crisis level at 5.0% in 2018. Of which, just under a fifth are long-term unemployed.

	2018	2019†
Population	5.8m	**5.8m**
GDP		
GDP (Billion DKK*)	2,260	**2,286**
GDP growth	1.6%	**1.2%**
GDP/head (DKK*)	390,300	**393,500**
Unemployment		
Unemployment rate	5.0%	**5.3%**
Long-term unemployment rate	1.0%	**1.2%**
Net migration (% of population)	2.1	**2.1**

* 2019 prices † Average forecast figure for 2019



Key drivers

Education Flexibility

The share of graduates as a percentage of the population has risen in Denmark, boosting the skilled labour supply.

Labour Market Participation

While still positive, the growth in the total participation rate is forecast to be much lower this year than it was last year. This will limit the rate of expansion of the skilled labour force.

Talent Mismatch

Both the rate of unfilled vacancies and long-term unemployment rate have risen slightly in Denmark. This suggests that employers are finding it more difficult to fill roles with workers with the right skills.

View from the ground

The Danish market continues to be characterised by its low rate of unemployment and an economy which continues to improve. Therefore, we are seeing an increasing mismatch between the skills available in the market, and those skills in high demand by organisations. This is leading to companies filling vacancies with workers from more widely varying backgrounds and not necessarily with the desired experience and skills. This growing demand for highly skilled profiles is also being felt by organisations, as the demand further underlines the increasing wage pressure due to businesses paying a premium for the skills they require. The continued development of technology has made it easier for Danish companies to attract people from outside of the country, which is essential when the right skills can't be found locally.

Marc Lutz, Nordic Director, Hays Nordics

Key skills in demand

- Software Developers
- Marketing Specialists – Digital/ Communications
- Mechanical Engineers
- Regulatory Affairs Managers/ Quality Assurance Managers
- Medical Advisors

Note: The analysis on which the Hays Global Skills Index was based utilised data as of Q2 2019. Developments subsequent to this date are not reflected in the 2019 findings.

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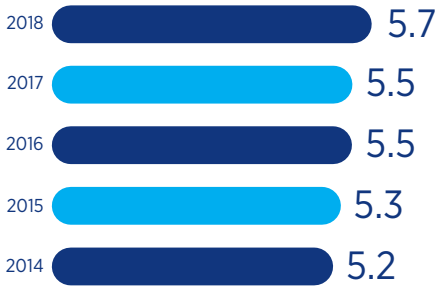
FRANCE

In 2018, GDP grew by 1.5%, slightly below the 2.2% registered in the previous year. Private consumption is expected to accelerate in 2019 and become the main engine of growth for the French economy in the short term.

The unemployment rate fell from 9.4% in 2017 to 9.1% in 2018. There may be limited scope for it to fall further given some of the inflexibilities in the labour market, such as high minimum wage levels relative to the average wage, relatively generous unemployment benefits and a still-elevated labour tax wedge which all lower incentives to work. These have hit some socioeconomic groups harder than others, with higher unemployment rates among the young, low-skilled and non-EU immigrants.

	2018	2019†
Population	67.4m	**67.6m**
GDP		
GDP (Billion EUR*)	2,378	**2,414**
GDP growth	1.5%	**1.5%**
GDP/head (EUR*)	35,300	**35,700**
Unemployment		
Unemployment rate	9.1%	**8.7%**
Long-term unemployment rate	4.0%	**3.8%**
Net migration (% of population)	1.1	**1.1**

* 2019 prices † Average forecast figure for 2019



Key drivers

Overall Wage Pressure

Real wage growth is forecast to be low again this year, but above the equivalent figure for last year.

Labour Market Participation

The participation rate is forecast to fall this year in France for the first time since 2010. This will reduce the pool of skilled labour available for employers to hire.

Talent Mismatch

This is driven by a combination of moderately high long-term unemployment and vacancy rates that are notably higher than France's historical average.

View from the ground

After a record year in 2018 – over 266,000 new hires and more than 73,000 vacant jobs – the white-collar recruitment forecast for 2019 confirmed the labour market is in good health, as the labour market is expected to continue growing with a forecast of more than 280,000 new hires – an increase of 6% year-on-year. The unemployment rate is expected to decrease from 9% to 8.9% during 2019 and is forecast to decrease even further over the next two years. During 2019, the national fiscal policy is predicted to support GDP growth of 0.5 percentage points, which can largely be accredited to the emergency measures enacted by President Emmanuel Macron, which resulted in a boost to purchasing power. With GDP forecast to grow by 1.5% this year, 2020 could be the year of a gradual return to meaningful growth.

Tina Ling, Managing Director, Hays France & Benelux

Key skills in demand

- Cyber Security Specialists
- Commercial Engineers
- Data Analysts
- Supply Chain Specialists
- Payroll Officers

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GERMANY

German economic growth slowed to 1.4% in 2018. The deceleration was broad-based, impacting the automotive and manufacturing industries in particular. GDP growth is forecast to slow further in 2019.

The labour market continues to tighten. Employment rose by 1.3% in 2018 and the unemployment rate reached its lowest level since reunification at 3.4%. The jobs vacancy rate is at its highest level since the vacancy series began in 2006 as firms struggle to fill positions. This is reflected in the European Commission's Business Survey in 2018, where some 43.6% of manufacturers and 28.2% of service firms said they expected labour shortages would limit production. This is likely to push up wage growth in the future.

The demographic outlook remains unfavourable in the medium term, with the workforce expected to begin shrinking in 2020 even after accounting for immigration.

	2018	2019†
Population	83.0m	**83.3m**
GDP		
GDP (Billion EUR*)	3,452	**3,487**
GDP growth	1.4%	**1.0%**
GDP/head (EUR*)	41,600	**41,900**
Unemployment		
Unemployment rate	3.4%	**3.2%**
Long-term unemployment rate	1.4%	**1.3%**
Net migration (% of population)	1.5	**1.5**

* 2019 prices † Average forecast figure for 2019

Key drivers

Talent Mismatch

Both the long-term unemployment rate and the vacancy rate have increased slightly in Germany. This suggests there is a growing imbalance between the skills job applicants possess and those sought by employers.

Wage Pressure in High-Skill Industries

The wage gap between high-skill and low-skill industries has fallen to its lowest level since 2005.

Wage Pressure in High-Skill Occupations

Wage growth in management roles in Germany has maintained the occupational skills wage gap.

View from the ground

The economy has become much weaker as we enter the second half of 2019, despite GDP growing close to 1.5% in 2018. Nevertheless, the labour market remains stable at the moment. Employment is at a record 44 million and the unemployment rate is correspondingly low at under 5% – the lowest level in years. The question now arises as to how demographic developments (baby boomers starting to retire in the coming years) and the digital transformation will affect the labour market. The important thing here is to quickly develop new skills among employees in order to remain competitive in these new markets.

Klaus Breitschopf, Managing Director, Hays Germany

Key skills in demand

- Software Developers
- Integrator IT Security Specialists
- IT Consultants
- Project Managers
- Business Analysts

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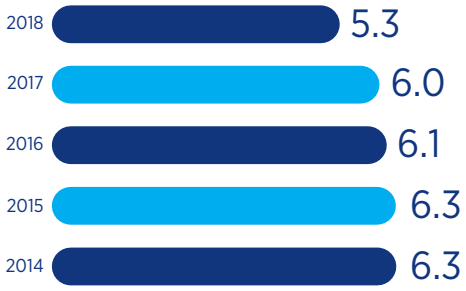
HUNGARY

In 2018, Hungarian GDP grew by 5% – its fastest rate since this version of the GDP series began in 1995. The growth was stimulated by very rapid investment (in part stimulated by EU funding of public investment projects) and household consumer spending.

With the economy expanding rapidly, the labour market has tightened significantly. The unemployment rate fell to a record low of 3.7% in 2018. Recorded job vacancies rose by 22.6% in the year. There is evidence of skill shortages. The European Commission's Business Survey in 2018 suggests 33.8% of service firms and 19.4% of manufacturing firms in Hungary think their output will be constrained by labour shortages. This has helped push expected overall wage growth to 9% this year, alongside an 8% increase in the minimum wage.

	2018	2019†
Population	9.8m	**9.8m**
GDP		
GDP (Billion HUF*)	44,379	**46,508**
GDP growth	5.0%	**4.8%**
GDP/head (HUF*)	4,542,400	**4,765,200**
Unemployment		
Unemployment rate	3.7%	**3.4%**
Long-term unemployment rate	1.8%	**1.4%**
Net migration (% of population)	1.3	**1.3**

* 2019 prices † Average forecast figure for 2019



Key drivers

Talent Mismatch

The long-term unemployment rate fell sharply last year to well below its historical average. The decline occurred across all duration categories of unemployment over a year.

Labour Market Participation

The growth in Hungary's participation rate is forecast to slow slightly this year, which would reduce the rate at which the supply of skilled labour expands.

Education Flexibility

A slight decline in the number of graduates as a share of the total population has lowered the share of skilled workers.

View from the ground

Due to accelerating competition amongst employers for the best candidates, many companies have had to increase salaries throughout the year to retain and attract workers. Therefore, the importance of recruitment is being increasingly emphasised by companies, and in terms of strategic planning it is clear it takes priority. International companies have continued to invest in Hungary throughout the year, and over the next three years the newly built plants in Debrecen will absorb a significant amount of the workforce from the market. Many areas continue to be driven by jobseekers, the biggest shortage of potential workers being in the manufacturing industry. We continue to experience an IT labour shortage in the ever-changing IT market and the perception towards the IT profession has significantly changed: more and more people are moving into this area with different backgrounds and different ages – attempting to minimise the demand and supply gap.

Tammy Nagy-Stellini, Managing Director, Hays Hungary

Key skills in demand

- Automotive Quality Engineers
- Automation Engineers
- Java Developers
- Data Scientists
- Front-end Developers

Note: The analysis on which the Hays Global Skills Index was based utilised data as of Q2 2019. Developments subsequent to this date are not reflected in the 2019 findings.

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IRELAND

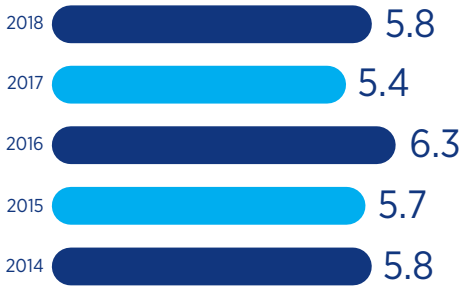
Ireland posted rapid economic growth figures of nearly 8% in 2018, following an even stronger performance of 7.2% the previous year. Although these headline figures are distorted by foreign multinational enterprises' activity, underlying domestic demand is relatively buoyant, although there were signs of cooling towards the end of the year and into 2019.

A large discrepancy exists between the wages and productivity levels of those working for multinational firms relative to those in domestic enterprises, with the potential to widen existing labour market inequalities. In addition, the female participation rate remains considerably below the EU average (the rate was 56% in 2018 relative to 68% for the EU), despite a greater proportion of women holding third-level qualifications compared to men.

Over the longer term, the economy's ability to expand is forecast to be supported by a strong increase in the size of the working-age population due to natural increases and inward and return migration.

	2018	2019†
Population	4.9m	**4.9m**
GDP		
GDP (Billion EUR*)	328	**344**
GDP growth	7.8%	**5.0%**
GDP/head (EUR*)	67,400	**70,100**
Unemployment		
Unemployment rate	5.8%	**4.7%**
Long-term unemployment rate	3.2%	**2.3%**
Net migration (% of population)	4.0	**4.0**

* 2019 prices † Average forecast figure for 2019



Key drivers

Overall Wage Pressure

Real wage growth is forecast to be much lower this year, which is consistent with less pressure in the labour market.

Education Flexibility

A slight fall in the number of graduates as a share of the population has decreased the proportion of skilled workers available.

Wage Pressure in High-Skill Occupations

The wage gap between high-skill and low-skill occupations has closed slightly, although this Indicator remains the highest across all 34 markets featured in the report.

View from the ground

The Irish economy, on balance, is in a strong position, supported by low unemployment and sustained business investment from indigenous and multinational companies. In the high-tech and finance industries the demand for skills like cybersecurity analysis, remains high. While in the construction industry, quantity surveyors are extremely sought after. This trend is being sustained by a tight labour market and an under-supply of talent, and the longer this continues the more wage pressure will increase. Organisations need to start investing in employee upskilling and reskilling programmes now, which will allow them to plug skills deficits in the short to medium term in a cost-effective way. In addition, employers are continuing to seek talent from outside of Ireland which will become even more important during a sustained period of economic uncertainty.

Mike McDonagh, Managing Director, Hays Ireland

Key skills in demand

- Cyber Security Analysts
- Quantity Surveyors
- Tax Managers
- Procurement Managers
- Data Scientists

Note: The analysis on which the Hays Global Skills Index was based utilised data as of Q2 2019. Developments subsequent to this date are not reflected in the 2019 findings.

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ITALY

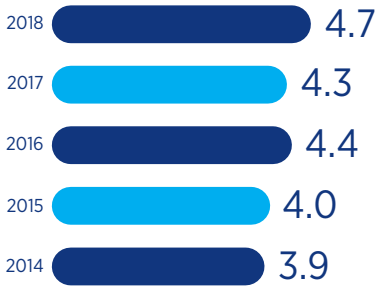
In 2018, Italian GDP rose by 0.7%, below its rate of 1.9% in the previous year. The slowdown in growth reflected a smaller increase in the rate of consumer spending.

Labour market conditions have generally improved. The number of people employed increased by 0.2% in 2018 to stand at record levels of 23.2 million. In 2018, the participation rate also increased to record levels, reflecting a decline in the population of working age, and falls in the numbers out of the labour force. It now stands at 65.6%. Although there is still considerable scope for the participation rate for females to increase from its current rate at 56.2%, compared to 75.1% for males.

The size of the population of working age reached a peak in 2015. However, it has declined slightly in each of the following three years.

	2018	2019†
Population	60.5m	**60.5m**
GDP		
GDP (Billion EUR*)	1,774	**1,779**
GDP growth	0.7%	**0.3%**
GDP/head (EUR*)	29,300	**29,400**
Unemployment		
Unemployment rate	10.6%	**10.4%**
Long-term unemployment rate	6.2%	**6.1%**
Net migration (% of population)	3.9	**3.7**

* 2019 prices † Average forecast figure for 2019



Key drivers

Wage Pressure in High-Skill Occupations

Wage growth in high-skilled occupations has outpaced wage growth in low-skilled occupations. As a result, the wage gap is at its highest level for five years.

Overall Wage Pressure

Real wages are forecast to decline marginally this year, following five years of positive growth.

Labour Market Participation

Italy's participation rate is forecast to grow this year, having fallen last year. This will boost the pool of labour employers can recruit from.

View from the ground

Overall, the Italian labour market has seen an improvement over the year, exceeding pre-crisis levels of employment. Many companies have invested heavily in innovation, which has seen an increase in the demand for professionals with digital skills. The wage gap between people in high-skill occupations and those in low-skill occupations stands at highest level in five years, as organisations are paying higher wages for the skills they need and are not readily available. Therefore, it is positive to see Italy's participation rate has increased, following previously very low rates registered in previous years. Finally, Italy's Talent Mismatch Indicator remains worryingly high at 8.5, further evidence that employers are facing serious difficulties when searching for highly skilled professionals, especially in technical sectors.

Carlos Soave, Managing Director, Hays Italy

Key skills in demand

- Heads of Digital
- Sales Managers
- Project Managers
- Engineering Managers
- Analysts/Developers

Note: The analysis on which the Hays Global Skills Index was based utilised data as of Q2 2019. Developments subsequent to this date are not reflected in the 2019 findings.

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LUXEMBOURG

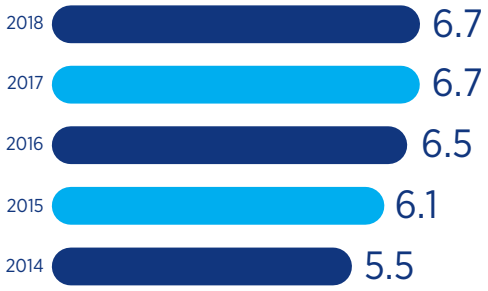
The Luxembourg economy continues to expand, with annual GDP growth reaching 3.2% in 2018. This expansion is underpinned by solid growth in household and government spending.

The strong growth and active labour market policies reduced the unemployment rate to 5.4% in 2018. It may prove challenging for the unemployment rate to decline much further, because of skills mismatches and the financial disincentives to work embedded in the tax and benefit system. The latter explains the high unemployment rates among the young and low-skilled.

Participation rates for women at 55.8% and older people at 42.0% (55-64-year-olds) remain low relative to European peers. This is thought to reflect the high marginal effective tax rates for second-earners, and the generosity of the pension system and pre-retirement schemes.

	2018	2019†
Population	0.6m	**0.6m**
GDP		
GDP (Billion EUR*)	60	**61**
GDP growth	3.2%	**1.5%**
GDP/head (EUR*)	101,200	**101,000**
Unemployment		
Unemployment rate	5.4%	**5.3%**
Long-term unemployment rate	2.1%	**2.0%**
Net migration (% of population)	16.3	**15.5**

* 2019 prices † Average forecast figure for 2019



Key drivers

Education Flexibility

There has been a slight fall in the number of graduates as a share of the population, reducing the supply of skilled workers to firms.

Overall Wage Pressure

Wage growth is forecast to accelerate this year, further above the historical average, driving this high Indicator score.

Talent Mismatch

The imbalance between the skills offered and those needed remains high relative to the past. It suggests any future employment growth is likely to come from further increases in the numbers commuting in from neighbouring countries for work.

View from the ground

With GDP growth of 3% in 2018, Luxembourg remains above the EU average. Luxembourg's economic climate is good, despite a need for caution as the economic downturn in neighbouring countries as well as the tightening of US monetary policies both have the potential to impact Luxembourg. The strong support of the Government has allowed the economy to remain strong and it is forecast to grow further in 2019 and 2020. The overall unemployment rate is forecast to decrease further to 5%; however there are large numbers of open vacancies going unfilled as Luxembourg lacks the skilled professionals, a prime example being engineers. The population of Luxembourg will exceed 600,000 people in 2019, adding to the pool of potential workers. Many organisations are competing for talent and will have to review their strategy in order to attract new recruits and retain employees.

Tina Ling, Managing Director, Hays France & Benelux

Key skills in demand

- German-speaking Profiles
- JAVA Developers
- Electricity Project Managers
- Mechanical Engineers
- Transport Managers

Note: The analysis on which the Hays Global Skills Index was based utilised data as of Q2 2019. Developments subsequent to this date are not reflected in the 2019 findings.

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NETHERLANDS

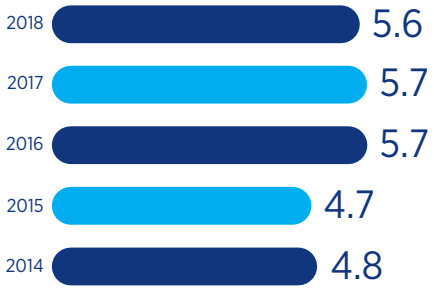
Unemployment in the Netherlands reached a 10-year low of 3.8% in 2018 and the job vacancies rate reached an all-time high.

Despite this strong labour market performance, wage growth has been constrained by slow productivity growth and increasing part-time and self-employed work.

The Netherlands has among the highest rates of part-time and self-employment among industrial economies. The share of part-time employment in total employment, for instance, was the highest of the OECD countries, and more than twice the EU average. While non-standard forms of employment provide flexibility to workers and employers alike, some of these workers may have taken part-time roles involuntarily, having a preference for a full-time role with higher wages.

	2018	2019†
Population	17.3m	**17.3m**
GDP		
GDP (Billion EUR*)	789	**806**
GDP growth	2.5%	**2.2%**
GDP/head (EUR*)	45,700	**46,500**
Unemployment		
Unemployment rate	3.8%	**3.4%**
Long-term unemployment rate	0.1%	**0.1%**
Net migration (% of population)	1.9	**1.9**

* 2019 prices † Average forecast figure for 2019



Key drivers

Wage Pressure in High-Skill Industries
Weak wage growth in the professional, scientific and technical sector contributed to a narrowing of the gap between wages in high- and low-skill industries.

Labour Market Participation
The participation rate is forecast to rise in the Netherlands, easing the pressure on Dutch firms seeking to expand, as the pool of available workers becomes larger.

Talent Mismatch
While the vacancy rate remains low by international standards, it has risen to its highest rate in over a decade in the Netherlands.

View from the ground

The Talent Mismatch Indicator has risen by a considerable amount again this year, demonstrating that many of the skills available do not match the skills sought by businesses. In some fields, such as IT, it is already common for businesses to attract skilled individuals from abroad, in order to fill any skills gaps they are experiencing. Businesses are also attracting people from the local labour market who don't necessarily have all the skills they are looking for but instead have the potential to learn them quickly, through training and upskilling opportunities. In an extremely competitive market, employers must review their attraction and retention strategies to ensure they are able to secure the very best talent who already possess the right skills. It is therefore essential for organisations to work on an excellent employer brand.

David Trollope, Managing Director, Hays Netherlands

Key skills in demand

- Account Managers
- Software Engineers
- Web Developers
- Sales Managers
- Financial Controllers

Note: The analysis on which the Hays Global Skills Index was based utilised data as of Q2 2019. Developments subsequent to this date are not reflected in the 2019 findings.

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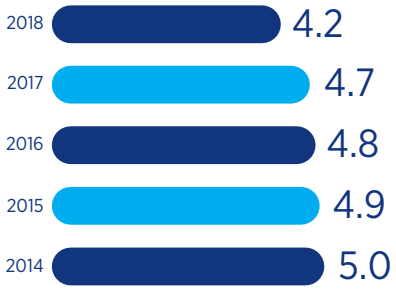
POLAND

In 2018, the Polish economy expanded by its fastest rate in over ten years, with GDP rising by 5%, boosted in part by large new social benefits programmes raising consumption and a substantial increase in EU funds boosting public sector investment spending. This rapid growth has helped to bring unemployment down to record lows at 3.9%, while the job vacancy rate has reached its highest level since 2007.

Since 2014, the Polish economy has been supported by an influx of foreign workers. They have been attracted by simplified procedures for short-term employment, among other factors, and have played an important role in supporting Poland's rapidly expanding economy. Foreign workers have been integral to solving Poland's issues of labour shortages and will continue to be so in the future. Poland's working-age population is already declining and is forecast to decline at an annual rate of over 1% through the middle of the century – one of the fastest in the world. The country's ability to attract foreign workers may be threatened in the future if neighbouring countries liberalise their immigration laws for non-EU workers.

	2018	2019†
Population	38.0m	**38.0m**
GDP		
GDP (Billion PLN*)	2,159	**2,255**
GDP growth	5.0%	**4.5%**
GDP/head (PLN*)	56,800	**59,400**
Unemployment		
Unemployment rate	3.9%	**3.6%**
Long-term unemployment rate	0.5%	**0.6%**
Net migration (% of population)	0.4	**0.4**

* 2019 prices † Average forecast figure for 2019



Key drivers

Labour Market Participation

A greater supply of potential applicants will ease the pressure for Polish firms seeking new workers.

Labour Market Flexibility

This year the legal and regulatory framework surrounding the labour market is rated as more restrictive relative to the other 33 markets in the report.

Wage Pressure in High-Skill Industries

The wage gap between high-skilled and low-skilled industries has narrowed again. This was driven in part by strong wage-growth in the low-skilled hotel and restaurant and retail industries.

View from the ground

The challenges facing companies in the near future are mainly connected to the shortage of highly skilled professionals, as well as clearly defined expectations from jobseekers when looking for a new role. Due to the insufficient availability of skilled workers, companies are increasingly competing for in-demand experts. As a result, organisations are developing employment strategies that offer decent salaries and interesting career paths – while also providing their current workforce with opportunities to reskill or even change profession. It is becoming crucial for businesses to implement innovative solutions and focus on the competences of candidates, rather than on their professional background or experience. Narrowing the skills gap is one of the key challenges for employers and policymakers alike. Another priority that has already started to effect positive results is the undertaking of initiatives by companies to encourage wider participation in the labour market, from groups such as women and mature workers.

Marc Burrage, Managing Director, Hays Poland

Key skills in demand

- Software Developers
- R&D, Quality and Automation Experts
- eCommerce and Digital Professionals
- Cyber Security Consultants
- Multilingual Experts (Business Services Sector)

Note: The analysis on which the Hays Global Skills Index was based utilised data as of Q2 2019. Developments subsequent to this date are not reflected in the 2019 findings.

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PORTUGAL

The Portuguese economy performed strongly in 2018, with GDP growth of 2.2%, which is higher than the average growth for the five years previous of 1.3%. This was driven by increased economic activity in the construction sector, which grew by 6.4% in 2018, and in the accommodation and food services industry, which grew by 4%.

Labour market conditions are also improving, with unemployment falling to 7% in 2018 – its lowest rate since 2002, and well below the average unemployment rate for the five years previous of 12.7%. Rising labour force participation has been necessary to offset a decline in the working-age population. The participation rate rose to 76.5% in 2018, the highest rate since 2011, while the working-age population fell to 6.6 million in 2018 – 0.5% less than in 2017, and the lowest level in nearly 30 years.

	2018	2019†
Population	10.3m	**10.2m**
GDP		
GDP (Billion EUR*)	205	**209**
GDP growth	2.2%	**2.1%**
GDP/head (EUR*)	19,900	**20,400**
Unemployment		
Unemployment rate	7.0%	**6.5%**
Long-term unemployment rate	2.5%	**2.0%**
Net migration (% of population)	2.6	**2.5**

* 2019 prices † Average forecast figure for 2019

Key drivers

Wage Pressure in High-Skill Industries

The wage gap between high-skilled and low-skilled industries has narrowed. This was driven by falling wages in the financial sector.

Talent Mismatch

This is driven by both a fall in the long-term unemployment rate and a fall in the vacancy rate. This indicates there was a better skills match, although the Indicator remains high at 8.6.

Labour Market Flexibility

The legal and regulatory framework surrounding the labour market was ranked as slightly less burdensome on employers relative to the other 33 markets in the report.

View from the ground

The Portuguese economy is experiencing a lot of positivity at present, including the development of innovative projects and receiving considerable amounts of foreign investment. As a result, the unemployment rate has dropped to lower levels. The consequential growth in the skilled labour market has been creating challenges for companies in identifying and attracting the right talent. Skills shortages could be holding back business growth: if companies are unable to find the right talent then they are unable to operate to their full potential. Therefore, it's important for companies to create competitive retention and attraction strategies to compete for sought-after skills. In addition, it's crucial for firms to try and attract professionals who have left the country, especially the younger generation who emigrated in recent years, as this has had an impact on the working-age population.

Paula Baptista, Managing Director, Hays Portugal

Key skills in demand

- Full Stack Developers
- SAP Consultants
- Automation & Robotics Engineers
- Export Managers
- Certified Accountants

Note: The analysis on which the Hays Global Skills Index was based utilised data as of Q2 2019. Developments subsequent to this date are not reflected in the 2019 findings.

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ROMANIA

Strong consumption growth underpinned another good year for the Romanian economy in 2018, with GDP increasing by around 3.6%.

There is little spare capacity in the labour market, with the robust recent economic performance prompting the unemployment rate to fall to 4.2% in 2018, its lowest level since 1988. Some labour shortages have emerged, notably in the construction sector, which are likely to threaten the rate at which business can expand and will put upward pressure on wages.

In January 2019, the Government introduced three separate minimum wages: the overall national minimum wage, another specifically for employees with higher education, and a third specifically for the construction sector. The latter two were introduced to combat shortages in the supply of skilled labour and construction workers, respectively. The national minimum gross monthly wage was increased from RON 1,900 to RON 2,080. It was just RON 1,450 as recently as 2017.

	2018	2019†
Population	19.4m	**19.3m**
GDP		
GDP (Billion RON*)	973	**1,029**
GDP growth	3.6%	**5.7%**
GDP/head (RON*)	50,100	**53,300**
Unemployment		
Unemployment rate	4.2%	**4.1%**
Long-term unemployment rate	n/a	**n/a**
Net migration (% of population)	0.2	**0.2**

* 2019 prices † Average forecast figure for 2019

2018 n/a

2017 n/a

2016 n/a

2015 n/a

2014 n/a

Note: Romania was included in the Hays Global Skills Index for the first time this year.

Key drivers

Talent Mismatch

The vacancy rate has steadily risen in Romania. This suggests there is a growing imbalance between the skills job applicants possess and those sought by employers.

Education Flexibility

A fall in the number of graduates as a share of the total population in Romania means that the average skill level of workers has declined.

Labour Market Participation

Romania is forecast to experience another year of positive growth in the participation rate this year, increasing the size of the available labour pool.

View from the ground

Romania, especially in the major cities, has an extremely dynamic labour market. One of the most powerful and growing sectors is the shared service centre and business process outsourcing sector. There is currently a trend in this sector of operational roles becoming more and more complex and therefore the required skillset is growing. Such centres have started migrating more sophisticated jobs to the country and new roles are still being created. Apart from the standard English language proficiency, other languages are also in high demand. The information technology (IT) sector is trying keep up with the increasing demand for skilled professionals, while tax exemptions for IT workers are still in place in order to attract and retain professionals to Romania. The market has become extremely competitive, bringing salaries to sometimes stressful levels. The Government has also introduced a tax exemption for the construction sector to address the skills shortage in this fast-growing sector.

Sándor Bodnár, Managing Director, Hays Romania

Key skills in demand

- Software Developers
- Cyber Security Engineers
- Construction Engineers
- Customer Service Staff with Foreign Language Skills
- AP/AR/GL Accountants

Note: The analysis on which the Hays Global Skills Index was based utilised data as of Q2 2019. Developments subsequent to this date are not reflected in the 2019 findings.

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RUSSIA

The economy continued its recovery from the 2015-16 recession, growing by 2.6% in 2018. The rate of GDP growth over the next few years is predicted to remain relatively subdued due to the structural bottlenecks, the lingering impact of sanctions, and adverse demographic trends the economy faces.

The economy's ability to expand is constrained by its ageing population; the working-age population is forecast to decline by an average of 0.9% each year between 2018-2027. Participation rates are already high, leaving limited scope to boost the supply of labour. In 2018, the Government raised the statutory retirement age from 55 and 60 for women and from 60 to 65 for men. This should offset some of the negative demographic trends and have the side effect of easing pressures on the Government's budget through lowering pension expenditure.

	2018	2019†
Population	143.9m	**143.9m**
GDP		
GDP (Billion RUB*)	114,067	**114,771**
GDP growth	2.6%	**0.6%**
GDP/head (RUB*)	792,500	**797,700**
Unemployment		
Unemployment rate	4.8%	**4.9%**
Long-term unemployment rate	n/a	**n/a**
Net migration (% of population)	1.7	**1.7**

* 2019 prices † Average forecast figure for 2019

Key drivers

Wage Pressure in High-Skill Occupations

Strong wage growth in managerial occupations and amongst technical and associate professionals has widened the occupational skills wage gap.

Labour Market Participation

The participation rate has grown in Russia, increasing the pool of labour available to firms seeking to recruit.

Education Flexibility

The improvement in educational standards will boost the supply of skilled labour to Russian employers.

View from the ground

Against the background of the relatively stable Russian economy, purchasing power remains at low levels. Employers are primarily promoting employees internally rather than making new hires, focusing on retention by developing loyalty programmes and upskilling employees. It is expected that the legislation to raise the retirement age for both men and women will go some way to alleviating skills shortages and in the short term will ease the pressure on the labour market. However, in order to address the issue in the long term, educational institutions and employers will have to significantly revise training and motivation programmes, aimed at the development of skilled professionals. The labour market could also be affected by employees of foreign companies being at risk from international economic sanctions. IT specialists and sales professionals can expect between two and three job offers at a time, so can confidently look for new roles.

Alexey Shteingardt, Managing Director, Hays Russia

Key skills in demand

- Commercial Excellence Managers
- Sales Analytics Specialists
- Data Scientists
- Digital Transformation Managers
- Community Managers

Note: The analysis on which the Hays Global Skills Index was based utilised data as of Q2 2019. Developments subsequent to this date are not reflected in the 2019 findings.

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SPAIN

Private consumption and investment served as the key drivers for GDP growth in 2018, which grew by 2.6%. This follows three years of GDP growth at or above 3%.

The Spanish labour market has improved but significant challenges remain; while the unemployment rate is below its long-term average (steadily falling since 2013), Spain's youth joblessness and involuntary part-time employment remain among the highest in the EU. In addition, employment growth is now starting to slow following years of strong gains, with potential consequences on disposable income and consumer spending in the years to come, as well as welfare costs.

	2018	2019†
Population	46.6m	**46.7m**
GDP		
GDP (Billion EUR*)	1,225	**1,249**
GDP growth	2.6%	**1.9%**
GDP/head (EUR*)	26,300	**26,800**
Unemployment		
Unemployment rate	15.3%	**13.7%**
Long-term unemployment rate	8.1%	**6.5%**
Net migration (% of population)	8.0	**7.8**

* 2019 prices † Average forecast figure for 2019

Key drivers

Overall Wage Pressure

Real wages are expected to grow positively this year, after falling for three consecutive years.

Wage Pressure in High-Skill Industries

Driven by strong wage growth in the financial and information sectors, the industrial wage skills gap continued to widen in Spain.

Talent Mismatch

The vacancy rate has risen in Spain whilst long-term unemployment remains high. This suggests there is a large mismatch between the skills employers seek and those held by jobseekers.

View from the ground

Spain's labour market has seen little structural innovation in recent years, since no government has boasted a majority with which to reform. Indeed, some legislation has actively been damaging to the evolution of the world of work, such as recent regulations forcing companies to clock workers in and out of their place of work. Not a great advert for flexibility. However, the great concern for the future is related to the lack of young people in the workplace – demographic changes and a focus on time served means that only 14% of workers are now under 30, down from one in four a decade ago. The positive development has been Spain's increasing competitive advantage in technology, becoming an innovation hub for many organisations.

Chris Dottie, Managing Director, Hays Spain

Key skills in demand

- JAVA Developers
- Data Engineers
- Industry Sales
- Process Engineers
- Business Controllers

Note: The analysis on which the Hays Global Skills Index was based utilised data as of Q2 2019. Developments subsequent to this date are not reflected in the 2019 findings.

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SWEDEN

In 2018, Swedish GDP rose by 2.4%, virtually unchanged from its level in the previous two years. The growth was boosted by investment spending and export earnings.

Strong job gains meant the country reached a post-crisis low of 6.2% unemployment rate in the last quarter of 2018. Labour market participation increased to over 73% from already high levels, while productivity growth slowed to a similar pace to that in other advanced economies.

Sweden has approved labour market reforms in recent years, but challenges remain. Aiming to increase employment of the low-skilled and immigrants, the Swedish Government recently increased resources for education and simplified its policies to boost employer participation. However, unemployment rates in these segments remain much higher than for the rest of the working population.

	2018	2019†
Population	10.2m	**10.3m**
GDP		
GDP (Billion SEK*)	4,897	**4,996**
GDP growth	2.4%	**2.0%**
GDP/head SEK*)	481,000	**486,000**
Unemployment		
Unemployment rate	6.3%	**6.6%**
Long-term unemployment rate	3.1%	**2.9%**
Net migration (% of population)	5.4	**5.3**

* 2019 prices † Average forecast figure for 2019

Key drivers

Wage Pressure in High-Skill Industries
The wage premium for high-skilled industries fell this year. Workers in professional, scientific and technical activities are amongst those whose average wages declined.

Wage Pressure in High-Skill Occupations
The wage gap between computer specialists, accountants and other high-skill occupations declined relative to their lower-skilled colleagues.

Overall Wage Pressure
Real wage growth is forecast to slow again this year, easing the pressure on employers' wage bills.

View from the ground

There are a couple of challenges facing the Swedish labour market this year. For instance, after years of decline, the unemployment rate is expected to rise this year due to weak job growth, while GDP growth is set to slow to around 2%. Looking at Sweden's findings from this year's Index shows that while the Overall Index Score has decreased this year, Sweden is still amongst the most pressured labour markets of all 34 economies examined. The Talent Mismatch Indicator has risen from 9.9 to the highest possible score at 10.0, this shows that the gap between the skills wanted by businesses and the skills available in the labour market is now at its greatest.

Nora Gunneng, Managing Director, Hays Sweden

Key skills in demand

- Process Engineers
- Project Leaders
- Laboratory Engineers
- IT Developers (Java, embedded)
- Testers/Test Leaders

Note: The analysis on which the Hays Global Skills Index was based utilised data as of Q2 2019. Developments subsequent to this date are not reflected in the 2019 findings.

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SWITZERLAND

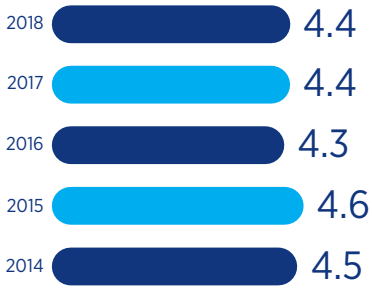
In 2018, GDP increased by 2.5%, above its average of the previous five years of 1.8%. It was boosted by the growth in consumer spending and net exports. Although a slowdown is expected for 2019, growth is forecast to be solid in the medium term, averaging around 1.5% annually. This is partially thanks to the high-quality consumer and investment goods the country produces. Demand for such products is growing, notably among the expanding middle classes in emerging economies.

There is some evidence of an increase in the demand for labour, with the registered unemployment rate decreasing to 2.6% in 2018. There are shortages of skilled workers in some industries, in part due to lower immigration.

The participation rates of females at 62.9% and older people (between 55 and 64 years old) at 75.6% remains relatively low. The official retirement age has not been increased from 65 for men and 64 for women despite high and rising life expectancy, which disincentivises older people from working.

	2018	2019†
Population	8.6m	**8.6m**
GDP		
GDP (Billion CHF*)	693	**702**
GDP growth	2.5%	**1.3%**
GDP/head (CHF*)	80,900	**81,200**
Unemployment		
Unemployment rate	2.6%	**2.7%**
Long-term unemployment rate	0.4%	**0.5%**
Net migration (% of population)	4.7	**4.7**

* 2019 prices † Average forecast figure for 2019



Key drivers

Wage Pressure in High-Skill Occupations

The wages paid to executives and senior managers and intermediate professions fell, contributing to the narrowing of the occupational skill wage gap.

Wage Pressure in High-Skill Industries

The wage gap between high-skilled and low-skilled industries has fallen, reducing Switzerland's industry wage spread. Finance was one of the high-skill sectors where average wages declined last year.

Talent Mismatch

The vacancy rate reached its highest level since 2008. The industrial sectors with the highest vacancy rates are computer and information services and the manufacturing of electronics and time pieces.

View from the ground

With a steadily rising GDP rate and low unemployment, the economy in Switzerland has enjoyed a solid and stable few years. Much like last year, we continue to expect digitalisation to create opportunities for Switzerland, leading to structural changes and a host of new roles and skills. According to our recent report, 'Focus on the effects of digitalisation on employment', digitalisation has a positive impact on employment across all specialist fields and does not kill jobs – in fact, it is quite the opposite. As a result of digitalisation and the skilled professionals it requires, we expect many outsourced projects to continue to move back to Switzerland and other countries with highly skilled workforces. We must however ensure we have enough people with the right skills to keep up with demand.

Marc Lutz, Managing Director, Hays Switzerland

Key skills in demand

- Software Developers
- Administrators
- Helpdesk/Support
- Project Managers
- Quality Managers

Note: The analysis on which the Hays Global Skills Index was based utilised data as of Q2 2019. Developments subsequent to this date are not reflected in the 2019 findings.

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UNITED ARAB EMIRATES

The economy recovered from the slowdown of 2017. The medium-term outlook for growth outside the oil sector is positive, thanks to greater investment, stronger prospects among trading partners and future tourism gains.

The boom in US shale oil production has lowered oil price forecasts, which will negatively impact oil sector growth in the UAE. To avoid risks associated with oil, the Government plans to diversify the economy and reduce the contributions of oil to GDP from 30% to 20% by 2021. The Government also continues to rebalance the economy away from the public sector through modification of the public-private sector balance of incentives for Emirati nationals, in a bid to increase Emirati private sector employment.

To support the region's attractiveness to high-skill migrant labour, the Government has approved plans to offer long-term visas of 10 years to highly qualified scientists and researchers, and 5-year visas to entrepreneurs and outstanding students, beyond the current 3 years.

	2018	2019†
Population	9.6m	**9.7m**
GDP		
GDP (Billion AED*)	1,491	**1,564**
GDP growth	0.8%	**4.9%**
GDP/head (AED*)	156,200	**161,600**
Unemployment		
Unemployment rate	2.6%	**1.9%**
Long-term unemployment rate	n/a	**n/a**
Net migration (% of population)	11.3	**10.5**

* 2019 prices † Average forecast figure for 2019

Note: UAE was included in the Hays Global Skills Index for the first time in 2016.

Key drivers

Wage Pressure in High-Skill Industries

The wage gap between high-skilled and low-skilled industries has fallen, reducing the UAE's industry wage spread.

Education Flexibility

The UAE has among the lowest share of graduates in the population of the 34 markets featured within the report, limiting the supply of indigenous skilled labour.

Labour Market Flexibility

The UAE has a very open economy. For example, non-residents made up 92% of Dubai's population in 2018.

View from the ground

Job flow in the UAE for the past 12 months has been much the same as in 2018. Low energy prices have restricted growth in job numbers, but momentum in the non-oil sectors continues to strengthen and we expect job creation to increase. The most significant and busiest area of hiring is the IT sector, which is driving confidence right across the economy. We are seeing organisations from all industries invest heavily in the digital transformation of their outdated processes and procedures, enabling them to better compete on a global scale and which is then increasing demand for added headcount to deal with this surge in capability. In terms of available talent, the region is saturated with jobseekers. People with very specialist niche skills (such as in solar, AI etc.) can be harder to find but the tax-free environment and high earning potential are significant pull factors for relocating to the region.

Chris Greaves, Managing Director, Hays UAE

Key skills in demand

- Regional Business Managers
- Digital Marketing Specialists
- Application Developers (Full Stack, Frontend, Backend)
- Product Managers (Head of Product, Product Manager)
- Data Scientists

* Due to the lack of availability of UAE structural and long-term unemployment and vacancies data, we did not calculate the country's Talent Mismatch score and therefore the Overall Index Score was calculated using six Indicators.

Note: The analysis on which the Hays Global Skills Index was based utilised data as of Q2 2019. Developments subsequent to this date are not reflected in the 2019 findings.

For a full list of Indicator Scores, view page 54

UNITED KINGDOM

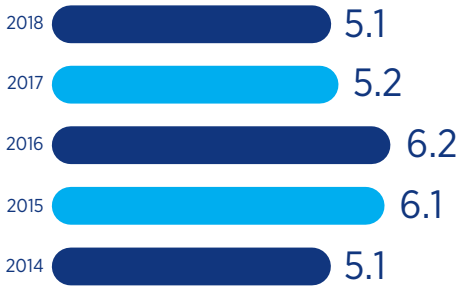
In 2018, UK GDP rose by 1.6%. This was below its average growth rate of 2.2% in the previous five years. Business investment has been reduced by uncertainty over the future trading relationship with the EU and expectations of higher future trade costs. Partly offsetting this has been the growth in net exports from the depreciation of sterling.

There is not a lot of slack in the labour market. The unemployment rate averaged 4.1% in 2018, down from 4.4% in 2017. The labour force participation rate for 16-year-olds and over reached 63.8%, its highest level since 1991.

Since the end of 2016, net migration into the UK has remained broadly stable. But this masks different patterns for EU and non-EU migration. By the end of September 2018, non-EU net migration was at its highest level since 2004, reflecting a gradual increase in immigration over the past five years for both work and study. In contrast, EU net migration has fallen to a level last seen in 2009, due mainly to a decrease in immigration.

	2018	2019†
Population	66.5m	**66.9m**
GDP		
GDP (Billion GBP*)	2,158	**2,187**
GDP growth	1.6%	**1.4%**
GDP/head (GBP*)	32,400	**32,700**
Unemployment		
Unemployment rate	4.1%	**3.8%**
Long-term unemployment rate	0.8%	**0.8%**
Net migration (% of population)	2.5	**2.5**

* 2019 prices † Average forecast figure for 2019



Key drivers

Wage Pressure in High-Skill Industries

Driven by strong wage growth in the information and communication sector, the wage gap between high- and low-skilled industries has increased.

Overall Wage Pressure

Real wage growth is forecast to pick up slowly this year, increasing pressure on employers' wage bills.

Talent Mismatch

Last year just under 26% of the unemployed had been without a job for over a year. This is well below the recent peak of 36% in 2013.

View from the ground

Employers are continuing to take a cautious approach to hiring because of ongoing uncertainty surrounding the economy. However, skills shortages persist across several industries and employers are hiring for essential roles. Access to skilled labour continues to be problematic for employers as unemployment falls further and there is some hesitancy from candidates to move roles. Employers are having to work hard to secure the talent they need due to skills shortages in areas such as technology, construction and in some areas of finance. As a result, wage pressure has increased, more so in skill-short areas and highly skilled occupations. Skills shortages are also impacting employers' pursuit of digital transformation. As many organisations are capitalising on opportunities available through investment into new technology, the pace of transformation is being hampered by a lack of skilled and available talent.

Simon Winfield, Managing Director, Hays UK & Ireland

Key skills in demand

- Cyber Security Analysts
- Part-qualified Accountants
- Site Managers
- Data Scientists
- Java Developers

Note: The analysis on which the Hays Global Skills Index was based utilised data as of Q2 2019. Developments subsequent to this date are not reflected in the 2019 findings.

For a full list of Indicator Scores, view page 54

2019/20 INDEX SCORES SUMMARY

Figure 11: Hays Global Skills Index Indicators (by market)

	Overall Index score	Education Flexibility	Labour Market Participation	Labour Market Flexibility	Talent Mismatch	Overall Wage Pressure	Wage Pressure in High-Skill Industries	Wage Pressure in High-Skill Occupations
Australia	6.0	4.9	5.7	4.3	6.1	5.9	8.6	6.2
Austria	5.9	5.2	5.7	4.0	8.8	7.3	6.6	3.6
Belgium	3.9	5.6	5.6	3.7	1.5	6.2	0.0	4.5
Brazil	5.3	5.8	5.9	9.2	7.9	3.9	3.6	1.0
Canada	5.6	5.9	5.0	4.1	6.0	3.9	9.1	5.4
Chile	5.0	6.4	5.9	6.5	0.0	5.8	4.3	5.8
China	3.7	0.9	1.2	8.1	4.1	1.9	4.4	5.0
Colombia	6.3	5.3	9.1	7.8	6.2	6.1	3.1	N/A
Czech Republic	4.2	7.7	4.6	3.5	4.3	3.6	0.9	5.0
Denmark	6.5	5.2	4.5	3.5	9.5	8.9	8.7	4.9
France	6.0	4.5	5.2	8.4	10.0	3.4	6.4	3.8
Germany	6.5	6.3	5.2	6.9	4.2	5.8	9.5	7.5
Hong Kong SAR	4.4	1.9	5.7	2.6	5.7	8.7	6.1	0.0
Hungary	4.8	8.4	3.7	5.0	6.0	4.8	0.9	4.7
India	5.4	0.7	4.2	8.7	5.2	7.0	6.8	5.0
Ireland	5.5	3.1	7.6	3.0	7.9	3.6	5.7	7.8
Italy	4.8	6.2	3.7	6.6	8.5	3.8	2.4	2.3
Japan	6.1	3.9	6.3	7.0	9.8	7.0	1.1	7.5
Luxembourg	6.8	5.9	5.1	3.6	10.0	10.0	8.3	4.4
Malaysia	4.5	4.1	3.8	5.7	N/A	4.6	5.1	3.9
Mexico	5.8	4.9	5.7	7.1	5.5	4.9	10.0	2.4
Netherlands	5.5	4.7	6.3	5.2	6.4	5.4	5.3	5.5
New Zealand	5.5	4.6	5.6	4.1	5.8	6.1	10.0	2.5
Poland	4.1	5.1	3.6	6.8	5.9	4.1	3.1	0.4
Portugal	5.5	5.2	5.1	6.1	8.6	5.1	8.3	0.0
Romania	4.4	7.4	3.9	7.3	5.0	4.9	0.0	2.6
Russia	6.1	6.4	5.8	7.6	4.3	5.3	5.9	7.2
Singapore	4.2	0.7	5.3	0.7	6.1	2.3	7.8	6.7
Spain	6.4	4.1	7.0	5.2	10.0	5.0	10.0	3.5
Sweden	6.4	7.9	4.0	4.9	10.0	6.9	9.1	2.2
Switzerland	4.3	3.7	5.2	3.8	5.6	6.7	4.9	0.5
United Arab Emirates	4.6	8.6	4.6	1.6	N/A	7.1	0.7	5.0
United Kingdom	5.4	4.6	6.5	5.1	7.3	4.4	5.1	4.9
United States	5.8	6.5	3.8	4.8	10.0	5.9	9.6	0.0

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Hays has been helping organisations and businesses fill permanent positions, contract roles and temporary assignments across the private and public sectors for over 50 years. As the world's largest specialist recruitment agency, last year alone Hays helped over a quarter of a million professional people worldwide find their next career role. With 11,500 staff operating from 265 offices across 33 countries, Hays is a market leader in the UK and Asia Pacific, and one of the market leaders in Continental Europe and Latin America, and has a growing presence in North America.

Hays works across 20 specialist areas, from healthcare to energy, finance to construction and education to IT. It has the largest and most engaged global candidate database in specialist recruitment and received over 10 million applications during the last year.

Every day Hays helps clients simultaneously dealing with talent shortages in certain markets, while having to reshape workforces in others. The nature of employment is also changing fast, with technological advances driving evolutions in the way people work. Hays understands these complexities and is uniquely positioned across its markets to solve them.

The depth and breadth of Hays' expertise ensures that it understands the impact the right individual can have on an organisation and how the right job can transform a person's life.

To find out more about Hays, visit haysplc.com

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Oxford Economics was founded in 1981 as a commercial venture with Oxford University's business college to provide economic forecasting and modelling to UK companies and financial institutions expanding abroad. Since then, Oxford Economics has become one of the world's foremost independent global advisory firms, providing reports, forecasts and analytical tools on 200 countries, 100 industrial sectors and over 7,000 cities and regions. The company's best-of-class global economic and industry models and analytical tools provide an unparalleled ability to forecast external market trends and assess their economic, social and business impact.

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Data sources for Indicator scores

The analysis on which the Hays Global Skills Index was based utilised data as of Q2 2019. Developments subsequent to this date are not reflected in the 2019 findings.

Labour freedom
Heritage Foundation, Index of Economic Freedom

Improvements in education levels
Barro and Lee dataset (www.barrolee.com)

Change in economic participation rate (overall)
Oxford Economics Global Macro Model

Change in economic participation (15-24 year olds)
International Labour Organization (ILO)

Change in economic participation (55-64 year olds)
International Labour Organization (ILO)

Economic participation rate rank
International Labour Organization (ILO)

Long-term unemployment rate
Organisation for Economic Co-operation and Development (OECD), National statistical agencies

Vacancies (000s)
Organisation for Economic Co-operation and Development (OECD), Eurostat, National statistical agencies

GDP (LC, real, billion)
Oxford Economics Global Macro Model

GDP growth (real)
Oxford Economics Global Macro Model

Population (mn)
Oxford Economics Global Macro Model

Real earnings
Oxford Economics Global Macro Model

Earnings by industry
National statistical agencies

Earnings by occupation
National statistical agencies

Unemployment rate
Oxford Economics Global Macro Model

GDP/head (LC, real)
Oxford Economics Global Macro Model

Non-Accelerating Inflation Rate of Unemployment (NAIRU)
Oxford Economics Global Macro Model

CPI inflation
Oxford Economics Global Macro Model

Net migration
US Government

International Surveys of Educational Attainment in reading, mathematics, and science
PISA: Programme for International Student Assessment (OECD)
TIMSS: Trends in International Mathematics and Science Study (Boston College, TIMSS & PIRLS International Study Center)
PIRLS: Progress in International Reading Literacy Study
PIAAC: Programme for the international assessment of adult competencies (OECD)
LLECE: Latin American laboratory for assessment of the quality of education (UNESCO)
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