HAYS Recruiting experts worldwide

In partnership with:

OXFORD ECONOMICS

INVESTING IN THE SKILLS OF TOMORROW AVOIDING A SPIRALLING SKILLS CRISIS

The Hays Global Skills Index 2018

hays-index.com

CONTENTS

INTRODUCTION

Alistair Cox, Chief Executive, Hays plc

Welcome to the 2018 edition of the Hays Global Skills Index (the 'Index'), a comprehensive overview of the professional global labour market. Based on research and analysis of skilled labour markets across 33 global economies, every year we produce a report that explains the key trends and challenges facing organisations as they search for the most sought-after talent.

Whether it's the threat of Artificial Intelligence (AI) and machine learning taking the place of workers, or major developments in how consumer data is being managed and monetised, this has been a year of technological upheaval. Within this environment, we understand the importance of continually tracking and examining labour markets and questioning whether the global workforce possesses the skills needed to thrive in this ever-changing environment, both now and in the future. It is also important that we consider the role employers should play in making sure their employees have the right level of support and training.

The Index provides this perspective. As the world's largest specialist recruiter, Hays places over 300,000 people into new roles every single year, across 33 markets and over 20 professional disciplines. This reach provides us with a unique insight into the opportunities and challenges on the horizon for skilled workers around the world.

While last year's Index painted a more positive picture than in recent years, this year's edition reveals that there are clouds on the horizon. Global economic growth is expected to gather momentum over the next twelve months, but this trend is not being matched with improvements in productivity or wage growth.

There are two key factors at play here, both of which need to be tackled urgently. The first is the growing talent mismatch between the skills workers possess and those desired by employers. The scale of this issue is demonstrated by the fact that almost half of the countries included in the Index this year showed a rise in the rate of unfulfilled vacancies – a key indicator of talent mismatches.

Clearly if employers can't find workers with the relevant experience and skills for available roles, that's a serious problem, and will only be exacerbated going forward by the transformational technology advancements that we've seen over the past few years.

We live in a world where robots can run and jump; cars are driven by computers and drones are replacing delivery workers. These are but a few examples of how the jobs of tomorrow will be very different to those of today. If workers young and old aren't prepared to take advantage of these new opportunities, and to adapt to developments as they occur, this talent mismatch is only going to increase.

The second factor revealed in the Index – and one that has continued to trouble economists for the best part of a decade – is the 'global productivity puzzle'. Labour productivity levels across the globe, particularly in Europe, the Middle East and the Americas, have essentially flatlined since the global financial crisis.

The puzzle seems so hard to solve because the root causes are hard to determine. Following the crisis, there was an inevitable shift in corporate investment, with businesses adopting more risk-averse strategies that included a preference for hiring more staff rather than acquiring new technologies or building key infrastructure – the types of things that can really drive productivity forward.

It has been suggested that the stagnation in productivity may be a longer-term trend; the result of macroeconomic forces such as an ageing population, a downturn in global trade, and reduced investment in education and training.

By providing a snapshot of conditions in 33 markets, the Index helps us to look at the real-world consequences of these trends. It is only when we assess the impact these powerful forces are having on labour markets at both a global and a local level that we are able to develop robust and effective response strategies.

However, there are also broader societal priorities that businesses and governments need to focus on; one of these is undoubtedly the gender pay gap. In all markets covered in the report, women are less likely to participate in the labour market than men, and when they do, they are less likely to find employment. In other cases there is an issue with women re-entering the workforce from maternity leave. Mothers returning to work should be facilitated with new skills that employers are looking for, to improve their employability and alleviate skills shortages. Policymakers and businesses must work together to remove these social barriers and to do more to close the pay gap when women do join the workforce. This can be done through the elimination of discriminatory hiring practices; encouraging flexible working; and introducing shared paid parental leave.

> "We understand the importance of continually tracking and examining labour markets and questioning whether the global workforce possesses the skills needed to thrive in this ever-changing environment, both now and in the future."

At Hays, we regularly receive feedback from both companies and candidates on their concerns and expectations. Based on these real-world perspectives, as with previous years, we have developed a set of recommendations for policymakers, businesses and other stakeholders as they seek to drive economic growth.

1. Ensure workers are prepared for technological disruption by fundamentally reviewing existing training and education programmes

With technology creating new opportunities and business increasingly looking to a future where robots and machines carry out manual tasks, governments and companies need to take a step back and consider whether current education systems and training regimes fit the bill. The world of work continues to evolve alongside technology and we need to ensure education and training do too. This is essential if we want to tackle the talent mismatch we see across the globe and be prepared for a very different future.

2. Take advantage of relatively low interest rates and stable economic conditions to increase investment in new technologies and infrastructure

While it's easy to put off big-ticket investment decisions due to concerns about the economy, it has never been more important that companies look ahead and consider whether investing now will place them in a better position for the future. The only way to snap out of the current productivity malaise is to make the most of new technologies, innovation and new systems, to increase productivity by automating tasks or identifying opportunities through harnessing data.

3. Embrace diversity in all its forms, not just because it's the right thing to do, but because it makes business sense too

The Index highlights the work we still have to do to ensure there are sufficient opportunities for women to enter the workforce and to continue to progress when in employment. Businesses that make this a priority will not only have more satisfied and loyal employees, they will also have a more effective workforce, with a diverse range of voices and perspectives united behind their objectives.

These recommendations alone will not solve the issues facing labour markets, but there is an urgent need to place a spotlight on these issues and look to work together to tackle them. We must act fast to ensure we are prepared for the ever-changing world that lies ahead: we are at a critical junction and we are in danger of a spiralling skills crisis.

I hope that the Hays Global Skills Index 2018 provides not only a unique and useful perspective on the worldwide labour market, but also ideas for businesses and policymakers alike to consider going forward.

EXECUTIVE SUMMARY

The Hays Global Skills Index (the 'Index') is an annual assessment of the trends impacting skilled labour markets and examines the dynamics at play across 33 markets, determining how easy or difficult it is for organisations to find the skilled professionals they need.

The seventh edition of the Hays Global Skills Index sheds new light on the multiple pressures facing today's labour markets around the world. These include:

- Growing talent mismatch;
- The widespread productivity puzzle;
- Ageing populations;
- Gender pay gaps; and
- Shrinking share of the national income for workers.

As ever, the picture is complex. While global economic growth is forecast to increase this year, that trend has not been matched by widespread growth in the productivity or wages of global workforces.

This report highlights a number of factors that may be contributing to this sluggishness; a key example is the growing talent mismatches between the skills workers possess and those desired by employers. This is a trend identified in almost half of the 33 markets assessed in this Index – indeed, of the 17 European countries with data on job vacancies, no fewer than 16 have showed a rise in their rate of unfilled employment vacancies this year – a key indicator of talent mismatches.

But that's only one element of the story. This report also investigates the global productivity puzzle, which has seen labour productivity levels particularly in Europe and the Middle East grow at rates far below their pre-financial crisis levels. While this was to be expected in the immediate aftermath of the crisis, the fact that productivity has not bounced back during the subsequent economic recovery is more surprising. Some countries appear to be stuck in a low growth trap, whereby weak productivity growth has led to reduced investment in labour and capital, further weakening overall productivity levels – with troubling knock-on effects for workers.

But there are also longer-term trends to consider, notably countries' ageing populations. This report also explores what causes such marked differences in the average working hours of countries featured in the Index, and the significant gender gaps that endure in everything from average wages to opportunities for promotion.

Another serious issue of concern is the shrinking share of national income that workers receive, which has been linked to the effects of globalisation and the increasing introduction of robots, AI and machine learning. But again, as this report explains, this is not a one-size-fits-all issue. In some industrial sectors and geographical regions, the advent of AI and robotics may potentially boost the productivity of workers. This is, in part, because technological innovation cuts the cost of producing goods and services, raising the purchasing power of consumers whose extra spending creates new jobs. In other sectors and regions, however, it is having a clear, negative impact on jobs and wage growth. Overall, a key challenge for policymakers must be to try to ensure their citizens possess the right skills to take advantage of whatever new opportunities emerge in this fast-changing work landscape.

Across the world, we are seeing a pattern of narrowing wage gaps between high- and lower-skilled occupations. But while this may serve to decrease wage inequality levels, rising wage pressures and talent mismatches, together with falling labour participation levels, means the average Index score across all 33 markets has increased this year to 5.4 – continuing the trend of the Overall Index score rising steadily on average since its inception in 2012.

Regional differences highlight how even subtle movements in the Overall Index mask a wealth of information at each individual country level. The country indices and their sub-components, not to mention the insights from Hays experts on the ground that have been provided for each country profile, are all designed to help firms hone their strategies for the selection and hiring of skilled staff. This report underlines that these issues are now more important than ever.

Regional overview

Europe and the Middle East (EME)

- The Index score for Europe and the Middle East has risen from 5.4 in 2017 to 5.5, suggesting employers now face slightly greater pressures in EME labour markets.
- This rise is largely due to higher overall wage pressures and an increase in talent mismatch.

Asia Pacific

- As in EME, employers are typically finding it more difficult to attract and retain talent in Asia Pacific, with the region's average Index score rising from 4.8 in 2017 to 4.9.
- Over the past decade, participation rates have been driven up by improvements in education levels and other socioeconomic factors. This year, however, a slowdown in the growth of labour market participation rates across various age groups has been a major driver of the region's higher score.

The Americas

- Overall, labour market conditions have remained stable in the Americas, with the region's average Index score unchanged from 2017 at 5.7.
- But beneath this apparent stability, there have been important changes in individual indicators: for example, declining wage levels for employees in high-skilled occupations, relative to lower-skilled jobs, has exerted a considerable negative impact on the Index this year.

WAGES, GROWTH AND THE FUTURE OF WORK

Labour markets across the globe continue to experience varying pressures, with one major issue being the recent weakness in wage growth. This section of the report looks at the issue of slow wage growth and related labour market trends such as the slowdown in productivity growth since the financial crisis; the decline in the labour share of income; and the impact of automation and machine learning. We explore the wider implications of these trends, and the ongoing labour market policy implications of automation.

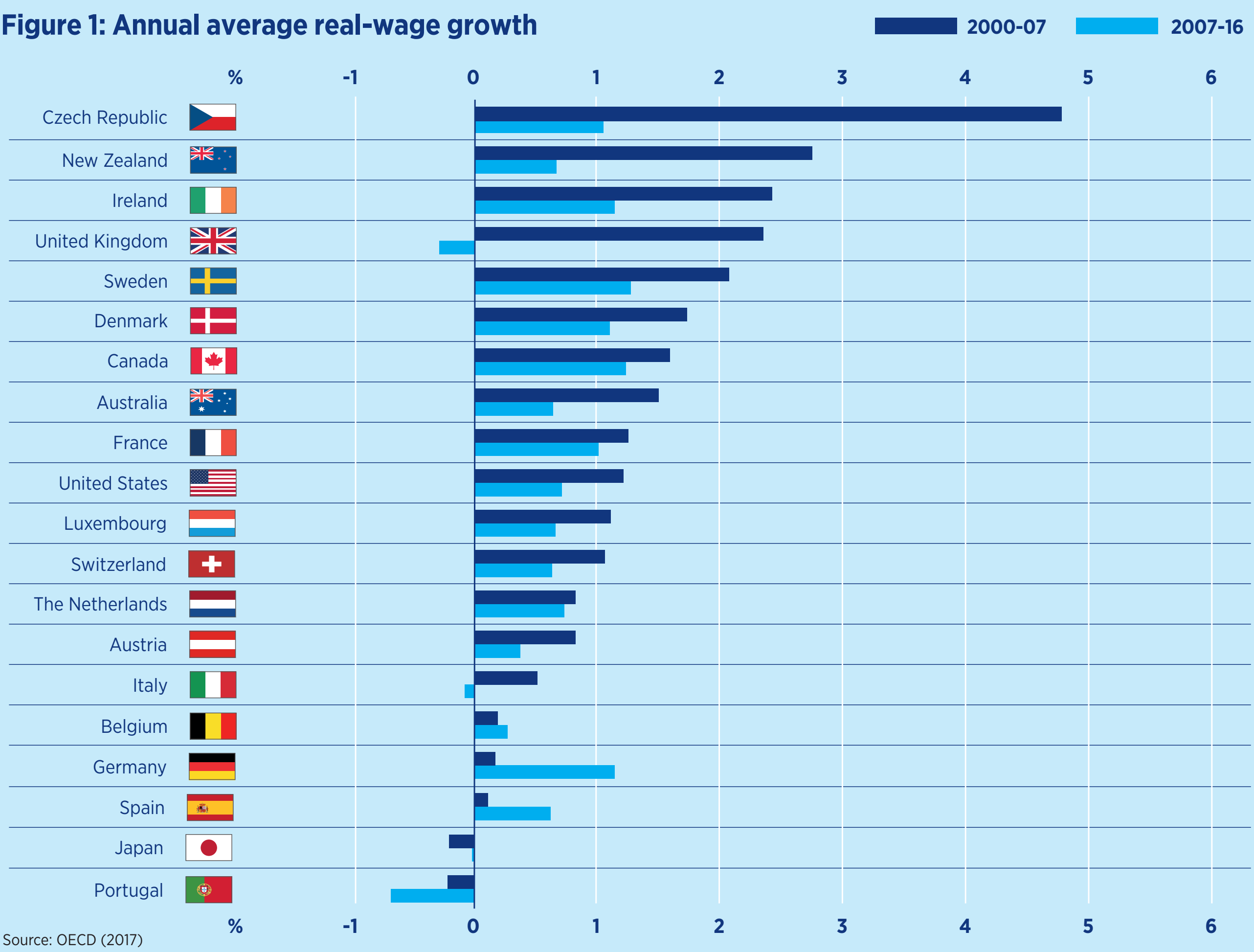
Why are real wages growing so slowly?

A key feature of the labour markets featured in the Hays Global Skills Index is the relatively slow growth of economy-wide wages in recent years, after allowing for inflation. This comes despite falling unemployment rates, implying there has not been a large pool of unemployed workers competing for the available jobs. Some downward pressure on wages has been acknowledged from those in part-time jobs who would like to work full-time, but this alone can't explain the widespread trend for slow wage growth.[1]

The issue of declining real-wage growth, particularly evident in countries such as the United Kingdom and the Czech Republic (see Fig. 1), is important to understand as it negatively impacts the rate at which each worker's standard of living improves.

There appear to be two key explanations for this: the rate of growth of labour productivity – the value of goods and services produced per worker – which has slowed markedly since the financial crisis struck a decade ago; and the shrinking share of income that workers have been receiving in recent decades. In the latter case, a principal driver behind this declining 'labour share of income' is argued to be advances in technology and the automation of tasks.

Figure 1: Annual average real-wage growth



Source: OECD (2017)

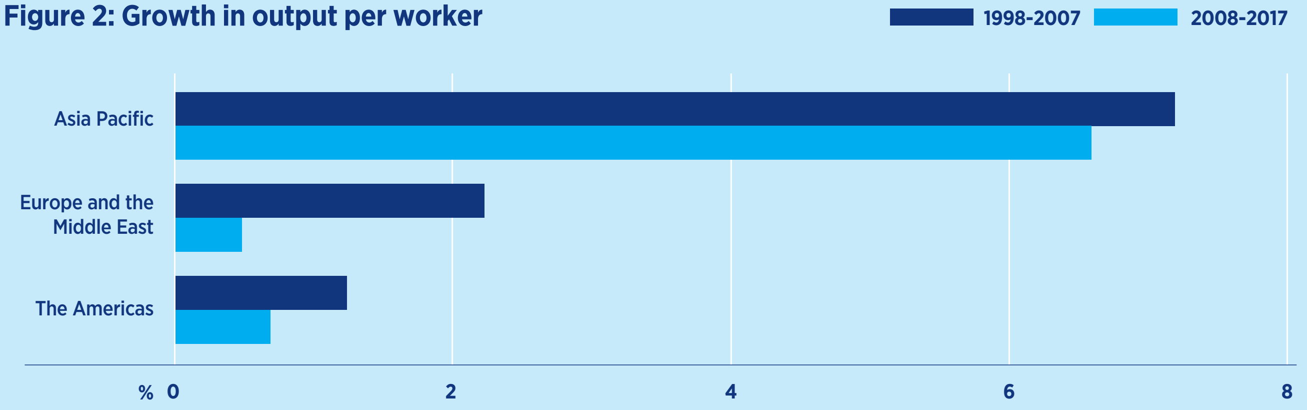
[1] International Monetary Fund, "World Economic Outlook, October 2017, Seeking Sustainable Growth: Short-Term Recovery, Long-Term Challenges", 2017, and David N.F. Bell and David G. Blanchflower, "Underemployment and the Lack of Wage Pressure in the UK", 2018

The Global Productivity Puzzle

Productivity is a key determinant of wage growth. Unless economies are able to produce more output with a given set of inputs, there will be little growth in firms' revenues or the real wages they pay.

If we compare growth trends in labour productivity – countries' output per worker – before and after the financial crisis, we see that growth rates after 2008 remain well below pre-crisis levels. This is particularly the case for our Index countries in Europe, the Middle East, and the Americas (see Fig. 2). This was expected in the immediate aftermath of the crisis because in recessions output falls while firms tend to retain their labour. What was not expected was this slow rate of productivity growth to remain during the subsequent years of economic recovery.

Figure 2: Growth in output per worker



Source: OECD (2017)

Some of the enduring weakness can be explained by the large drop in both public and private sector investment levels following the crisis, meaning firms were unable to increase the productivity of their workers through the enhancement of the tools and machinery they use. The tighter credit conditions and heightened uncertainty also led to reduced investment in cutting-edge technologies, which is now weighing heavily on productivity growth.[2] As a result, many countries appear to be caught in a 'low-growth trap', whereby weakness in productivity growth leads to lower investment that, in turn, further dampens productivity.

But while the financial crisis certainly appears to have been a contributor, some studies suggest this global decline in productivity is a longer-term trend, influenced by factors such as ageing populations globally; a downturn in global trade; less investment in education and training; and a slowdown in technological advancement. Despite the apparent flood of new digital and mobile technologies, there is an argument that productivity improvements from information and communications technologies (ICT) have not matched the exponential gains associated with the introduction of the steam engine, electricity or the telephone in earlier eras.[3]

Another factor highlighted by one recent study is that there has been a slowdown in technology and knowledge 'spillovers' from the world's most productive ('frontier') firms to others within their sector ('laggards').[4] Global firms including the likes of Amazon, Uber and Microsoft can more easily upscale their operations, expand internationally and generate synergies to create dominant positions in the market, whereas smaller firms are less able to do so. These are the firms that have experienced very weak growth in productivity.[5]

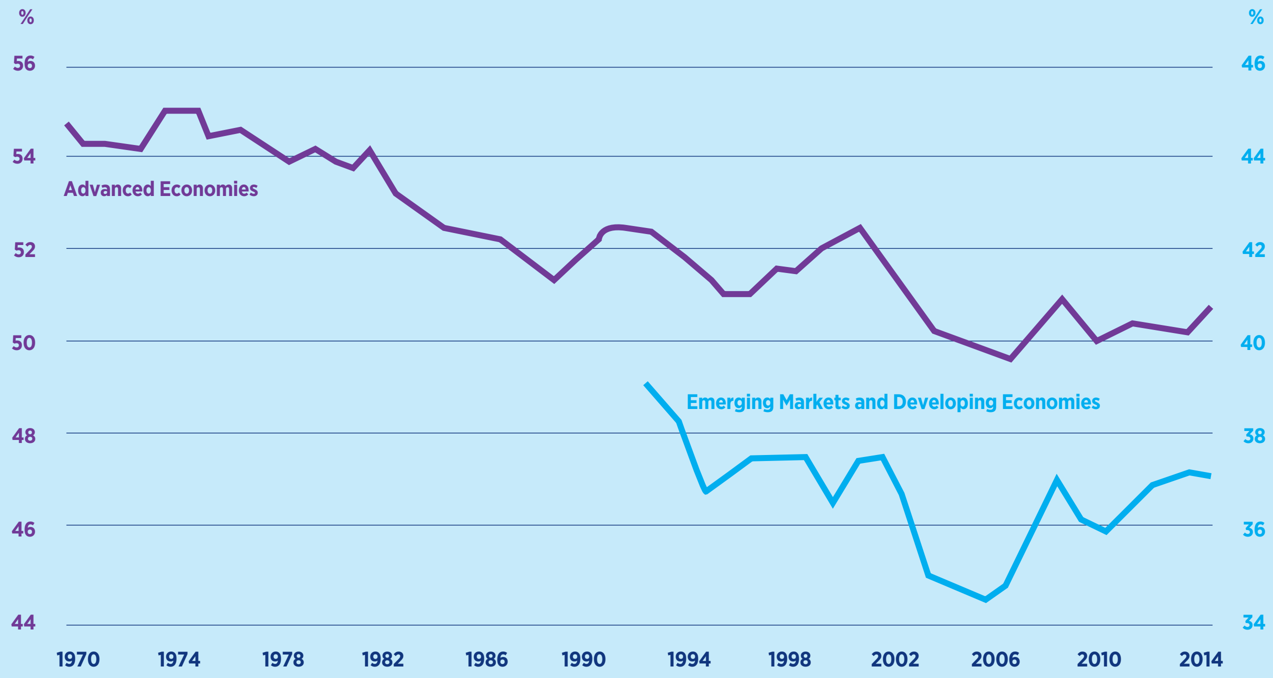
Finally, the increasing importance of the digital economy may also have led to productivity growth being underestimated in certain countries, as many information and communication technologies are not captured adequately in overall assessments of firms' contributions to GDP.

[2] Gustavo Adler, Romain Duval, Davide Furceri, Sinem Kiliç Çelik, Ksenia Koloskova, and Marcos Poplawski-Ribeiro, "Gone with the Headwinds: Global Productivity", 2017
[3] Robert J. Gordon, "Secular Stagnation: A Supply-Side View", 2015
[4] Dan Andrews, Chiara Criscuolo and Peter N. Gal, "Frontier Firms, Technology Diffusion and Public Policy: Micro Evidence from OECD Countries", 2015
[5] Jonathan Haskel, Stian Westlake, 'Productivity and secular stagnation in the intangible economy', 2018

Explaining the decline in workers' share of income

While poor growth in labour productivity has weighed heavily on wage growth recently, there appears to be another, longer-term factor dragging on wage growth in many countries: a fall in the share of national income that goes to workers. The International Monetary Fund (IMF) estimates the share of national income going to labour in advanced economies has declined from a peak of 55% in the early 1970s to 51% in 2015 (see Fig. 3). In emerging markets and developing economies, it is estimated to have fallen from 39% in 1993 to 37% in 2015.

Figure 3: The labour share of national income



Source: IMF World Economic Outlook (April 2017)

Some suggest this 'decreasing share of the pie' going to workers could be driven by globalisation, particularly in advanced economies, where many firms have moved labour-intensive tasks overseas to reduce costs (known as 'offshoring'). This has made production processes more capital intensive, and thus reduced workers' bargaining power.[6] The dominance of 'superstar' firms such as Google and Apple may also have contributed as these companies have very high profits while hiring few, albeit well remunerated, employees.[7]

But it is widely argued that, prior to the financial crisis, technological advances and automation were the main contributors to this global decline in the labour share of income, because improvements in technology lead to faster productivity growth in capital, lowering the price of capital goods relative to labour, and therefore encouraging firms to substitute capital for labour.[8] While the labour share has been broadly flat since the crisis, recent advances in AI and machine learning suggest the labour share may begin to fall again in future.

[6] International Monetary Fund, "World Economic Outlook, April 2017: Gaining Momentum?", 2017
[7] David Autor, David Dorn, Lawrence F. Katz, Christina Patterson and John Van Reenen, "The Fall of the Labor Share and the Rise of Superstar Firms", 2017
[8] International Monetary Fund, "World Economic Outlook, April 2017: Gaining Momentum?", 2017

Robots or jobs?

Amid weak productivity growth and a declining labour share in many parts of the world, what does the future hold for workers? One of the most disputed labour issues is the advent of AI and robotics: on the one hand, this could herald a productivity revival that boosts wage growth, while on the other, it may threaten jobs throughout the economy.

Advancements in AI enable businesses to automate many jobs that have been historically undertaken by humans, which may have a negative impact on new job creation in the short term. In the longer term, however, economic theory and the available evidence suggests there will be little impact on aggregate employment levels because technology cuts the cost of producing goods and services, which in turn will raise the purchasing power of consumers, whose extra spending creates new jobs. One recent study examining the impact of automation across a number of European countries, as well as Australia, Japan and the United States, found it has had a positive effect on aggregate employment.[9]

In addition, a recent study concluded that around 4.3 million workers in the United States will be displaced over the next decade due to the impact of automation. However, the report also found that the rise in prosperity caused by these new technologies would see millions of new jobs created elsewhere in the US economy. In short, while technological change will cause dislocation in the labour market in the coming years, new employment opportunities will also emerge and the main challenge for policymakers is to ensure people have the skills to take advantage of them.[10]

Of course, such a transformation of the global labour market will cause unsettling disruption for many workers. Further improvements in technology will likely lead to a 'hollowing out' of jobs distribution, whereby some middle-skilled jobs disappear and more jobs are created in both lower- and higher-skilled occupations. Indeed, relatively rapid change along these lines has been underway for many years: between 1995 and 2015, the largest decreases in middle-skilled jobs were observed in Austria, Switzerland and Ireland.[11]

Possible responses

The fast-changing workplace means businesses and policymakers face important choices. Adapting to a new workforce composition in the face of rapid technological change is challenging, as workers' productivity and capacity to transition into different occupations will depend on their ability to develop new skills. Education and on-the-job training should therefore be a priority, enabling businesses and workers to boost their productivity, which will in turn help workers to retain good-quality jobs and boost wage growth.[12]

In addition, active labour market policies, such as publicly-funded vocational training schemes or job-search assistance, can improve employability and expand opportunities available to jobseekers.

Different countries have different attitudes concerning such policies, however. While a number of countries featured within the Index, including Denmark, Sweden and France, invest significantly in these labour market programmes, others, such as Mexico, the United States and Japan, exhibit very low spending as a proportion of their overall GDP.[13]

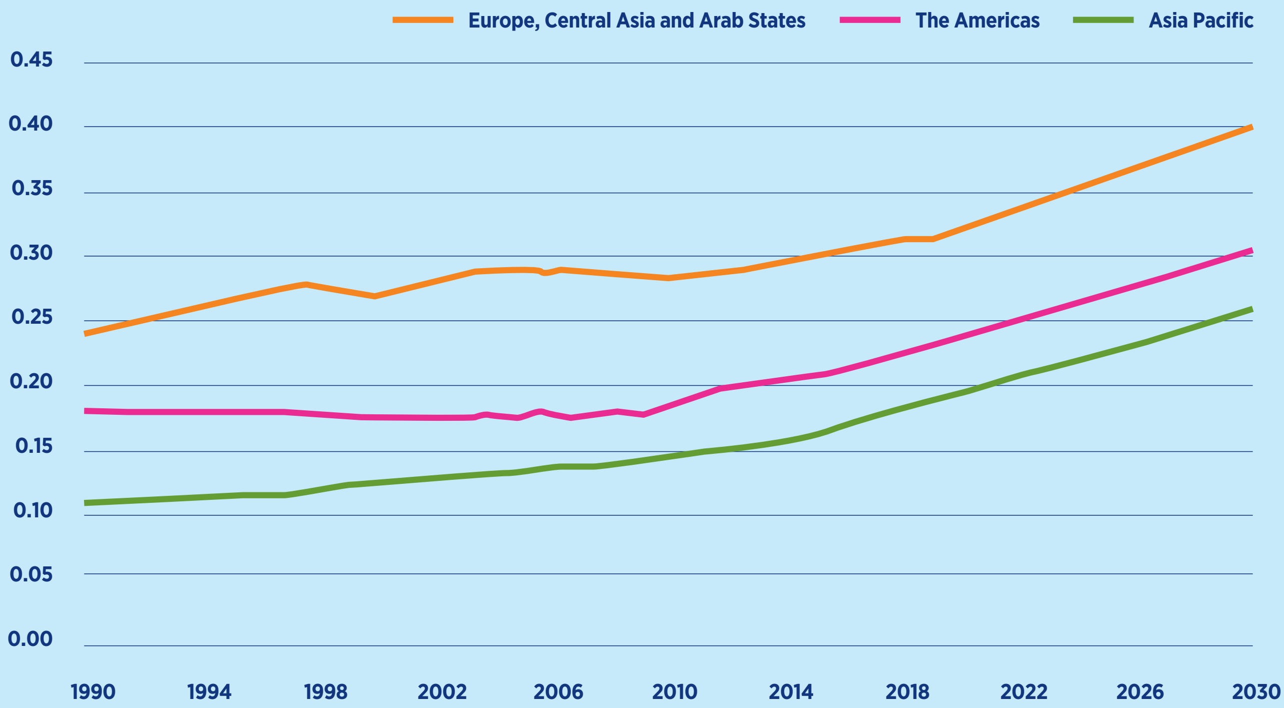
Either way, governments will need to think about how to best provide assistance for workers who find themselves displaced. More radical policies that have been suggested to mitigate the negative impact of automation include the introduction of universal basic income (UBI) and job guarantees, whereby the government becomes the employer of last resort.[14]

[9] David Autor and Anna Salomons, "Is automation labor-displacing? Productivity growth, employment, and the labor share", 2018
[10] Cisco and Oxford Economics, "The A.I. Paradox How Robots Will Make Work More Human", 2017
[11] OECD, "Jobs gap closes but recovery remains uneven", 2017
[12] Joseph Rowntree Foundation, "The links between low productivity, low pay and in-work poverty", 2018
[13] OECD, "Active Labour Market Policies: Connecting People with Jobs", 2015
[14] Luke Martinelli, "Assessing the Case for a Universal Basic Income in the UK", 2017, and David Autor, "Why Are There Still So Many Jobs? The History and Future of Workplace Automation", 2015

Key insight: Preparing for an ageing workforce

As birth rates fall and life expectancy rises across the globe, population ageing is predicted to accelerate for all global regions of countries featured within the Index (as illustrated by Fig. 4). This is occurring at a faster rate in high-income economies, although emerging markets such as Mainland China and Russia are expected to follow a similar trend given the long-term decline in fertility rates.[15] As a consequence, many countries' shrinking labour forces will struggle to generate sufficient tax revenues to sustain the current levels of social security payments for the growing number of retirees in the future. Furthermore, within the labour market, older participants will likely struggle to keep up with the pace of structural and technological change, and to maintain the skills they require to remain employed.[16]

Figure 4: Old-age economic dependency ratio*



Source: ILO (2018); Oxford Economics
*This is the ratio of the population aged 65+ to the total number of people in the labour force

As fewer individuals retire early, policymakers will need to focus on improving the employability of workers at an older age by facilitating the training necessary to update their skills. In addition, the International Monetary Fund (IMF) suggests that greater international migration would help to boost labour supply and address the ageing workforce in some countries.[17] Others argue that migrants can only play a temporary role, however, given they too will inevitably age.[18]

Certainly, finding other ways to boost productivity will help to offset the impact of an ageing population. Interestingly, one study found that population ageing has been associated with more growth, as a more rapid uptake in technology has occurred in countries undergoing large demographic changes.[19]

[15] International Monetary Fund, "Regional Economic Outlook: Asia and Pacific, May 2017: Preparing for Choppy Seas" 2017
[16] International Labour Organisation, "World Employment and Social Outlook – Trends", 2018
[17] International Monetary Fund, "World Economic Outlook, April 2018, Cyclical Upswing, Structural Change", 2018
[18] OECD/European Union, "Matching Economic Migration with Labour Market Needs: Demographic trends, labour market needs and migration", 2014
[19] Daron Acemoglu and Pascual Restrepo, "Secular Stagnation? The Effect of Aging on Economic Growth in the Age of Automation", 2017

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 33 countries.

To give a complete picture of each country's 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 country's 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 countries on one end of the spectrum could be considered 'the best' and the others 'the worst'. Each country has its own labour market strengths and challenges, which are scored relative to conditions in the same country in the past. For a clearer picture of a country's complex labour market 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 country is experiencing more pressure than has historically been the case. Lower scores mean that a country is experiencing less pressure. Each of the seven indicators are given equal weight when calculating the Overall Index score for each country.

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 country. 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 undertake 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 country's Overall Index score is accompanied by a visual indicating the score range for each indicator (see below).

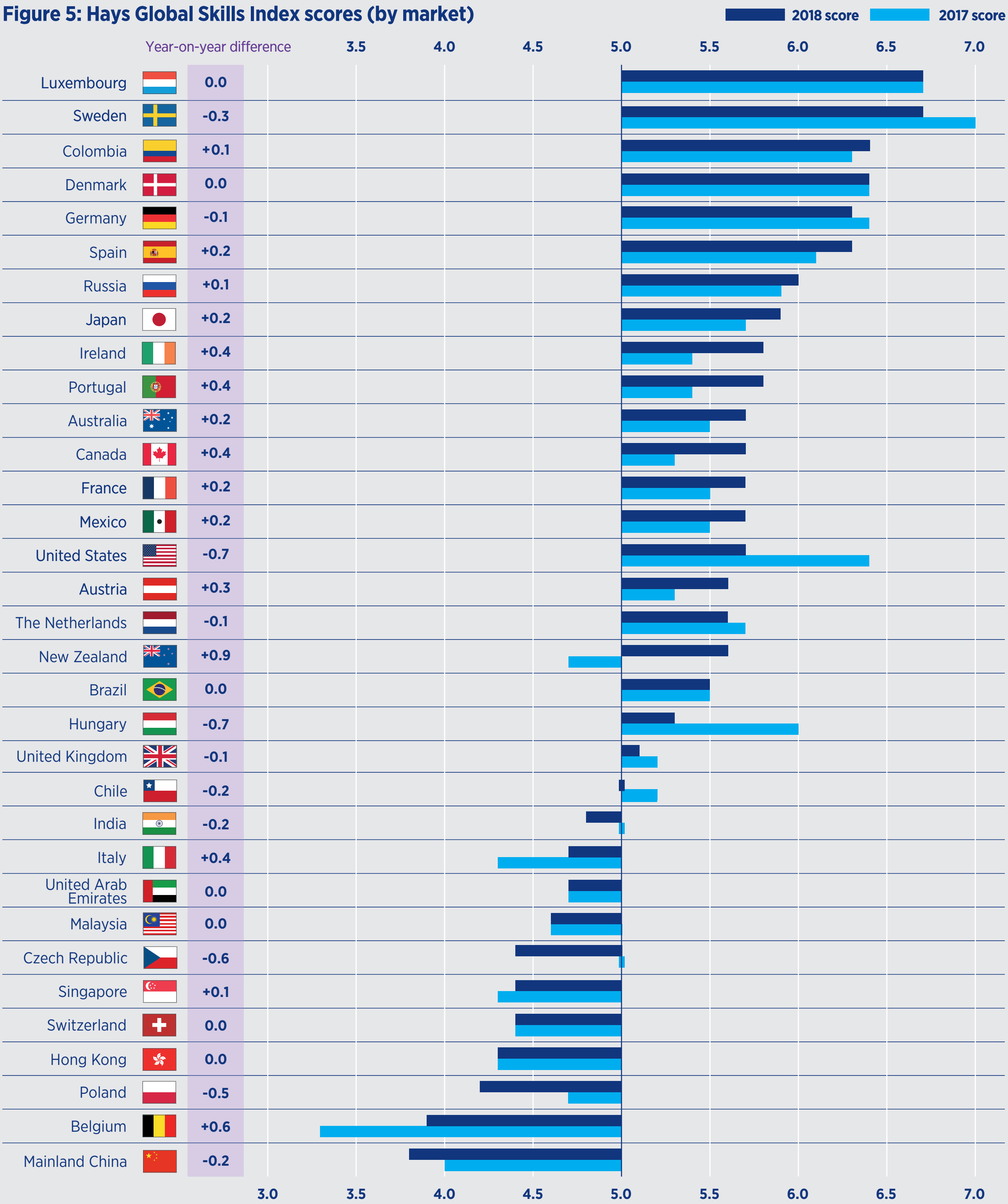
The analysis on which the Hays Global Skills Index was based used data as of Q2 2018. Developments subsequent to this date are not reflected in the 2018 findings.

THE MACROECONOMIC BACKDROP

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

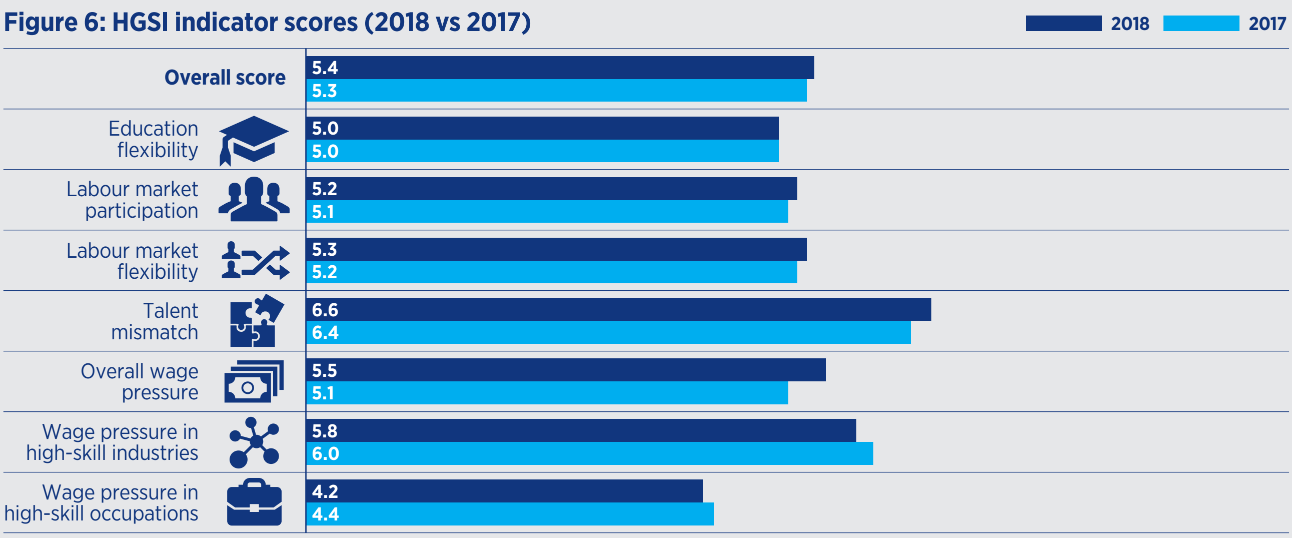
This year's Hays Global Skills Index (the 'Index') reveals that global labour market conditions have become more pressured in the last year. The average score across all 33 markets featured in the Index rose slightly from 5.3 in 2017 to 5.4 in 2018. While this appears to be a marginal change when taken as a whole, there has been considerable variation in how domestic labour markets have changed. The Overall Index score has increased for 16 countries, but decreased for 12 and stayed the same for five.

Figure 5: Hays Global Skills Index scores (by market)



One of the biggest drivers behind the increase in this year's average Overall Index score across all countries is talent mismatch. Almost half of the countries featured (16 of 33) saw their talent mismatch score increase, highlighted by a growing job vacancies rate or a higher rate of long-term unemployment. This indicates that the gap between the skills employers require and those that the labour force has continues to grow across the world.

Figure 6: HGSI indicator scores (2018 vs 2017)



The extent of talent mismatch varies, both across and within different regions. However, the largest increase in this discrepancy is seen within Europe, most notably Austria, France and Belgium, where vacancies and long-term unemployment rates have increased above pre-recession levels. This suggests that those who are unemployed do not hold the skills required for the available positions.

Outside of Europe, Mexico showed the clearest sign of a growing skills gap as the number of people who have been out of work for over a year rose. Meanwhile falling unfilled vacancies rates in Chile, and declining shares of long-term unemployment in the United States and the United Kingdom, caused these countries' scores to fall during the period.

Increasing wage pressures relative to the period of stability prior to the recession additionally contribute toward the higher global score this year, although this picture is also mixed. Wage growth is expected to accelerate in 2018 for 21 of the 33 countries, notably in Belgium, Ireland and New Zealand, but are expected to slow, or even fall, in eight.

Wage pressures in highly-skilled industries have decreased overall this year, offsetting some of the upward pressure on the average Overall Index score across all 33 countries.

This suggests that wage gains have not been enjoyed evenly across industrial sectors, with the wage premium for working in a highly-skilled industry declining on average. In some countries, such as the Czech Republic and Poland, this is a result of accelerating wages in lower-skilled industries, alongside slower growth in higher-skilled ones. In the case of the Czech Republic, fast wage growth in hospitality and administrative and support services has helped to narrow the gap, while in Poland it has been driven by higher growth in several manufacturing sectors. In other countries such as the Netherlands and Singapore, wage growth has slowed overall but has been somewhat faster in lower-skilled industries.

A similar pattern of narrowing wage gaps are also evident between higher- and lower-skilled occupations this year. This suggests that the pressure of growing wage bills is greater for employers of lower-skilled workers to those of higher-skilled ones. The closing of occupational wage gaps is especially notable in the United States, where wage growth has accelerated for lower-skilled industries such as agriculture, production and service occupations, while falling in higher-skilled ones. Elsewhere, in places such as Sweden and Malaysia, wage growth has been flat for higher-skilled occupations such as managers, professionals and skilled technicians, while lower-skilled occupations such as craft and trade workers experienced positive growth.

Global economic outlook

Despite high-profile geopolitical issues, global economic growth is forecast to remain robust this year, although it is expected to slow in the medium-term. This expansion is expected to increase the demand for workers, all else being equal.

In April, the International Monetary Fund (IMF) forecasted global GDP growth of 3.9% in 2018 and 2019. This would be a small increase on the 3.8% increase achieved in 2017, which was the fastest rate of growth since 2011. Focussing on the 33 countries featured in the Index, economic growth is forecast by the IMF to be around 3.4% in 2018, up slightly from 3.2% in 2017.

Key insight: What causes such a marked difference in working hours?

The average hours worked by employees each year varies significantly across the countries featured within the Index. While there are several explaining factors, there is some relationship with national income in that people in low- and middle-income countries, such as India and Mexico, tend to work longer hours than people in high-income countries. This has significant welfare implications, as people in lower-income countries not only consume less compared with those in high-income countries, they also have less time for leisure.[20] However, there are exceptions to this rule, as some countries – Singapore, for example – average a relatively high number of hours worked, despite being at the top end of the income distribution.

Differences in hours worked may also be partly explained by differences in the availability of childcare services and in variations in tax rules. In Germany, for example, the average hours worked by married women have been found to be lower than for unmarried women and men. This may be because, while countries such as the United Kingdom, Sweden and Austria treat income tax on an individual basis, Germany taxes married couples on a joint basis. In other words, individuals are taxed as if their income is half of the total household income. In this case, secondary income earners face a higher marginal tax rate than under a system of separate taxation, disincentivising the secondary earner from increasing their hours.[21]

Tax rules that discourage individuals from increasing their hours are likely to be hindering female labour supply around the world. This is particularly important given the ageing populations and shrinking workforces in many countries. To facilitate higher labour supply, policymakers need to improve incentives to increase hours, particularly for their female populations.

[20] Alexander Bick, Nicola Fuchs-Schündeln, and David Lagakos, "How Do Hours Worked Vary with Income? Cross-Country Evidence and Implications", 2018
[21] Alexander Bick, Nicola Fuchs-Schündeln, and David Lagakos, "Taxation and Labor Supply of Married Couples across Countries: A Macroeconomic Analysis", 2017

Europe and the Middle East (EME)

Economic growth in the European and the Middle East region is forecast to remain strong this year at around 2.3%, having accelerated last year. Many European countries have entered a more mature phase of their economic recovery, with stable but robust growth rates.

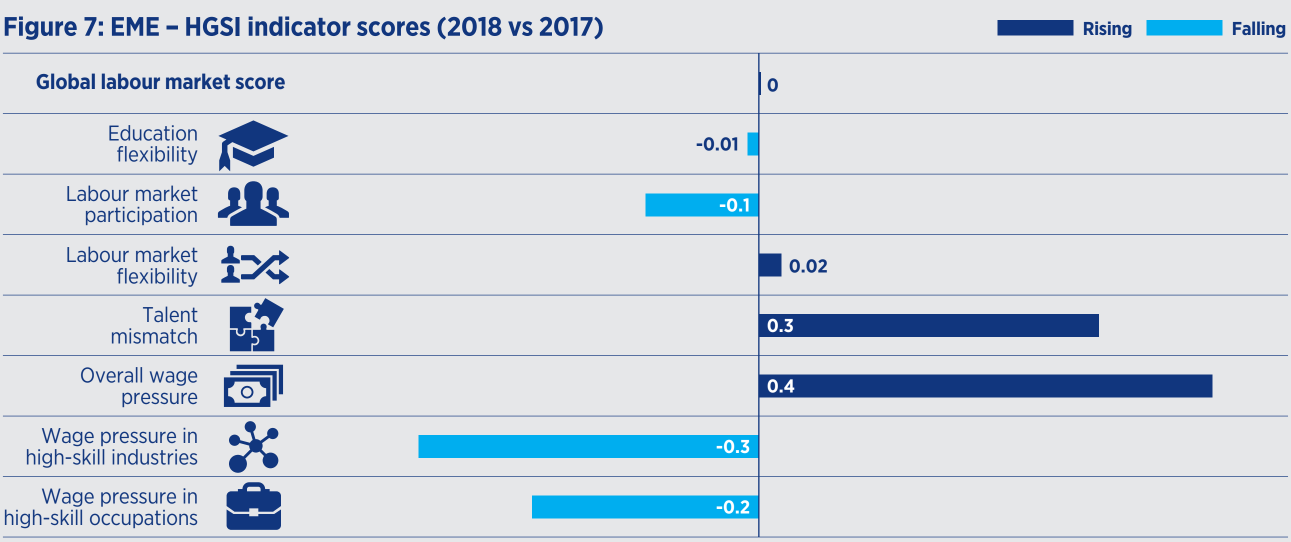
The Overall score for the 19 EME countries included in the Index has increased slightly, from 5.4 in 2017 to 5.5 in 2018. This suggests that, on average, firms are finding it more difficult to attract and retain workers in the region. However, behind the Overall Index score, there is considerable variation in movement across indicators.

Rising wages in some European countries have also put upward pressure on the region's Overall score this year. In real terms, wage growth is forecast to be faster in 2018 than in 2017 in 16 out of the 19 EME countries. Notable acceleration in wage growth in countries including Ireland (4.5% in 2018 vs 2.2% in 2017) and Belgium (1.8% in 2018 vs -0.3% in 2017) have contributed significantly to the higher score. However, these substantial wage increases have not been seen across all European countries. Real wages continue to fall in Portugal, while in other countries, such as Austria and the United Kingdom, wage growth has been sluggish compared to historic norms.

As well as varying across countries, wage growth rates have differed across industries and occupations. While rising wages and a growing skills gap would lead to a higher score, all things being constant, much of the pressure on the skilled labour market has been offset by narrowing wage gaps across the economy, as workers in both lower-skilled sectors and occupations have enjoyed faster wage growth than their higher-skilled counterparts. This suggests that firms looking to recruit higher-skilled workers, are facing less pressure on their wage bills relative to those firms that recruit less highly-skilled workers.

Skills mismatch is a challenge for many European countries. This is reflected in the rise in the talent mismatch indicator score this year. This suggests that it is more difficult for employers in Europe to find and retain staff with the necessary skills. Of the 17 European countries with data on job vacancies, 16 had a rise in the rate of unfilled vacancies to employment this year. The biggest increases were in the Czech Republic (38%), Italy (32%) and Austria (28%). On the upside, 12 of the 17 countries have experienced falling rates of long-term unemployment, which is people who have been out of work for over a year. This has eased some of the pressure on the talent mismatch score, as long-term unemployment can lead to erosion of workers' skills.

Figure 7: EME – HGSI indicator scores (2018 vs 2017)



Asia Pacific

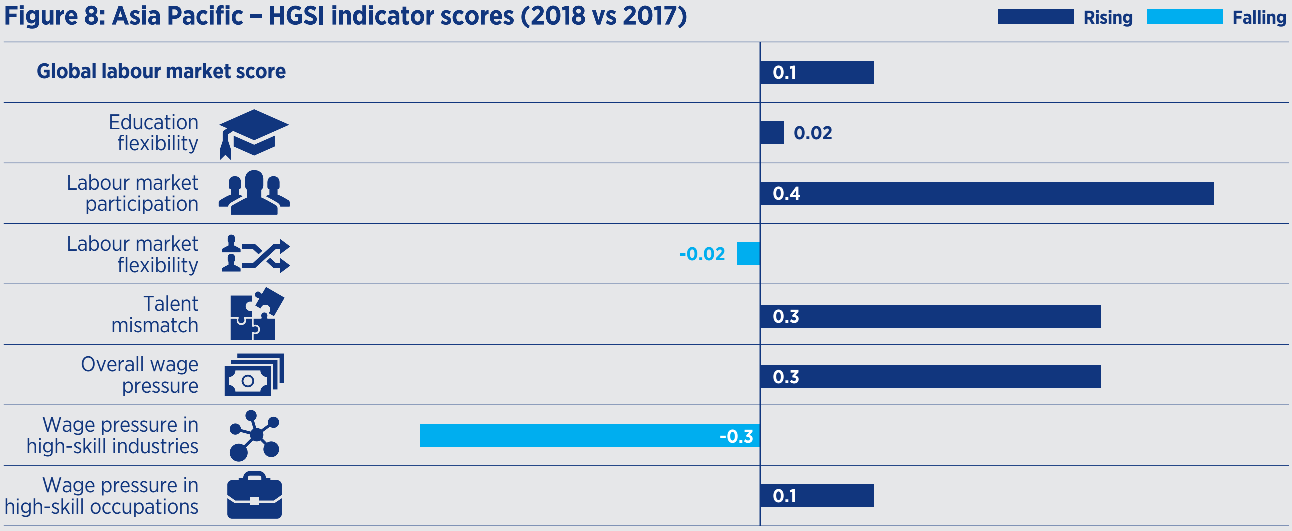
GDP growth rates in Asia Pacific are forecast by the IMF to slow slightly this year, but remain high at 5.2%, compared to 5.3% in 2017. As in previous years, this is predominantly driven by rapid expansion in India (7.4%) and Mainland China (6.6%). Excluding these two countries, GDP growth in the region is forecast to be more modest, at 1.9%.

Labour market participation growth rates are forecast to slow in Asia Pacific in 2018 compared to 2017, contributing to a rise in the region's labour market participation score. Of note, participation growth is forecast to slow from 2.3% in 2017 to 0.2% in 2018 in New Zealand, while participation rates are expected to decline slightly in Singapore. Only one of the Asia Pacific countries featured in the Index, Malaysia, has a rise in growth rates forecast this year, rising to 0.7% from 0.4% last year.

Asia Pacific's higher Overall Index score this year – 4.9 compared to 4.8 last year – indicates that employers may be finding it harder to attract and retain workers with the right skills in 2018 than in 2017. A significant driver of this increased pressure in the labour market is an increasingly evident talent mismatch. In all six countries with data available, the job vacancies rate rose last year. A rising rate of unfilled vacancies as a share of employment suggests a growing gap between the skills employers require, and those held by the labour market. This trend is supported by evidence on long-term unemployment. The share of people who have been out of work for over a year has increased in all four Asia Pacific countries with data available.

Real wage growth is also increasing pressure on the Asia Pacific labour market. Wage growth is forecast to accelerate faster than inflation this year in half of the eight Asia Pacific countries included in the Index. In particular, Malaysia's real wage growth is forecast to rise from 2.2% to 5% this year, while wages in New Zealand are expected to grow at a pace of 2.1%, up from just 0.7% last year. Firms seeking higher-skill staff may face the greatest difficulty, as rising skill premiums have widened the region's occupational wage gaps.

Figure 8: Asia Pacific – HGSI indicator scores (2018 vs 2017)



The Americas

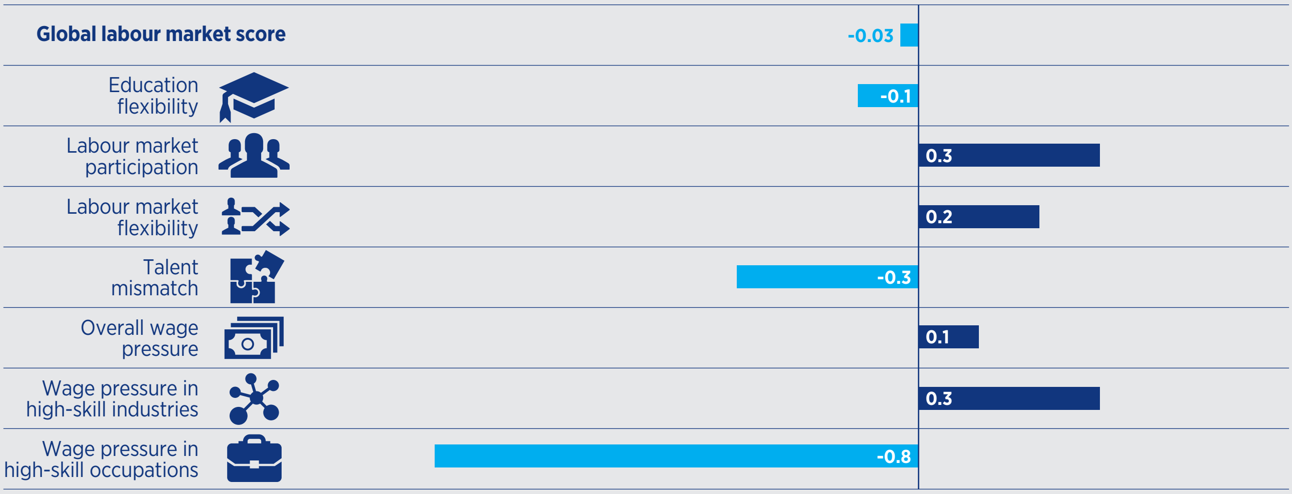
Economies in the Americas are forecast to grow at a combined 2.8% this year. This is a notable increase on the 2.2% GDP growth achieved in 2017. All else being equal, this would be expected to mean higher demand for skilled labour in the region.

On average, the Overall Index score for the Americas is unchanged at 5.7 this year. However, behind this stable overall score, there has been movement in each of the seven indicators. The evidence suggests that pressures on the labour market have been mixed, but that overall firms are still finding it relatively difficult to attract and retain talent than prior to the recession in 2009. However the slight downward change in the score – which was less than 1% – suggests that these pressures show signs of easing.

The decline in the wage premium firms pay for people in higher-skilled occupations has had a negative impact on the Index in the region. The greater equality in wages this year was caused by differences in wage growth between higher- and lower-skilled roles.

In contrast to the other regions featured in the Index, evidence suggests that talent mismatch is less of a problem for firms in the Americas this year.

Figure 9: The Americas – HGSI indicator scores (2018 vs 2017)



The region's falling indicator value has been driven by improved conditions in Chile and the United States. The job vacancies rate fell considerably in the former, while the latter has benefitted from a declining long-term unemployment rate. This suggests that employers in the Americas are having an easier time finding workers with the right skills, although the story continues to differ across countries.

In keeping with global trends, growth in labour market participation in the Americas is expected to slow this year. Participation growth rates are forecast to be lower in five of the six countries in the region this year. Notably, Canada and Mexico's labour markets are both expected to shrink over 2018. Declining participation rates mean that firms seeking to expand may struggle, if the supply of talent fails to keep up with demand, or even contracts.

Conclusions

Examining conditions across all the countries, we find labour market conditions to be slightly more pressured this year. This is largely due to the increasing problem of talent mismatch as well as emerging wage pressures. However, underneath the relatively stable overall scores, there is significant variation, both across and within the different regions.

In EME, wage pressures have increased overall but firms in higher-skilled industries and those employing workers in higher-skilled occupations have seen some of this pressure offset by narrowing, skill-specific wage gaps. Talent mismatch has posed the biggest challenge for Asia Pacific countries and is the main driver behind the region having the biggest score increase overall. The Americas contradict these trends with a fall in talent mismatches overall, but also face difficulty from falling – and in some cases negative – participation rates.

The analysis looked at why real wage growth in many of the labour markets within the Index has been slow in recent years compared to the years leading up to the financial crisis. At present, unemployment rates suggest there is not a large pool of unemployed workers competing for the jobs. It investigated two possible causes, namely the slow growth in productivity and the longer-term issue of the declining share of national income that workers have been receiving in recent decades.

One of the most hotly-debated issues in labour markets is the impact of AI and machine learning. This may have exerted downward pressure on labour's share of income. We reviewed the latest evidence on whether it will impact aggregate employment levels or lead to further hollowing out of middle-skilled jobs. Additionally, we considered how best policymakers can respond to the challenges of changing workforce composition brought about by technological change.

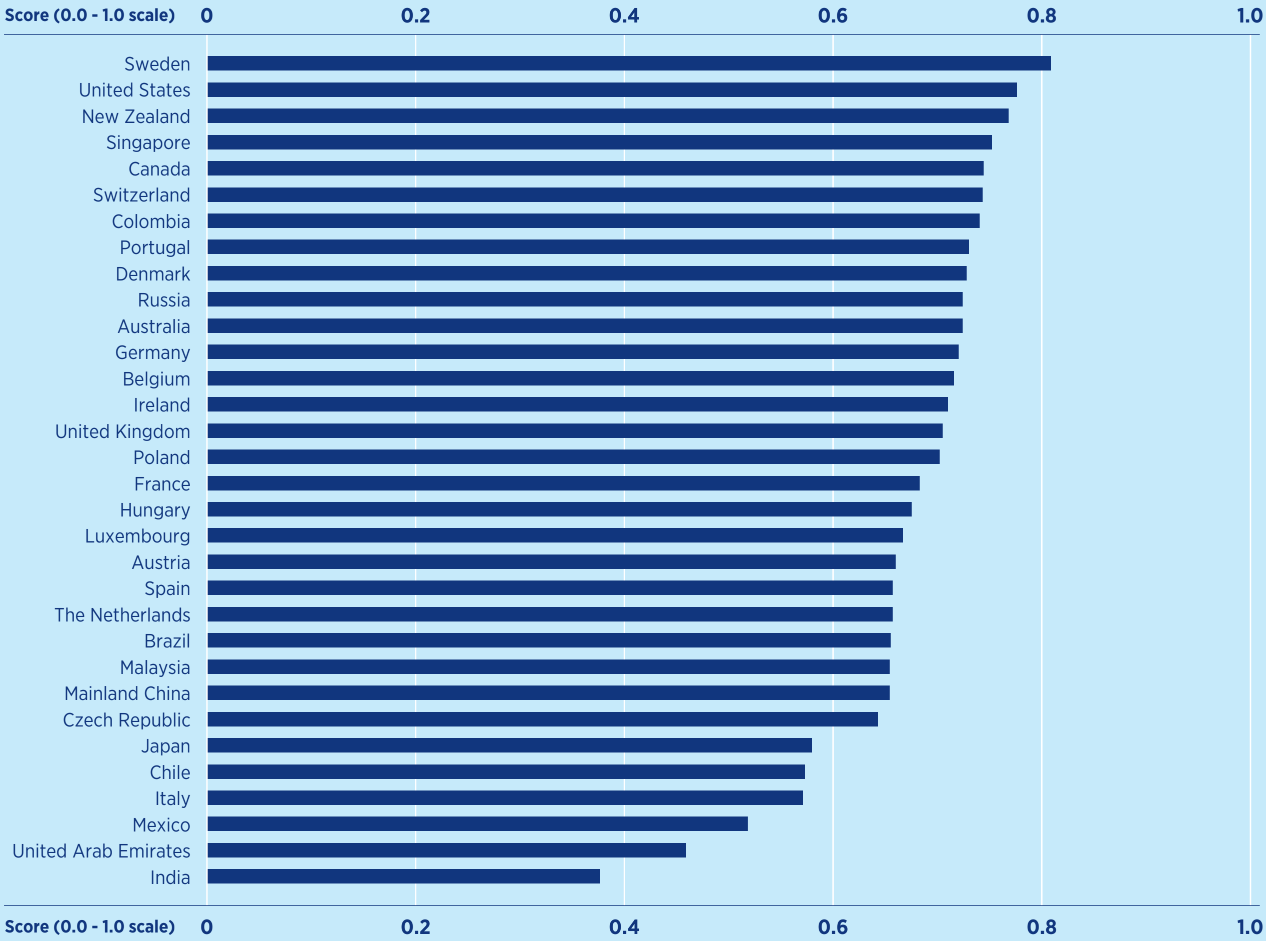
Given that Hays operates in 33 markets across the globe, the Index looks at important differences between labour markets. It investigates the differences in average hours worked, which are partly driven by female participation rates. It explores differences in gender equality in the workplace across countries and also examines the implications of an ageing workforce.

Skilled labour markets across the world continue to evolve. Understanding the trends that are occurring and the reasons behind them is important for business, policymakers and workers themselves. Alongside analysis and insight from our executives on the ground in the 33 markets, it is hoped the Index contributes to that understanding.

Key insight: Gender equality in the workplace

Improving gender equality in the workplace is important not only for achieving social objectives, but for economic growth. We can examine the extent of gender inequality in the workplace across countries using the World Economic Forum's Economic Participation and Opportunity Sub-index (see Fig. 10).[22] This measure captures differences in labour force participation, earnings and career advancement between men and women.[23] While the gap remains wide in emerging economies such as India and Mexico, the difference has narrowed in developed economies, with Sweden having closed over 80% of the gap.

Figure 10: Global gender gap economic participation and opportunity sub-index in 2017



In all countries, however, women are still less likely to participate in the labour market than men, and when they do, they are less likely to find employment. There are particularly large differences in participation between men and women in emerging economies, for example in India. The participation gap is narrower in developed economies which show similar educational attainment levels across men and women, and which possess more advanced public policies concerning affordable childcare services, the right to paid leave, and the right to return to equivalent work. Yet there remains a persistent pay gap in developed economies, which can only be partly explained by women taking more time out of paid work compared to men for the purposes of childcare.[24]

To tackle the differences in participation in emerging economies, policymakers must work to address social norms that obstruct women from entering paid work. In developed economies, policymakers must work towards closing the gender pay gap by eliminating discrimination, enabling more flexible working patterns and instituting paid parental leave for both men and women (with a particular focus on men), in order to address the differences in time taken out of paid work.[25]

[22] World Economic Forum, "The Global Gender Gap Report", 2017
[23] The advancement gap measures the ratio of female to male legislators, senior officials and managers, and the ratio of female to male technical and professional workers.
[24] International Labour Organisation, "World Employment and Social Outlook: Trends for Women 2018 – Global snapshot", 2018
[25] Damian Grimshaw and Jill Rubery, "The motherhood pay gap: A review of the issues, theory and international evidence", 2015

THE REGIONAL PICTURE

The country dashboards present a detailed breakdown of labour market pressures for each of the 33 markets featured in the Hays Global Skills Index. Seven indicators contribute equally to the Overall Index score for each country,* 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

In 2017, GDP rose by 1%. This follows sharp contractions of around 3.5% in the size of the economy seen in each of the previous two years.

Stronger growth is expected ahead, although 2018 started off slowly, and unemployment remains stubbornly high at over 12% despite the expansion in the economy. In early 2018, the underemployment rate, which includes those that wish to work more hours, stood at its highest level since 2012. Reflecting the high level of surplus labour competing for jobs, real wage growth fell towards zero at the start of the year.

However, tighter labour market conditions are projected for the medium term as the recovery and job creation gathers pace.

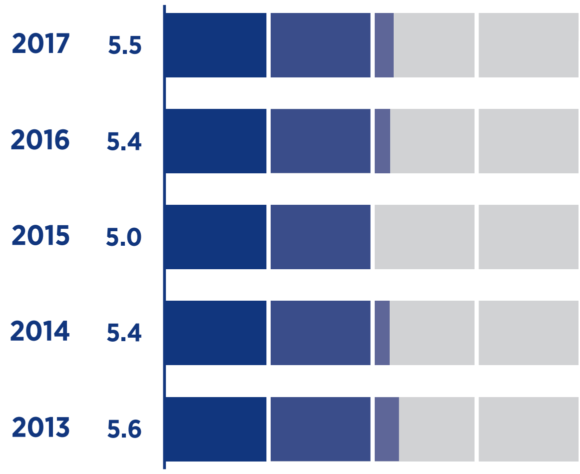
	2017	2018†
Population	211.4m	**213.1m**
GDP		
GDP (Billion BRL*)	6,793	**6,897**
GDP growth	1.0%	**1.5%**
GDP/head (BRL*)	32,125	**32,371**
Unemployment		
Unemployment rate	12.9%	**12.7%**
Long-term unemployment rate	n/a	**n/a**

*2018 prices †Average forecast figures for 2018

2018

Overall Index score

5.5



Key drivers

Talent mismatch
The mismatch between the skills employers are seeking and the skills available among the unemployed has improved slightly in the year, but remains high relative to the past.

8.7

Labour market participation
Slower growth in the labour market participation rate put upwards pressure on Brazil's score this year. Growth rates are particularly slow amongst under 25s and over 55s.

5.8

Labour market flexibility
Brazil's larger labour freedom score this year reflects the pressure of inflexible labour laws and high labour costs for employers.

9.3

For a full list of indicators scores, view page 52

View from the ground

Challenges continue in Brazil this year, with uncertainty around elections taking centre stage against a backdrop of currency fluctuations and high economic fragility. Despite this, optimistic sentiments are creeping into the labour market with employers now firmly looking to the future. As a consequence, talent mismatch has the potential to heighten as workers with the right skills become less available. Adding to this pressure is the continued lack of flexibility in employment regulations despite the positive reforms of last year, as these are yet to move into common practice. Overall, 2018 will be a step forward for Brazil, however at a slower pace than anticipated.

Jonathan Sampson, Managing Director, Hays Brazil

Key skills in demand

- Digital Marketing Managers
- Developers (Front- or Back-end)
- Strategic Procurement Managers
- M&A Associates
- Product Managers (Life Sciences)

Note: The analysis on which the Hays Global Skills Index was based utilised data as of Q2 2018. Developments subsequent to this date are not reflected in the 2018 findings.

CANADA

Unemployment in Canada has fallen to a 40-year low, as the economy continues to charge ahead. GDP rose by around 3% in 2017, faster than any other country in the G7. With strong demand for labour, average pay growth reached a six-year high in April 2018.

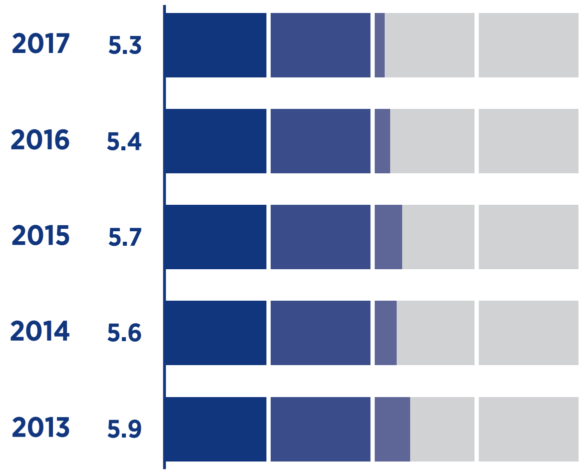
However, forecasters predict both GDP and employment growth will slow across the remainder of the year, with unemployment rising to some extent as job creation weakens.

Over the longer term to 2030, Canada is expected to see faster population growth than other G7 countries and much of Europe, helping to ensure a supply of skilled labour for years to come.

	2017	2018†
Population	36.6m	**36.9m**
GDP		
GDP (Billion CAD*)	2,184	**2,223**
GDP growth	3.0%	**1.8%**
GDP/head (CAD*)	59,738	**60,208**
Unemployment		
Unemployment rate	6.3%	**5.8%**
Long-term unemployment rate	0.7%	**0.7%**

*2018 prices †Average forecast figures for 2018

2018 Overall Index score **5.7**



Key drivers

Wage pressure in high-skill industries
Wage growth in high-skill industries continues to outpace that in lower-skill ones. Fast wage growth in management and finance sectors has driven the widening wage gap.

Labour market participation
Labour market participation rates are expected to decline modestly this year. This trend is forecast to continue in the medium term.

Overall wage pressure
Real wage growth is forecast to accelerate this year, towards historic norms. This will put greater pressure on firms' wage bills.

For a full list of indicators scores, view page 52

View from the ground

Predictions of 1.8% growth for 2018 indicate steady continued growth for Canada. Ongoing trade negotiations are creating uncertainty for many sectors that rely on the import/export market, while mercurial housing markets in most major centres are a cause for concern for many Canadian workers. Pay rates have remained largely stagnant since the 2015 oil and gas downturn, but growing demand for talent and low unemployment is driving wages up, with average pay growth reaching a six-year high in April 2018. High wage pressure is already affecting high-skill, talent-short sectors, such as construction, technology and finance.

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 2018. Developments subsequent to this date are not reflected in the 2018 findings.

CHILE

Chile's economy picked up rapidly through 2017 and into 2018, with annual growth standing at around 5% in the first quarter of the year.

This is a marked turnaround from the brief economic contraction seen in the first quarter of 2017, helping to keep the unemployment rate relatively low near the 6.5% mark, which it is has hovered around for several years.

However, there are some signs of potential labour market conditions are easing, as wage growth has been declining since the final quarter of 2017, and the fall in the central bank's Job Vacancy Index in 2018 relative to its level of a year earlier.

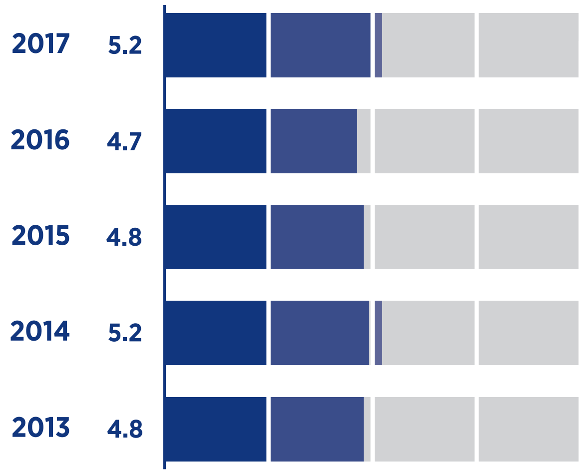
	2017	2018†
Population	18.3m	**18.5m**
GDP		
GDP (Billion CLP*)	184,189	**191,796**
GDP growth	1.7%	**4.1%**
GDP/head (CLP*)	10,045,381	**10,358,678**
Unemployment		
Unemployment rate	6.7%	**6.5%**
Long-term unemployment rate	n/a	**n/a**

*2018 prices †Average forecast figures for 2018

2018

Overall Index score

5.0



Key drivers

Talent mismatch
The rate of unfilled vacancies has fallen substantially below historical levels. This suggests that firms are more able to find workers with the right skills.

Wage pressure in high-skill occupations
Wages in high-skill occupations fell faster than in lower-skill ones, narrowing occupational wage gaps.

Labour market participation
The growth in labour market participation is expected to slow this year.

For a full list of indicators scores, view page 52

View from the ground

As a consequence of the Presidential elections last year, we saw a low level of foreign investment in 2017. However, things have now picked up and we have seen more in investment in just the first quarter of 2018 than the whole of 2017. As a result, the shortage of skilled labour has intensified as businesses look to increase their output. In order to improve the situation, Chile needs to tackle two issues in the short-term: wage inflation and removing barriers to allow organisations to access talent from abroad. The new immigration policy has restricted low-skilled entrants in an effort to limit underemployment, but the Government is yet to take any action to attract new talent. With regards to the mining sector, there are some concerns about talent mismatch. We are expecting an increase in activity in the sector in the next six to 12 months, making the search for talent more competitive.

Luis Fernando, Regional Director, Hays Chile

Key skills in demand

- Key Account Managers
- Head of Finance/GAF
- Developers
- Industrial/Technical Managers
- Supply Chain/Logistics Managers

Note: The analysis on which the Hays Global Skills Index was based utilised data as of Q2 2018. Developments subsequent to this date are not reflected in the 2018 findings.

COLOMBIA

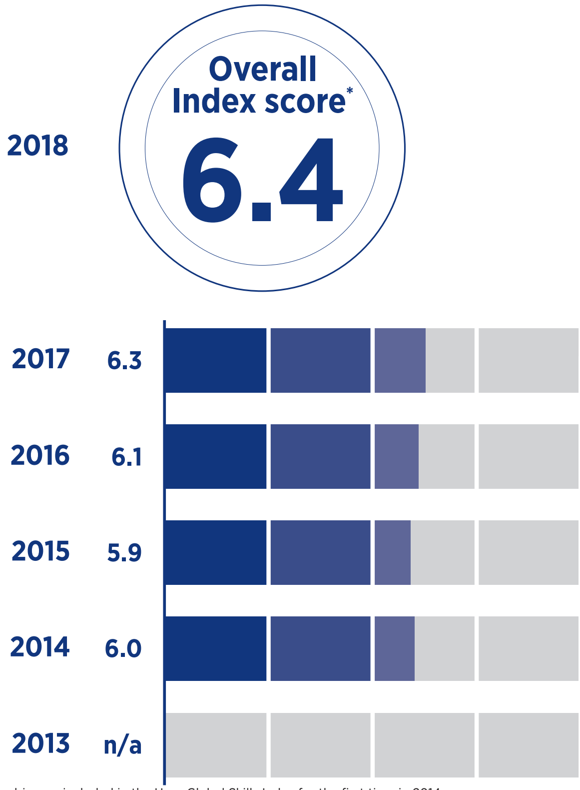
The growth rate of Colombian GDP continued to slow in 2017, standing at 1.8%.

This trend is mirrored by the labour market, with little annual growth in employment in the latter months of 2017 and in early 2018. As a result, the numbers unemployed are forecast to remain around the 2.4 million level in 2018.

The quantity of skilled labour available to employers is being altered by two competing factors. It is being boosted by robust population increases, while these are being partially offset by falling labour force participation rates. As a result, the size of the workforce (working age adults that are either working or looking for work) in 2018 stood at its highest level since 2009.

	2017	2018†
Population	49m	**49.4m**
GDP		
GDP (Billion COP*)	969,249	**994,625**
GDP growth	1.8%	**2.6%**
GDP/head (COP*)	19,768,890	**20,122,297**
Unemployment		
Unemployment rate	8.8%	**8.7%**
Long-term unemployment rate	n/a	**n/a**

*2018 prices †Average forecast figures for 2018



Note: Colombia was included in the Hays Global Skills Index for the first time in 2014.
*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.

Key drivers

Labour market participation
Colombia's participation rate growth is forecast to slow considerably compared to historical norms this year.

Labour market flexibility
Colombia's higher labour market score has been driven in part by a deteriorating labour freedom score.

Education flexibility
The share of graduates in Colombia's population rose notably in the previous year, easing the pressure on employers seeking skilled workers.

For a full list of indicators scores, view page 52

View from the ground

Economic growth is projected to pick up to about 2.6%, due to lower interest rates, stronger infrastructure spending, lower corporate taxes and higher oil prices, which are all boosting investment. Private consumption has strengthened, as falling inflation lifts real wages. Exports improved on the back of a stronger outlook for trading partners. Unemployment started to fall and social indicators are improving, but inequality remains high. Productivity should be boosted by reforms enacted to improve the business environment and the quality of education. Further efforts to reduce labour market informality, such as reducing non-wage labour costs and to reduce gender gaps by expanding childcare provisions, should make growth more inclusive.

Luis Fernando, Regional Director, Hays Colombia

Key skills in demand

- Finance Directors
- Business Unit Managers
- Java Developers
- QA Lead/QA Engineers
- Cyber Security Directors

Note: The analysis on which the Hays Global Skills Index was based utilised data as of Q2 2018
Developments subsequent to this date are not reflected in the 2018 findings.

MEXICO

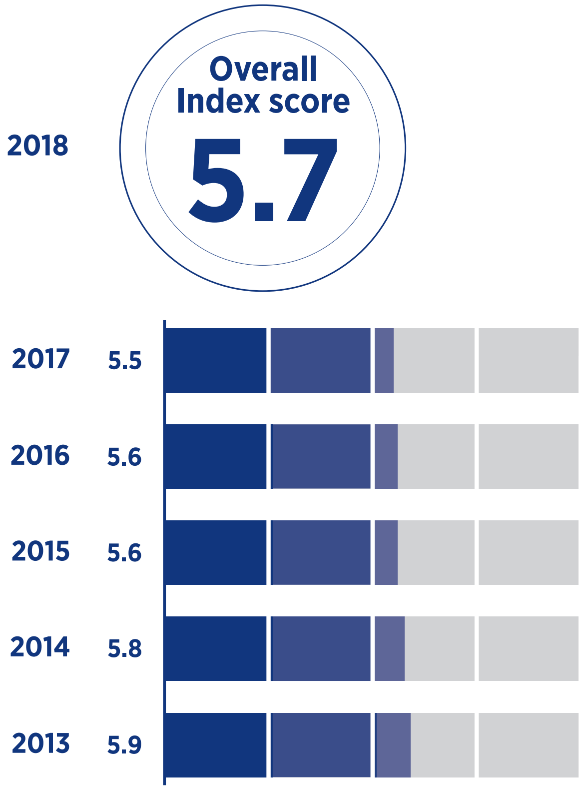
In 2017, the Mexican economy grew by 2.3%. This was slower than in the previous two years.

The unemployment rate has been falling steadily since its recent peak in the aftermath of the global financial crisis. In the first quarter of 2018, it stood at around 3.3%. However, this low headline figure masks some underlying weakness. For instance, while the youth unemployment rate stands well below that of the European Union, this is because significant numbers of young adults have become discouraged from looking for work. It is to be hoped these people will rejoin the workforce (employed and looking for employment), when the economy gathers pace.

Over the medium term, the Mexican population is forecast to grow by over 1% a year.

	2017	2018†
Population	130.4m	**132m**
GDP		
GDP (Billion MXN*)	22,808	**23,344**
GDP growth	2.3%	**2.4%**
GDP/head (MXN*)	174,882	**176,873**
Unemployment		
Unemployment rate	3.7%	**3.6%**
Long-term unemployment rate	0.1%	**0.1%**

*2018 prices †Average forecast figures for 2018



Key drivers

Talent mismatch
There is evidence of a growing skills mismatch in Mexico, as the long-term unemployment rate has risen.

Overall wage pressure
While Mexico's overall labour market score is unchanged, firms are expected to face pressure from rising wages this year.

Wage pressure in high-skill occupations
Slower wage growth in high-skill occupations led to wage gaps narrowing. This reduces pressure on employers of highly skilled workers.

For a full list of indicators scores, view page 52

View from the ground

Investment continues to be constrained by high uncertainty around the outcome of ongoing North American Free Trade Agreement negotiations and the Government's fiscal consolidation plan. Private consumption has supported growth, even though inflation eroded real wages in 2017. Turning our attention to the labour market; despite the rise of the long-term unemployment rate, there are still low rates of female participation and a growing skills mismatch. Market predictions are positive as job formalisation remains robust and the country has one of the youngest and hardest-working labour forces in the world. In order to achieve inclusive growth in productivity and competitiveness, Mexico will have to increase the investment in education to get a highly-prepared workforce, especially for the digital future.

Axel Dono, Managing Director, Hays Mexico

Key skills in demand

- Finance Management/Controllers
- Manufacturing Plant Managers
- HR Generalists/Senior Management
- Key Account Managers – Ecommerce
- Java Developers

Note: The analysis on which the Hays Global Skills Index was based utilised data as of Q2 2018. Developments subsequent to this date are not reflected in the 2018 findings.

UNITED STATES

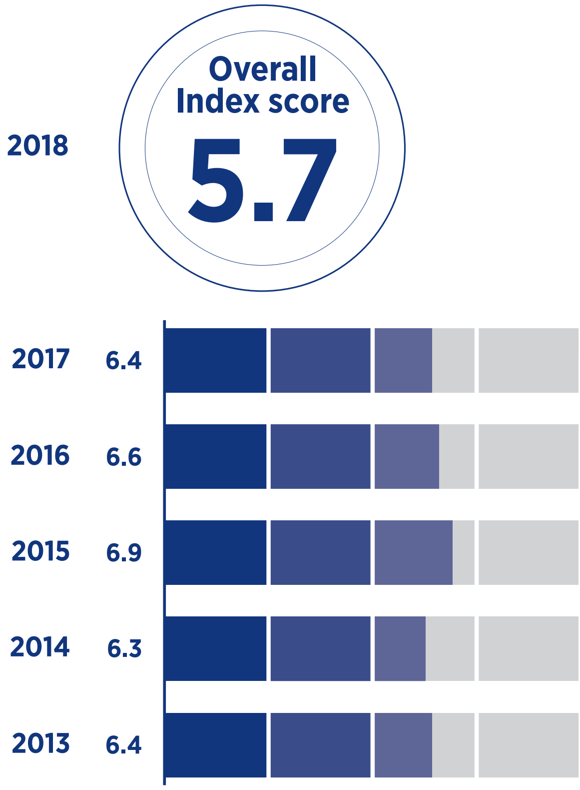
Economic growth in the United States has steadily accelerated, reaching nearly 3% by early 2018.

This has spurred robust job creation, driving down the headline unemployment rate to around 4% at the start of 2018, back to levels last seen before the global financial crisis.

The number of advertised job openings has increased to its highest level since the series began in 2000. The labour market is expected to tighten further in the short- to medium-term. Although the population in the United States is projected to grow at an annual rate of 0.7% over the next 10 years, far exceeding Europe's 0.2%, robust employment increases are forecast to bring the unemployment rate down further in the years ahead.

	2017	2018†
Population	326.6m	**329.3m**
GDP		
GDP (Billion USD*)	19,795	**20,369**
GDP growth	2.3%	**2.9%**
GDP/head (USD*)	60,604	**61,864**
Unemployment		
Unemployment rate	4.4%	**3.9%**
Long-term unemployment rate	0.6%	**0.6%**

*2018 prices †Average forecast figures for 2018



Key drivers

Wage pressure in high-skill occupations
The largest contributor to the United States' falling score this year the falling wage spread between high- and lower-skill occupations.

Labour market participation
The labour market participation rate in the United States has grown only modestly. This may make it more difficult for firms to expand their workforce.

Talent mismatch
The rate of long-term unemployment has fallen in the United States. This indicates that the pressure of skills mismatches has eased.

For a full list of indicators scores, view page 52

View from the ground

While the US economy grew at 2.2% in the first quarter of 2018, projections call for that growth to accelerate throughout the year, and economists project the annual growth rate to be around 3%. This is a good sign overall and bodes well for the employment outlook. We are seeing robust job creation exceeding predictions, and a decreasing unemployment rate to around 4% at the start of 2018, back to levels last seen before the global financial crisis. Construction, technology and finance sectors remain some of the highest-growth areas. However, this will mean a tighter talent market in the short- to medium-term as population growth is unlikely to keep pace with job creation. There is some uncertainty around trade and tariffs, which could impact the country's import/export markets. Current trade negotiations will affect these markets, but whether it is positive or negative remains to be seen.

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 2018. Developments subsequent to this date are not reflected in the 2018 findings.

AUSTRALIA

GDP growth is relatively strong at between 2 to 3%. The IMF forecast it will remain at around 3% over the next five years (2018 to 2022).

The Australian Bureau of Statistics' Labour Force Survey measure of the unemployment rate fell to 5.5% in 2017. This is its lowest level in five years, albeit above the annual low of 4.3% reached before the global financial crisis. Unfortunately, the average duration of unemployment remains high at above 45 weeks. This suggests some of these jobseekers' skills will deteriorate and they will not be accumulating new ones from work experience.

This strength in demand in combination with robust projected increases in working age population is expected to lead to employment growth over the medium term. The IMF forecast the unemployment rate will fall to 5% and remain at that level.

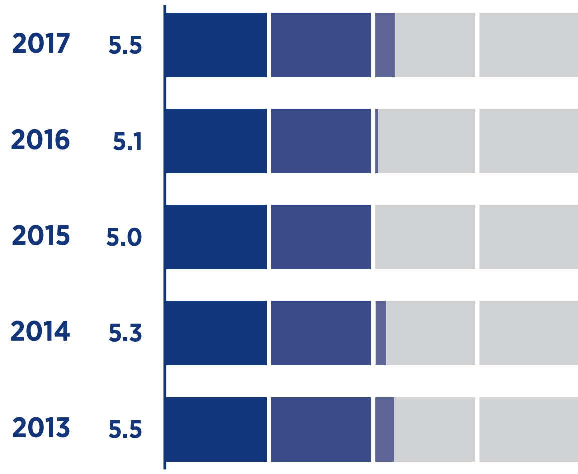
	2017	2018†
Population	24.7m	**25.2m**
GDP		
GDP (Billion AUD*)	1,828	**1,879**
GDP growth	2.2%	**2.8%**
GDP/head (AUD*)	73,943	**74,665**
Unemployment		
Unemployment rate	5.6%	**5.5%**
Long-term unemployment rate	1.3%	**1.3%**

*2018 prices †Average forecast figures for 2018

2018

Overall Index score

5.7



Key drivers

Education flexibility
A fall in graduates as a share of the population may make it more difficult for firms to find new workers with the skills they need.

Labour market participation
The forecast fall in youth participation rates this year is the biggest driver behind Australia's tightening labour market.

Talent mismatch
A rising job vacancies rate last year has also put upwards pressure on Australia's score. This suggests that it is harder for employers to find the right talent.

For a full list of indicators scores, view page 52

View from the ground

Last year was a remarkable year for jobs growth in Australia, as evidenced by consistently strong vacancy activity, a falling unemployment rate, widening skill shortages and positive forward hiring intentions. It is no wonder Australia's Overall Hays Global Skills Index score climbed for the fourth consecutive year. Demand for highly-skilled professionals and in high-skill industries now far surpasses the need for low-skill workers and in low-skill industries. Add a talent mismatch score that has grown for five consecutive years, and it's clear that all professionals must continuously upskill to remain relevant and employable in our increasingly automated world of work. For employers in such a market, promoting career progression and development opportunities will aid attraction and retention efforts.

Nick Deligiannis, Managing Director, Hays Australia

Key skills in demand

- Business Analysts
- Full-Stack .NET Developers
- Project Managers
- Engineers
- Talent Acquisition Specialists

Note: The analysis on which the Hays Global Skills Index was based utilised data as of Q2 2018. Developments subsequent to this date are not reflected in the 2018 findings.

HONG KONG

Economic growth in Hong Kong picked up notably across 2017, boosting demand for labour from corporates.

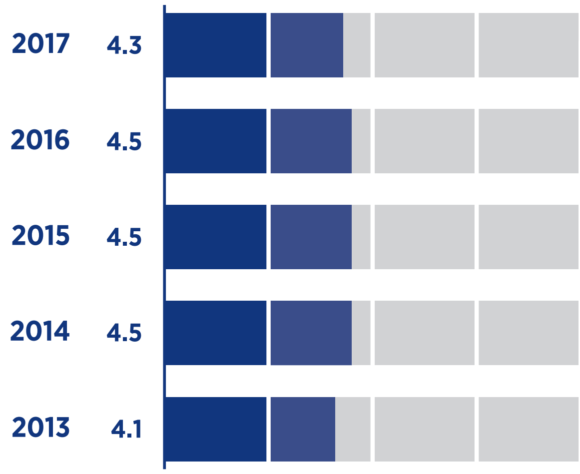
It has helped bring down the unemployment rate to its lowest in 20 years and kept wage growth relatively robust at around 4% per year.

Population increases and continued economic expansion are likely to keep labour market conditions in Hong Kong buoyant for the medium term. Longer term, the ageing population is likely to start becoming a limiting factor for labour supply, with total population stagnation and then decline projected beyond 2050.

	2017	2018†
Population	7.4m	**7.5m**
GDP		
GDP (Billion HKD*)	2,754	**2,853**
GDP growth	3.8%	**3.6%**
GDP/head (HKD*)	371,846	**382,406**
Unemployment		
Unemployment rate	3.1%	**3.0%**
Long-term unemployment rate	n/a	**n/a**

*2018 prices †Average forecast figures for 2018

2018 Overall Index score **4.3**



Key drivers

Overall wage pressure
Although Hong Kong's overall score has not changed, wage pressures have decreased considerably this year. Wages are expected to grow this year, but at a slower rate nearer to historical norms.

Education flexibility
A fall in Hong Kong's educational flexibility rank put some upwards pressure on the labour market, although Hong Kong's educational standards remain very high.

Labour market participation
Growth in Hong Kong's participation rate has slowed this year, driven by flat youth participation rates.

For a full list of indicators scores, view page 52

View from the ground

Recruitment in Hong Kong has been active with economic growth picking up notably across 2017. Hong Kong, having one of the freest labour markets and most open economies, has continued to welcome an influx of new companies and subsidiaries, mainly from Mainland China, to create numerous headcounts in all functions. The unemployment rate has been at its lowest in 20 years and kept wage growth relatively robust at around 4% per year. Population increases and continued economic expansion are likely to keep labour market conditions in Hong Kong buoyant for the medium term. Longer term, the ageing population is likely to start becoming a limiting factor for labour supply, with total population stagnation and then decline projected beyond 2050.

Dean Stallard, Managing Director, Hays Greater Bay Area

Key skills in demand

- Advanced Analytics/Data Scientists
- Privacy Lawyers
- Retail Banking Relationship Managers
- Technical Skills in Medical Affairs/ Regulatory Affairs
- Digital Transformation Project Managers

Note: The analysis on which the Hays Global Skills Index was based utilised data as of Q2 2018. Developments subsequent to this date are not reflected in the 2018 findings.

INDIA

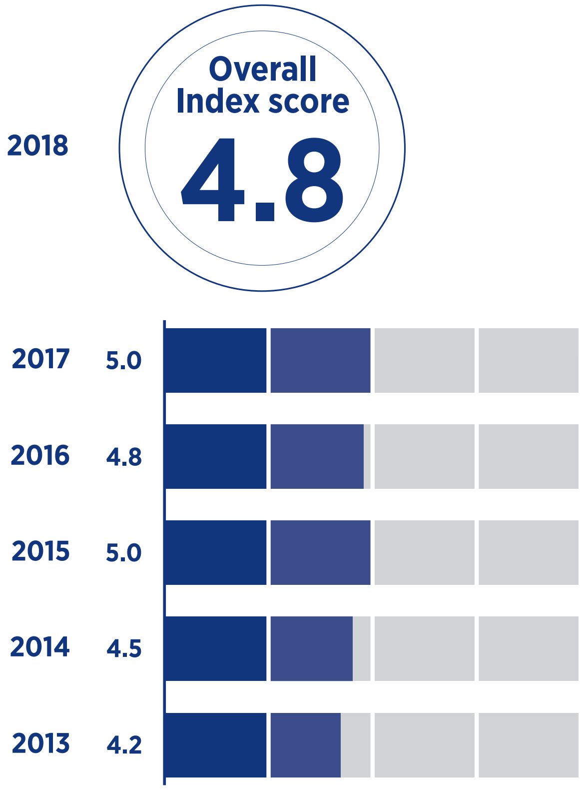
India continued to see strong economic growth of over 7% a year by the end of 2017, with only a gradual slowdown predicted ahead.

This compares to employment increases of around 2%, suggesting rapid improvements in productivity.

However, there remains much scope for further productivity increases over the decades ahead, with India's GDP per employed person standing well below the average for low- and middle-income countries. India's educational attainment similarly has room for improvement, with a World Bank Education Index ranking of 130 out of 180 countries.

	2017	2018†
Population	1,344.5m	**1,360.1m**
GDP		
GDP (Billion INR*)	169,876	**182,596**
GDP growth	6.3%	**7.5%**
GDP/head (INR*)	126,345	**134,247**
Unemployment		
Unemployment rate	3.4%	**3.5%**
Long-term unemployment rate	n/a	**n/a**

*2018 prices †Average forecast figures for 2018



Key drivers

Wage pressure in high-skill industries
The wage gap below high- and lower-skill industries has declined below historical norms, driven by rapid wage growth in several lower-skill sectors.

Labour market participation
Declining participation rates amongst people aged under 25 and over 55 put upwards pressure on India's score, although working-age participation rate is growing.

Overall wage pressure
Wage growth is expected to slow slightly this year. However, it remains the fastest amongst the countries featured in the Index and is forecast to accelerate in future years.

For a full list of indicators scores, view page 52

View from the ground

The journey of reforms which the Government has embarked on continues this year and the impact can be seen on many fronts – for example India moved in to the top 100 in the World Bank's Ease of Doing Business global ranking for the first time. On the other hand, the growing impact of changing geopolitical, economic and technical factors is increasingly visible on the talent strategies of corporates, as they are now focussing on future-proofing their talent by beginning to invest in innovative ways to retrain and reskill key resources rather than just focussing on hiring for new skills. This not only readies them for future but has helped in retaining key talent. The current wave for technologies like artificial intelligence, robotic process automation, data sciences, blockchain etc. has instigated a demand for workers with hybrid skills.

Shane Little, APAC Managing Director, Hays Talent Solutions

Key skills in demand

- Risk Officers
- Pharma Regulatory Professionals
- Analytics Professionals
- AI Engineers
- Software Application Developers

Note: The analysis on which the Hays Global Skills Index was based utilised data as of Q2 2018. Developments subsequent to this date are not reflected in the 2018 findings.

JAPAN

Unemployment in Japan reached a 25-year low in early 2018, standing at just 2.5%, following nine years of decline.

Further signs of a tight labour market come from the Ministry of Health, Labour and Welfare's business survey, which reported that 40% of firms felt they had an insufficient supply of full time employees in 2017 – its highest level since the series began ten years ago. Only 3% of firms thought they had excess supplies of labour.

This tight labour market is likely to be exacerbated by the ageing demographics of Japan, with working-age population projected to decline by 0.7% a year over the coming decade.

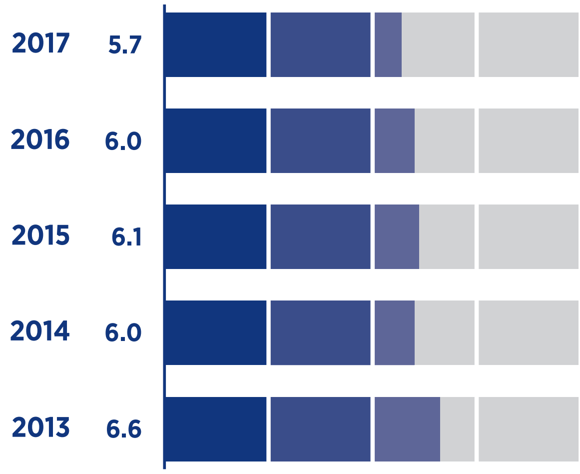
	2017	2018†
Population	126m	**125.7m**
GDP		
GDP (Billion JPY*)	548,386	**554,796**
GDP growth	1.7%	**1.2%**
GDP/head (JPY*)	4,351,922	**4,413,760**
Unemployment		
Unemployment rate	2.8%	**2.3%**
Long-term unemployment rate	1.1%	**0.8%**

*2018 prices †Average forecast figures for 2018

2018

Overall Index score

5.9



Key drivers

Wage pressure in high-skill occupations
The biggest contributor to Japan's tightening labour market is a widening occupational wage gap, a result of faster wage growth in some high-skill occupations.

Education flexibility
The share of graduates in Japan's population has grown at a slower rate than other countries, causing its education flexibility score to rise.

Labour market participation
Japan's already high participation rates are expected to grow at a slower pace this year, potentially putting pressure on firms seeking to expand.

For a full list of indicators scores, view page 52

View from the ground

There is an acute labour shortage in Japan and the working-age population is shrinking, yet it has one of the lowest unemployment rates in the world. There are two sources of hidden slack: rising participation rates, especially females who are mainly taking up part-time employment, and immigration, with the share of foreign workers below 2% and mainly made up of students and trainees in lower paid and part-time work. Neither of these factors addresses the underlying shortage of talent for high-skilled occupations; and despite this wages have not risen markedly ignoring pressure from the Government and Bank of Japan. There are opportunities to defer the retirement age, utilise contractors, and loosen immigration restrictions for skilled migrants to help address skills shortages.

Marc Burrage, Managing Director, Hays Japan

Key skills in demand

- IT Strategy/Implementation
- BI & AI Data Analysts/Engineers
- Talent Management/Development
- Field Service/Application Engineers
- Digital Marketing Managers

Note: The analysis on which the Hays Global Skills Index was based utilised data as of Q2 2018. Developments subsequent to this date are not reflected in the 2018 findings.

MAINLAND CHINA

Mainland China's economic growth continued to slow, albeit to very high rates compared to other major economies. Real GDP rose by just under 7% in 2017.

There is some evidence of labour shortages in certain regions: a third of firms surveyed by Standard Chartered in the Pearl River Delta industrial region bordering Hong Kong reported that labour shortages have worsened in recent years. This may in part explain the robust growth in wages in the manufacturing sector, although for the whole economy wage increases are smaller than the country's past high levels.

Relative to industrialised economies, the economy is heavily reliant on manufacturing compared to services. It remains to be seen whether it will switch focus over time.

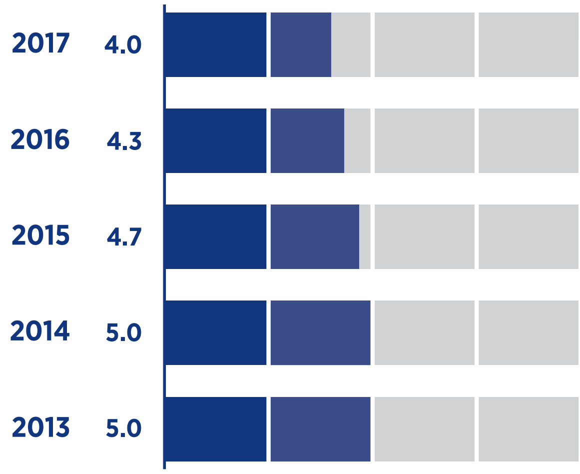
	2017	2018†
Population	1,388.8m	**1,394.2m**
GDP		
GDP (Billion CNY*)	85,086	**90,616**
GDP growth	6.8%	**6.5%**
GDP/head (CNY*)	61,267	**64,994**
Unemployment		
Unemployment rate	3.9%	**3.8%**
Long-term unemployment rate	n/a	**n/a**

*2018 prices †Average forecast figures for 2018

2018

Overall Index score

3.8



Key drivers

Overall wage pressure
Wage pressures have eased as growth rates continue to fall. Although its wage growth is among the fastest in the countries featured within the Index, it is low by historical standards.

Talent mismatch
There has been a modest increase in the rate of job vacancies. This indicates that employers are finding it harder to find workers with the right skills.

Wage pressure in high-skill industries
All industries have seen strong wage increases. Particularly fast growth in high-skill industries including scientific research and health has led to greater industrial wage dispersion.

For a full list of indicators scores, view page 52

View from the ground

A gradual easing of Mainland China's Overall Index score in recent years reflects the growing capabilities of the local labour market to meet the demands of employers in most industries and professions. However, in niche high-skill and high-tech industries (such as internet, artificial intelligence, biotech, big data, etc.), Mainland China has successfully created a rapidly-growing and extremely entrepreneurial SME sector. Well-financed start-ups with innovative products and business models are aggressively targeting top talent from multinational corporations, attracting them with offers of generous compensation and benefit packages and potentially lucrative stock options. Macroeconomic factors will likely also have a bearing on business confidence and the overall talent landscape this year.

Simon Lance, Managing Director, Hays Greater China

Key skills in demand

- Internet, Ecommerce and Digital Professionals
- Data Scientists/Experts
- PE/VC and M&A Experts
- R&D Managers in all Industries
- Big Data and AI Professionals

ASIA PACIFIC

Note: The analysis on which the Hays Global Skills Index was based utilised data as of Q2 2018. Developments subsequent to this date are not reflected in the 2018 findings.

MALAYSIA

Malaysian GDP saw its fastest growth in three years in 2017, rising by nearly 6%. The IMF forecast this will slow slightly in 2018 and 2019 but remain above 5%.

The rapid growth in output supports increased demand for labour. The unemployment rate, low by international standards, continues to edge down very slowly reaching just over 3%. Wage growth in the manufacturing sector has been running at over 9% for much of the past year.

Looking to the longer term, the World Bank believes that Malaysia's education system is insufficient to support a high-income economy.

	2017	2018†
Population	31.2m	**31.6m**
GDP		
GDP (Billion MYR*)	1,381	**1,455**
GDP growth	5.9%	**5.4%**
GDP/head (MYR*)	44,240	**46,017**
Unemployment		
Unemployment rate	3.4%	**3.3%**
Long-term unemployment rate	n/a	**n/a**

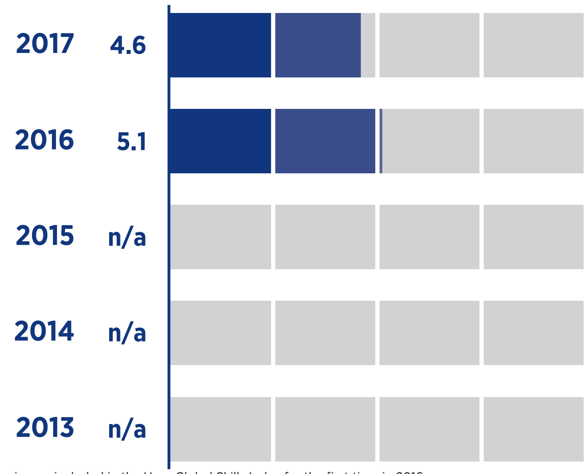
*2018 prices †Average forecast figures for 2018

ASIA PACIFIC

2018

Overall Index score*

4.6



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

Key drivers

Overall wage pressure
Accelerating wage growth is the biggest contributor to Malaysia's higher score this year.

Wage pressure in high-skill occupations
Slower wage growth in higher-skilled occupations has led to a narrower occupational wage gap. This reduces pressure on firms seeking highly-skilled staff.

Education flexibility
A rise in the proportion of the Malaysian population who hold a degree should mean employers have a larger pool of skilled labour to recruit from.

For a full list of indicators scores, view page 52

View from the ground

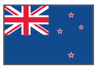
In 2017, we saw a strong job market with nearly all sectors experiencing a fundamental shortage of skilled talent throughout the country. Candidates have many options when looking for new jobs; salary and benefits along with the work culture of the business being key factors when deciding to join new businesses. Employers are more willing to give dramatic pay rises to new employees of between 10-20%, compared to the yearly increments they are willing to give to their current staff members, usually between 6-10%. This is a major factor driving a buoyant jobs market.

Tom Osborne, Regional Director, Hays Malaysia

Key skills in demand

- Digital Transformation Specialists
- Business Analysts
- Digital Marketing Professionals
- Trade Finance Operation Specialists
- Financial Planning Analysts

The analysis on which the Hays Global Skills Index was based utilised data as of Q2 2018. Developments subsequent to this date are not reflected in the 2018 findings.



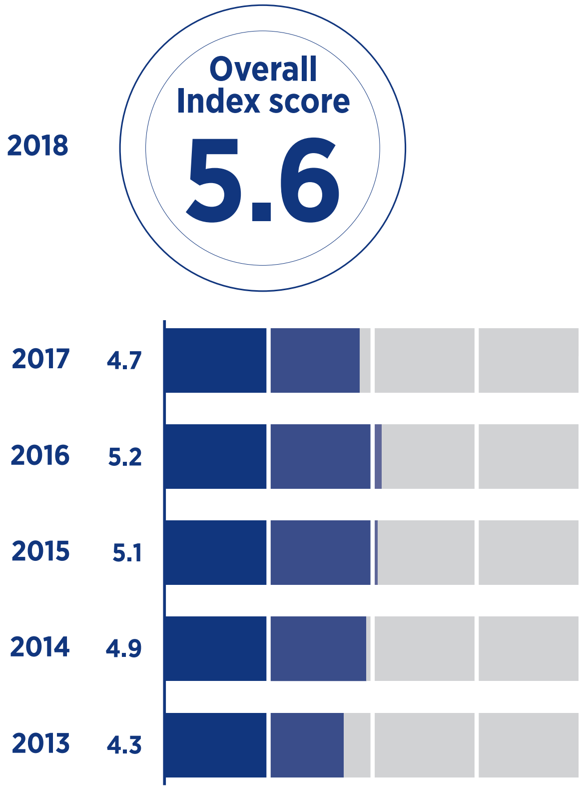
NEW ZEALAND

Unemployment in New Zealand has been steadily declining for the past five years, reaching a ten-year low of under 4.5% in early 2018. This comes despite additional people joining the labour force, as the participation rate reached an all-time high of 71% in 2017.

Although economic growth is forecast to remain solid in the short- and medium-term, spare capacity in the labour market is likely to become more of a limiting factor. Businesses report ongoing difficulties in finding both skilled and unskilled labour, intensified by the low level of joblessness. Plans to reduce immigration by 20,000 to 30,000 a year will place additional constraints on New Zealand's growth potential.

	2017	2018†
Population	4.6m	**4.6m**
GDP		
GDP (Billion NZD*)	288	**295**
GDP growth	3.0%	**2.3%**
GDP/head (NZD*)	62,483	**63,343**
Unemployment		
Unemployment rate	4.7%	**4.4%**
Long-term unemployment rate	0.7%	**0.7%**

*2018 prices †Average forecast figures for 2018



Key drivers

Overall wage pressure
Wage pressure increased substantially in New Zealand this year. Wage growth in 2018 is expected to be high relative to historical averages.

Labour market participation
With labour market participation rates already high, slowing growth may put pressure on firms in New Zealand seeking to expand.

Talent mismatch
The rate of job vacancies to employment has risen, indicating that it is increasingly difficult for firms to find and retain workers with the right skills.

For a full list of indicators scores, view page 52

View from the ground

Despite recent concerns over business confidence and immigration, and an increase in the minimum wage, unemployment has fallen and career-advancing opportunities are available for top talent. With employers continuing to add to their teams, the demand for highly-skilled professionals will rise. However, such talent is already in short supply. Add a high labour market participation rate and employers have a smaller pool of workers to choose from. As our findings show, talent mismatch is already an issue for employers, although this is not leading to salary growth, with increases best described as restrained. Instead, employers are turning to upskilling, career progression and other non-financial benefits to attract and retain top talent.

Adam Shapley, Managing Director, Hays New Zealand

Key skills in demand

- Construction Management/ Skilled Building Trades
- Structural Engineers
- Civil Engineers
- Project/Transformational Change Managers
- Payroll Specialists

Note: The analysis on which the Hays Global Skills Index was based utilised data as of Q2 2018. Developments subsequent to this date are not reflected in the 2018 findings.

SINGAPORE

In 2017, the numbers employed fell by 0.2%. The first year in which it had fallen since 2003. This reflected the contraction in construction and manufacturing employment, which more than offset the growth in jobs in services. The size of the labour force contracted less rapidly, causing a slight increase in the unemployment rate.

GDP growth is forecast to slow from the 3.6% in 2017. This reflects weaker export growth as Chinese import demand cools and global electronics demand slows.

Longer term, a report from the Committee on the Future Economy released in 2017 laid out technology-driven plans to maintain growth momentum as the population rapidly ages: the number of those aged 64+ was equivalent to 17% of the working age population in 2016, up from 12% at the start of the decade.

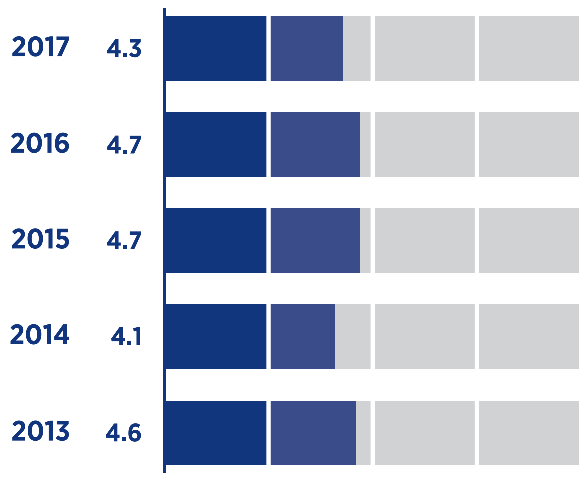
	2017	2018†
Population	5.7m	**5.8m**
GDP		
GDP (Billion SGD*)	453	**466**
GDP growth	3.6%	**3.0%**
GDP/head (SGD*)	79,491	**80,846**
Unemployment		
Unemployment rate	2.2%	**2.0%**
Long-term unemployment rate	0.8%	**0.8%**

*2018 prices †Average forecast figures for 2018

2018

Overall Index score

4.4



Key drivers

Wage pressure in high-skill occupations
Fast earnings growth in professional occupations has widened the wage spread between high-and lower-skilled occupations.

Wage pressure in high-skill industries
Wage growth in lower-skill industries, including administrative services and transport, exceeded that in high-skill ones. This narrowed Singapore's industry wage gaps.

Labour market participation
Singapore's labour market participation rate, which is the highest amongst the Hays countries, is expected to decline slightly this year, putting pressure on firms seeking to recruit.

For a full list of indicators scores, view page 52

View from the ground

The last few years has seen Singapore's economic growth slow, as the nation felt the effects of its susceptibility to global trade movements. However, the recent uplift in hiring will continue to increase throughout 2018 and beyond. The Government's continued drive towards ensuring Singapore's transformation into a leading digital innovative economy means that demand, and therefore wages in highly-skilled occupations that support this initiative, continue to rise. The available talent pool for Singapore employers to tap into remains a key concern across a wide range of industries and occupations. A shrinking workforce as a result of an ageing population, coupled with a tighter immigration policy, continues to put pressure on firms seeking to recruit.

Grant Torrens, Business Director, Hays Singapore

Key skills in demand

- Data Analytics
- Development (Emerging technologies)
- Internal Audit & Controls
- Digital Content Specialists
- Finance Business Partners

Note: The analysis on which the Hays Global Skills Index was based utilised data as of Q2 2018. Developments subsequent to this date are not reflected in the 2018 findings.

AUSTRIA

In 2017, GDP increased by 3.2%, its fastest annual rate of growth since 2007. This boosted the demand for labour, with employment also growing at its fastest annual rate since 2007.

Both unemployment and vacancies have reacted to the robust growth in output. The number of unemployed people fell by 8% in the year, taking the unemployment rate to 5.5% in 2017. The number of vacancies increased by 34% in 2017. Some 63% of the jobs advertised were in the private service sector, 22% in the private production sector and the remainder in the public sector.

The stock of vacancies as recorded by Statistics Austria is 39% of the numbers who are unemployed. This is consistent with some degree of skills mismatch.

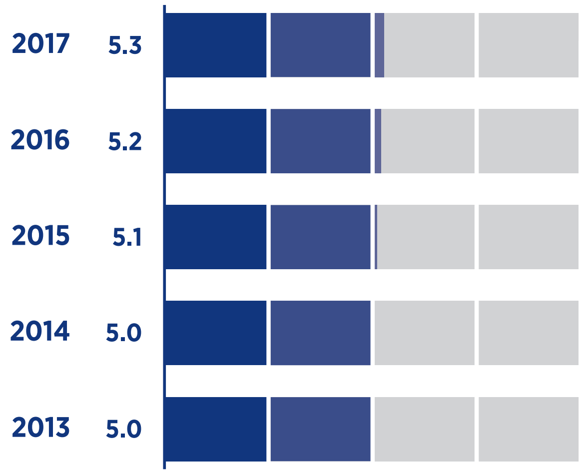
	2017	2018†
Population	8.7m	**8.7m**
GDP		
GDP (Billion EUR*)	377	**388**
GDP growth	3.2%	**2.9%**
GDP/head (EUR*)	43,515	**44,535**
Unemployment		
Unemployment rate	5.5%	**4.9%**
Long-term unemployment rate	1.8%	**1.6%**

*2018 prices †Average forecast figures for 2018

2018

Overall Index score

5.6



Key drivers

Talent mismatch
The job vacancies and long-term unemployment rates continued to rise last year. This suggests a growing mismatch between the skills workers have, and those employers require.

Labour market participation
Austria's participation rate is expected to continue to grow this year, easing pressure in the labour market.

Education flexibility
Some of the upwards pressure on the labour market has been offset by improved education flexibility. This reflects a higher share of the population holding degrees.

For a full list of indicators scores, view page 52

View from the ground

As Austria's labour market participation rate is expected to grow further this year, the relative easing of the wider labour market is also set to continue. However, the pressure is still increasing, specifically in highly-skilled sectors, and we are finding that the demand for IT, life science, engineering and finance professionals has risen even further. In addition, talent mismatch has increased, which means that there is a growing discrepancy between the skills that workers in Austria have and the skills that employers require. As a result, Austria has been experiencing a heightened job vacancy rate. The new Government has shown a strong tendency to much more employer friendliness in some of its legislative endeavours thus reducing the insecurity of companies within the Austrian economy.

Mark Frost, Managing Director, Hays Austria

Key skills in demand

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

Note: The analysis on which the Hays Global Skills Index was based utilised data as of Q2 2018. Developments subsequent to this date are not reflected in the 2018 findings.

BELGIUM

In 2017, the numbers employed increased by 1.4% and the unemployment rate fell by 0.8 percentage points to 7.1%.

The improvement partly reflected reforms to pensions, taxes on labour and efforts to contain wage growth. Many of the newly created jobs went to older workers.

But there remain problems in the Belgian labour market. Youth unemployment, at 19% in 2017, is above the average in the European Union. This may have a negative impact on those young people's future pay, long-term probability of being unemployed, and opportunities in life. There are also marked differences in regional unemployment rates.

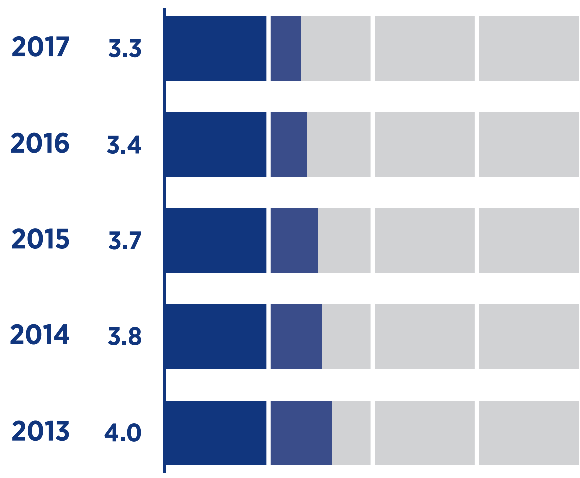
	2017	2018†
Population	11.4m	**11.5m**
GDP		
GDP (Billion EUR*)	443	**450**
GDP growth	1.7%	**1.5%**
GDP/head (EUR*)	38,894	**39,312**
Unemployment		
Unemployment rate	7.1%	**6.1%**
Long-term unemployment rate	3.7%	**3.1%**

*2018 prices †Average forecast figures for 2018

2018

Overall Index score

3.9



Key drivers

Overall wage pressure
Strong wage growth is expected in Belgium this year, following three consecutive years of falling real wages. This will increase pressure on employers' wage bills.

Talent mismatch
A rise in job vacancies as a share of employment, and a growing long-term unemployment rate, suggests growing skills mismatches in Belgium.

Labour market participation
Firms seeking to grow their workforce may face increased pressure as participation growth rates slow. Youth participation rates have declined every year since 2007.

For a full list of indicators scores, view page 52

View from the ground

We are seeing sustained growth of the economy – even though it's limited to 1.6% – and as a result there is increased business and consumer confidence. These positive developments are encouraging companies to recruit more people and candidates to make the jump to a new job. Despite this, companies are still having trouble recruiting due to a lack of candidates, evidenced by a continuously increasing talent mismatch score. Belgium has a low unemployment rate, but those out of work are not always employable due to a lack of the right skills. Furthermore, 'job hopping' pushes companies to rethink their retention strategies and puts even more pressure on wages. On a positive note, the tax incentives enacted by the Government are stimulating job creation.

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 2018. Developments subsequent to this date are not reflected in the 2018 findings.

CZECH REPUBLIC

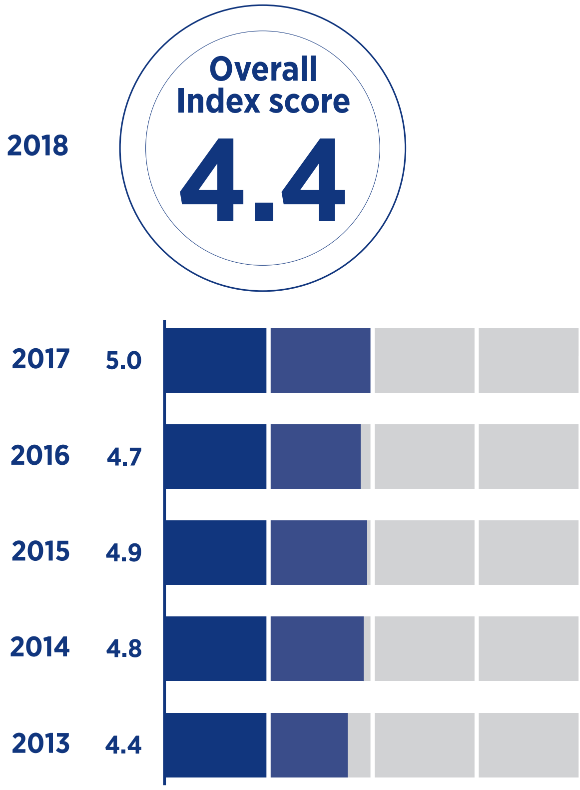
The Czech Republic economy expanded by 4.5% in 2017.

This rapid rate of growth stimulated the demand for labour, with the International Labour Organization's measure of the unemployment rate declining to 2.9%. This is well down from its post-financial crisis peak of 7.3% in 2010. At the same time, the number of open job vacancies has risen to its highest in more than two decades, at over 250,000 compared to less than 150,000 a year before.

The increased demand for labour has impacted earnings growth. Economy-wide wages are estimated to have increased by an average of 3.7% in 2017. Lower-skilled workers seem to have received larger increases than higher-skilled counterparts.

	2017	2018†
Population	10.6m	**10.6m**
GDP		
GDP (Billion EUR*)	5,173	**5,332**
GDP growth	4.5%	**3.1%**
GDP/head (EUR*)	489,932	**504,652**
Unemployment		
Unemployment rate	2.9%	**2.2%**
Long-term unemployment rate	1.3%	**0.8%**

*2018 prices †Average forecast figures for 2018



Key drivers

Wage pressure in high-skill industries
The biggest downward pressure on the Czech Republic's score came from falling industrial wage pressures. Growth in lower-skill industries has outpaced that in high-skill ones.

Wage pressure in high-skill occupations
Fast wage growth in lower-skill occupations, including service and sales workers, compared to high-skill ones has caused a narrowing in occupational wage gaps.

Labour market participation
An increase in labour market participation across all people of working age reduced the pool of spare labour that could enter the skilled labour market.

For a full list of indicators scores, view page 52

View from the ground

During the past three years, the Czech economy has experienced positive developments and ongoing growth. This growth is mainly driven by strong export and a continuous increase in household spend. The number of open vacancies continues to rise, reaching all-time maximum levels. A continuous hunger for skilled professionals is creating a shortage in the market which is putting great pressure on organisations to innovate and automate processes. We have seen a switch recently from low added-value operations moving further East, with more complex processes being established in the Czech Republic. While traditional industry remains the key driver, the service sector is expanding with double digit growth. There is no easy fix for the labour market on the horizon; therefore companies should invest heavily in further automation in a short timescale.

Ladislav Kučera, Managing Director, Hays Czech Republic

Key skills in demand

- Sales Representatives
- IT Developers
- QA Engineers
- HR Specialists
- English-speaking Accountants

Note: The analysis on which the Hays Global Skills Index was based utilised data as of Q2 2018. Developments subsequent to this date are not reflected in the 2018 findings.

DENMARK

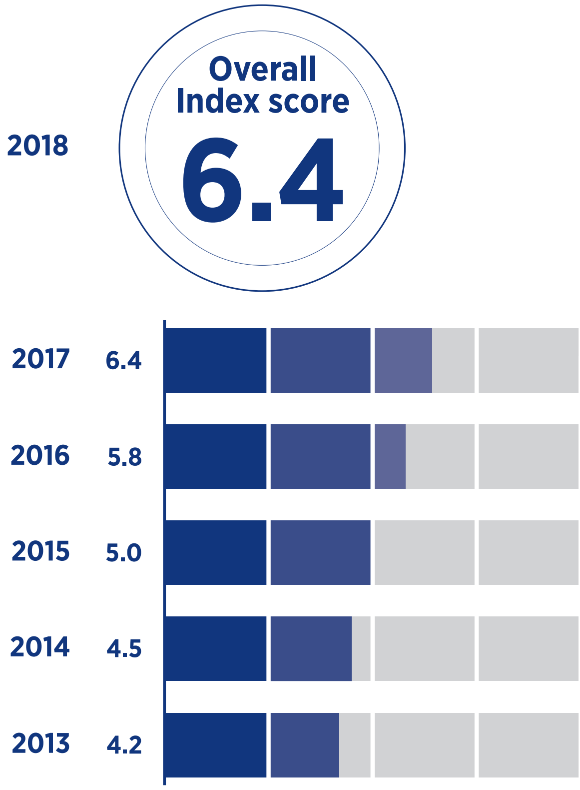
GDP rose by 2.2% in 2017. It is forecast to grow at slightly less than 2% in the next few years, driven by consumption and investment spending.

According to the International Labour Organization (ILO), the number of people employed fell by 0.5% in 2017. Unemployment according to the ILO definition also increased by 8%. The most rapid rises in unemployment in 2017 were concentrated among the younger age groups, with a 12% rise in those aged under 25 years old.

Some confirmation of the relatively bleak picture in 2017 comes from the Purchasing Managers Index Survey question on employment. This predicted a contraction in employment in 2017, the first year it had done so since 2010. The results for the first half of 2018 are more positive, pointing to an expansion in employment in 2018.

	2017	2018†
Population	5.7m	**5.7m**
GDP		
GDP (Billion DKK*)	2,160	**2,197**
GDP growth	2.2%	**1.7%**
GDP/head (DKK*)	378,728	**383,286**
Unemployment		
Unemployment rate	5.7%	**5.0%**
Long-term unemployment rate	1.3%	**1.1%**

*2018 prices †Average forecast figures for 2018



Key drivers

Labour market participation
Labour market participation is expected to grow strongly this year, reducing pressure on firms seeking to expand their workforce.

Wage pressure in high-skill industries
Wages have grown faster in high-skill sectors, particularly professional activities and finance, than lower-skill ones, putting greater pressure on firms in these industries.

Education flexibility
Improving educational standards mean that employers in Denmark should have access to a larger pool of talent.

For a full list of indicators scores, view page 52

View from the ground

The Danish labour market is characterised by low unemployment. However, while unemployment continues to decrease, companies are still experiencing a difficult time attracting and retaining the right talent; this points towards a high degree of talent mismatch. Increasing overall wage pressure also indicates that employers are experiencing labour shortages. Thus, there is an increasing need to attract international labour. The continued digitalisation of the workforce additionally invites employers to look across national borders in the search for the right talent. Newly qualified jobseekers are experiencing a higher rate of unemployment than other groups; therefore it could be beneficial for organisations to realise the value in this group of potential employees.

Morten Andersen, Business Director, Hays Denmark

Key skills in demand

- Software Developers
- Marketing Specialists – Digital/Communications
- Financial Business Partners
- 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 2018. Developments subsequent to this date are not reflected in the 2018 findings.

FRANCE

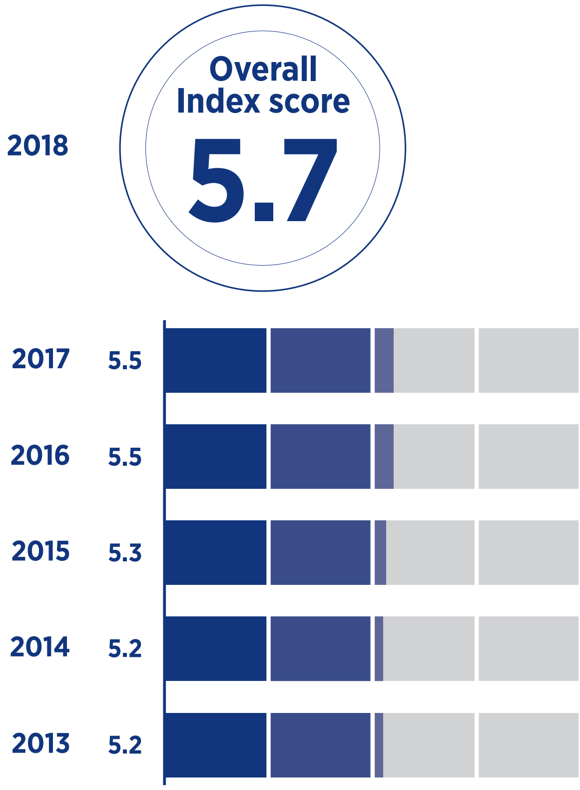
In 2017, GDP increased by 2.3%. It has slowed markedly in the first half of 2018, reflecting the impact of higher taxes and inflation on consumer purchasing power, and a drop-off in exceptional items such as aircraft sales.

Total employment rose by 1.1% in 2017. This impacted joblessness, with the headline rate falling to 9.4%. It had remained stubbornly above the 10% mark between 2013 and 2016. However, it remains among the highest rates in Western Europe. Unemployment is particularly prevalent for the young and low-skilled workers.

At the same time as unemployment remains high, the number of vacancies increased. Total vacancies stood 10% higher in 2017 than a year earlier. This is suggestive of talent mismatch.

	2017	2018†
Population	66.9m	**67.2m**
GDP		
GDP (Billion EUR*)	2,310	**2,348**
GDP growth	2.3%	**1.6%**
GDP/head (EUR*)	34,513	**34,929**
Unemployment		
Unemployment rate	9.4%	**8.9%**
Long-term unemployment rate	4.2%	**3.9%**

*2018 prices †Average forecast figures for 2018



Key drivers

Talent mismatch
An increase in the rate of job vacancies has put considerable upward pressure on France's score. While still low relative to other countries, the rate is high by the country's historical standards.

Overall wage pressure
Wage pressure on French firms has eased, with real earnings growth expected to be broadly flat this year.

Labour market flexibility
France's labour freedom ranking fell this year, due to labour laws being complex and inflexible.

For a full list of indicators scores, view page 52

View from the ground

Economic growth is expected to return to a solid pace of close to 2% over 2018-19 thanks to strong external demand and robust business confidence. Lower labour taxes and labour market reforms should encourage job creation. Inflation is projected to pick up, supported by the strengthening of the economy and an increase in wages. Employment growth proved very strong in 2017 with an extra 300,000 jobs being created. However, it should slow slightly over the next two years with an expected net total of 200,000 extra jobs in 2018. This will be fuelled by the recent changes to the CICE (Tax Credit for Competitiveness and Employment), as the cut to social contributions will likely lead to further job creation as businesses have a lower cost to pay. The unemployment rate is on a downwards trend and should fall from 9.2% in the first quarter of 2018 to 8.2% at the end of 2020, reaching its lowest level since the end of 2008.

Tina Ling, Managing Director, Hays France & Benelux

Key skills in demand

- DevOps Engineers
- Java Developers
- Biostatisticians
- Tax Specialists
- Construction Engineers

Note: The analysis on which the Hays Global Skills Index was based utilised data as of Q2 2018. Developments subsequent to this date are not reflected in the 2018 findings.

GERMANY

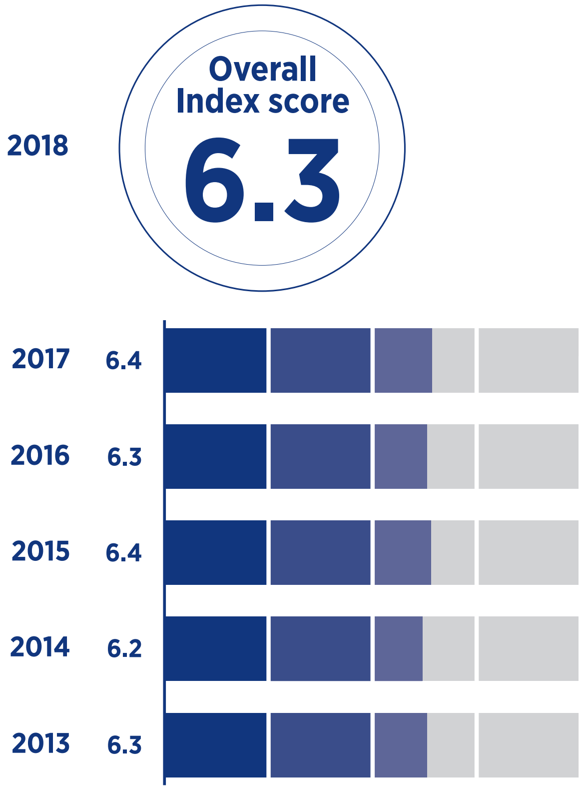
Germany's labour market has tightened considerably, with the unemployment rate (ILO definition) declining to around 3.5%.

This is the lowest since reunification, reflecting a sharp rise in the number of employed workers, up 1.5% in 2017. There are no signs that demand for labour is slowing, with job vacancies increasing by 11% in 2017.

However, the lack of spare capacity in the labour market may start to hamper growth ambitions. Germany's economic growth is expected to cool over the next five years from a peak in 2017. Over the longer term a working-age population that is starting to rapidly decline is likely to place additional constraints on Germany's growth potential.

	2017	2018†
Population	82.6m	**82.8m**
GDP		
GDP (Billion EUR*)	3,319	**3,382**
GDP growth	2.5%	**1.9%**
GDP/head (EUR*)	40,167	**40,831**
Unemployment		
Unemployment rate	3.7%	**3.4%**
Long-term unemployment rate	1.5%	**1.4%**

*2018 prices †Average forecast figures for 2018



Key drivers

Labour market participation
German firms should benefit from rising labour market participation rates this year.

Overall wage pressure
Real wage growth slowed this year, although it remains higher than the country's historical average.

Wage pressure in high-skill industries
Wages grew faster in high-skill industries – notably finance and insurance, and professional and scientific activities – than in lower-skill ones, increasing pressure on firms in high-skill sectors.

For a full list of indicators scores, view page 52

View from the ground

The German economy continues to perform strongly. The economy has been growing continuously for years, with 2% growth this year, and the labour market is seeing the benefits of this positive development. 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 will start 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

Note: The analysis on which the Hays Global Skills Index was based utilised data as of Q2 2018. Developments subsequent to this date are not reflected in the 2018 findings.

HUNGARY

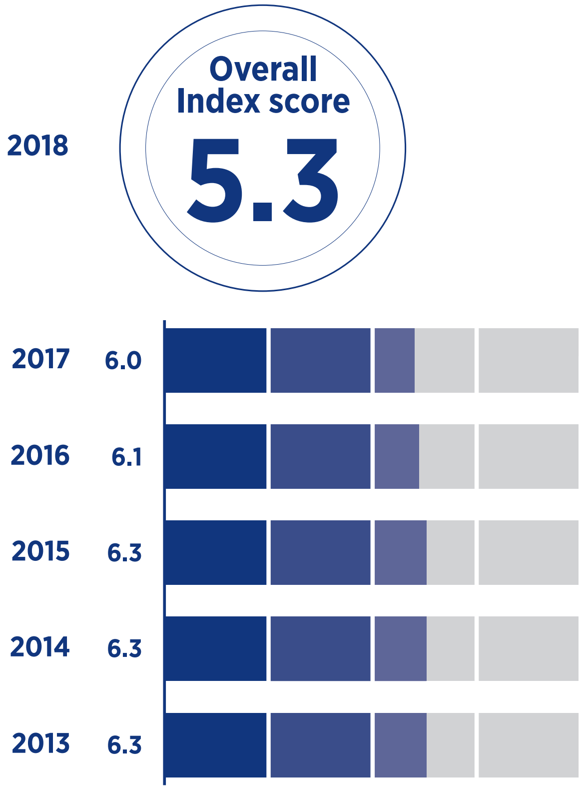
Due to the high number of job opportunities created in Hungary, which rose in 2017 to the highest on record, the jobs market was unable to keep up with demand, creating further skill shortages. This is particularly the case in the manufacturing sector, where vacancies climbed by 50% during the fourth quarter of 2017.

This is supported by the European Commission Business Survey on factors limiting production, where labour was cited by a net balance of +77% of firms in 2017 and an average of +83% of firms in the first half of 2018.

This scarcity of labour pushed up the growth in economy-wide earnings by 13%. With consumer price inflation slightly above 2%, employees in sectors where there are labour shortages are enjoying substantial real wage growth.

	2017	2018†
Population	9.8m	**9.8m**
GDP		
GDP (Billion HUF*)	39,687	**41,364**
GDP growth	4.2%	**4.2%**
GDP/head (HUF*)	4,047,414	**4,226,673**
Unemployment		
Unemployment rate	4.2%	**3.8%**
Long-term unemployment rate	2.0%	**1.6%**

*2018 prices †Average forecast figures for 2018



Key drivers

Wage pressure in high-skill industries
Wage growth in lower-skill industries has outpaced that in high-skill ones, reducing the pressure on firms in high-skill industries.

Labour market participation
Hungary's growing labour market participation rates are a major driving force behind the fall in the country's Overall Index score.

Talent mismatch
The rate of unfilled vacancies fell last year. This is consistent with employers becoming more flexible and recruiting staff who nearly match their precise needs and upskilling them into roles.

For a full list of indicators scores, view page 52

View from the ground

The domestic labour market showed intense growth in 2017 and the supply chain could hardly keep up with demand. Foreign investors verified the competitiveness and quality of the labour force in Hungary and have continued to shift operations with higher added value. The business services, engineering and manufacturing, and IT sectors are continuing to expand. Therefore, it is clear that the recruitment of technical professionals in the domestic white-collar labour market remains the biggest challenge in the market, followed by the increase in wages in most sectors. The internal mobility of the Hungarian labour force has improved and applicants are increasingly willing to move within the country for new job opportunities.

Tammy Nagy-Stellini, Managing Director, Hays Hungary

Key skills in demand

- Electrical Test Engineers
- Quality 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 2018. Developments subsequent to this date are not reflected in the 2018 findings.

IRELAND

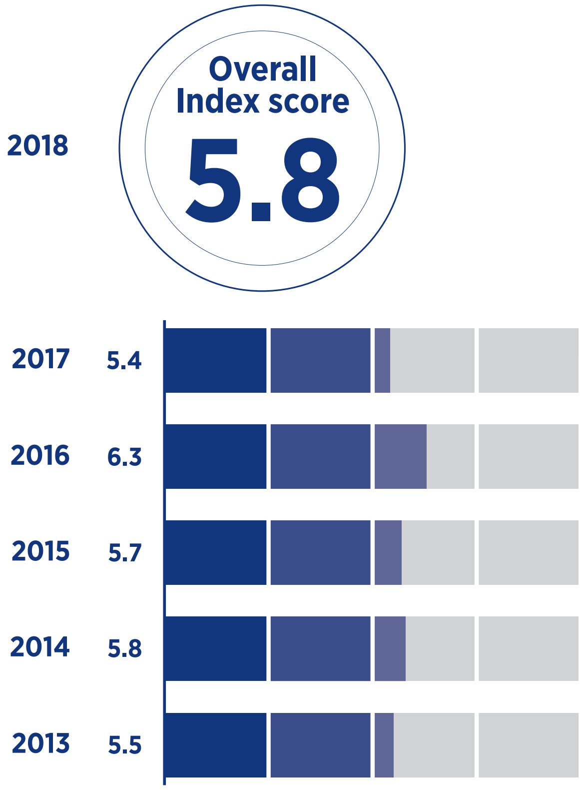
The Irish economy expanded rapidly in 2017, growing by over 7%. The IMF forecast growth will slow to 4.5% in 2018 and 4% in 2019. This is well above the forecast for the Euro area as a whole at 2.4 and 2%, respectively.

This increase in output boosted the demand for labour, causing the unemployment rate to fall by 1.7 percentage points in 2017 to 6.7%.

Looking further out, Ireland is less likely than other European countries to experience significant labour supply constraints, as the UN expect working age populations to increase notably over the medium term. This is in contrast to Western Europe overall, where labour supply is expected to shrink. In addition, Ireland's labour force participation rate is relatively low both compared to other EU countries and Ireland's own rate before the financial crisis; suggesting a further potential source of workers to ease skill shortages.

	2017	2018†
Population	4.7m	**4.8m**
GDP		
GDP (Billion EUR*)	297	**314**
GDP growth	7.2%	**5.4%**
GDP/head (EUR*)	62,673	**65,530**
Unemployment		
Unemployment rate	6.7%	**5.6%**
Long-term unemployment rate	3.7%	**2.7%**

*2018 prices †Average forecast figures for 2018



Key drivers

Overall wage pressure
The largest contributor to Ireland's rising Overall Index score is the sharp increase in wage growth this year.

Wage pressure in high-skill industries
Ireland's industry wage gaps have increased. Wage growth in high-skill industries such as financial and scientific activities has outpaced that in low-skill ones.

Labour market flexibility
Ireland's flexible labour market and mobile workforce eased pressure on its Overall Index score this year.

For a full list of indicators scores, view page 52

View from the ground

Ireland's economy experienced rapid growth in 2017, boosting the demand for labour and causing the unemployment rate to fall to its lowest level since the financial crisis of 2008. The year also saw a sharp increase in wage growth, particularly in highly-skilled industries. While the early phases of the economic recovery primarily benefitted Dublin, other cities such as Cork and Limerick are attracting increased investment, both private and public. Staff shortages remain an issue across many sectors, and companies are increasingly looking overseas to fill vacancies. While Ireland's net inward migration is at its highest level since 2008, the labour market participation rate is below its pre-crisis peak, suggesting the potential for further workforce growth, including through initiatives to attract more overseas workers.

Mike McDonagh, Managing Director, Hays Ireland

Key skills in demand

- Newly Qualified Accountants
- Engineers – Civil, Structural, Mechanical and Electrical
- Data Scientists
- Cyber Security Analysts
- Health and Safety Officers

Note: The analysis on which the Hays Global Skills Index was based utilised data as of Q2 2018. Developments subsequent to this date are not reflected in the 2018 findings.

ITALY

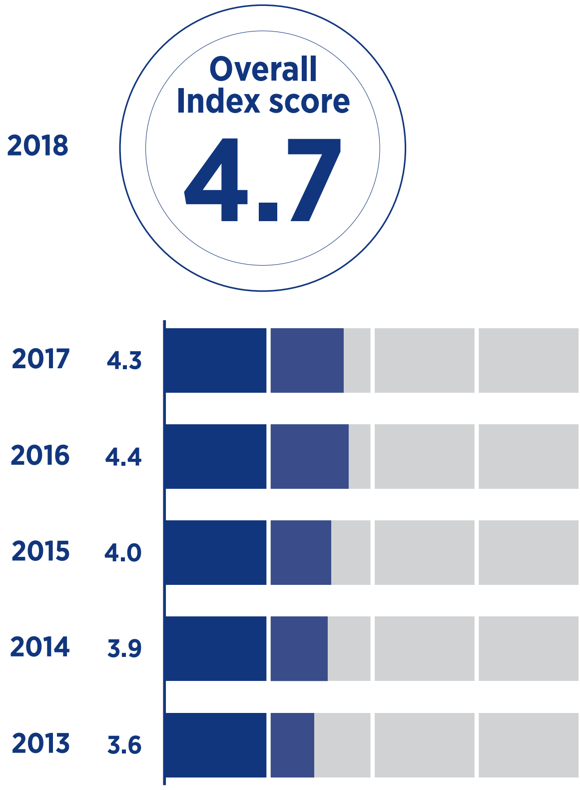
Employment increased by just over 1% in 2017 to reach levels close to the pre-global recession highs.

This reflected job growth in services, notably the hotels and restaurants sector, and education and health. The rate of job growth was identical across the Centre, North and South of the country, which was unusual relative to recent historical trends.

GDP growth is forecast to be 1.3% in 2018. This is slightly below the rate in 2017. This should be sufficient to ensure employment growth continues at about the same rate as 2017. The unemployment rate is predicted to continue to fall slowly, but the forecast demand for labour seems insufficient to make a major impact on unemployment amongst the young or areas of the South.

	2017	2018†
Population	61.3m	**61.4m**
GDP		
GDP (Billion EUR*)	1,738	**1,761**
GDP growth	1.6%	**1.3%**
GDP/head (EUR*)	28,333	**28,654**
Unemployment		
Unemployment rate	11.3%	**10.9%**
Long-term unemployment rate	6.6%	**6.4%**

*2018 prices †Average forecast figures for 2018



Key drivers

Overall wage pressure
Real wage growth is forecast to recover this year, increasing wage pressure towards normal historical levels.

Wage pressure in high-skill industries
Wage growth in high-skill sectors has accelerated, widening the country's wage gap between high- and lower-skill industries.

Labour market participation
Falling participation rates contributed to increased labour market pressure this year. The biggest decline is expected to be in youth participation rates, which remain at record lows.

For a full list of indicators scores, view page 52

View from the ground

Labour market conditions have improved in Italy and the number of people employed has almost recovered to the 2008 peak. However, the employment rate remains low at 58% relative to some other European countries. While the unemployment rate has fallen from its crisis peak of just under 13% to around 11%, it remains a major concern as 33% of young people are without a job and just under 20% of those in the South of Italy are also unemployed. Real wage growth is expected to recover this year, increasing wage pressure towards normal historical levels, while wage growth in high-skill sectors has accelerated. Falling participation rates contributed to an increase in labour market pressure and youth participation rates remain at record lows.

Carlos Soave, Managing Director, Hays Italy

Key skills in demand

- Export Managers
- Operation Managers/Supply Chain Managers
- Head of Digital
- Customer Experience Managers
- Finance Managers

Note: The analysis on which the Hays Global Skills Index was based utilised data as of Q2 2018. Developments subsequent to this date are not reflected in the 2018 findings.

LUXEMBOURG

The Luxembourg economy expanded by 2.3% in 2017, above the average in the EU.

The near-term growth outlook is positive, with the IMF forecasting GDP growth accelerating to 3.5 and 3.4% in 2018 and 2019 respectively, boosted by the global recovery.

The pick-up in demand increased the numbers employed by 3.8% in 2017. A significant proportion of the new jobs were taken by cross-border workers who commute into the country. This to some extent reflects skills mismatches and a social security system which creates some disincentives for local people from working, resulting in firms looking to recruit having to cast the net wide to fill the vacancies.

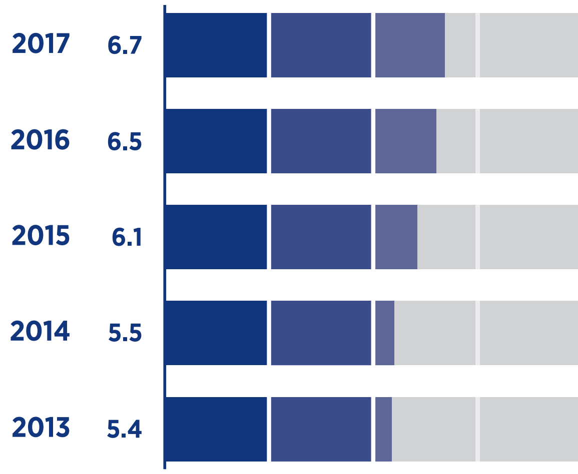
	2017	2018†
Population	0.6m	**0.6m**
GDP		
GDP (Billion EUR*)	57	**59**
GDP growth	2.3%	**3.5%**
GDP/head (EUR*)	98,805	**101,175**
Unemployment		
Unemployment rate	5.6%	**5.6%**
Long-term unemployment rate	2.2%	**2.4%**

*2018 prices †Average forecast figures for 2018

2018

Overall Index score

6.7



Key drivers

Wage pressure in high-skill industries
Faster wage growth in lower-skill industries than in high-skill ones has led to a narrowing in the industry wage gap.

Labour market participation
Labour market participation is expected to grow more slowly than the historical average this year, with the youth participation rate falling.

Overall wage pressure
The rate of real wage growth is forecast to accelerate this year, above levels normally seen in Luxembourg.

For a full list of indicators scores, view page 52

View from the ground

Luxembourg's economy keeps growing and forecasts are currently projecting economic growth of 3.5%. There has been a decrease in the unemployment level, bringing it to a very low rate of 5.3% in the first quarter of 2018. The war for talent is more than ever defining the recruitment market in the country. As of last year, some sectors such as information technology, construction and real estate, have been doing very well. However, 2018 is seen by many economists as the beginning of a profound change due to digitalisation, artificial intelligence, big data and strengthening of market regulations. The latter are all topics that require companies to anticipate new organisational models for tomorrow.

Tina Ling, Managing Director, Hays France & Benelux

Key skills in demand

- Java Programmers
- Compliance & Risk Professionals
- Financial Private Equity & Real Estate Experts
- Fund Accountants
- Multilingual Assistants, Sales and Controllers (FR/ENG/GER/NL/LUX)

Note: The analysis on which the Hays Global Skills Index was based utilised data as of Q2 2018. Developments subsequent to this date are not reflected in the 2018 findings.

THE NETHERLANDS

In 2017, the unemployment rate in the Netherlands fell by 1.1 percentage points to 4.9%.

This reflects the growth in employment of over 2%. Much of the growth was in self-employment and amongst employees with temporary contracts.

The pick-up in demand for labour also boosted earnings. Gross wages and salaries rose by 3.8% in 2017. This is its fastest rate since 2008. Among those who benefitted were lower-skilled workers, whose wage growth outstripped their higher-skilled counterparts.

	2017	2018†
Population	17m	**17.1m**
GDP		
GDP (Billion EUR*)	756	**775**
GDP growth	3.0%	**2.6%**
GDP/head (EUR*)	44,377	**45,374**
Unemployment		
Unemployment rate	4.9%	**3.8%**
Long-term unemployment rate	2.1%	**1.6%**

*2018 prices †Average forecast figures for 2018

2018 Overall Index score **5.6**

2017	**5.7**
2016	**5.7**
2015	**4.7**
2014	**4.8**
2013	**4.3**

Key drivers

Wage pressure in high-skill industries
High-skill industry wage pressures eased this year. Wage growth in high-skill sectors slowed compared to lower-skill ones including manufacturing and service activities.

Talent mismatch
A growing number of unfilled job vacancies combined with a higher long-term unemployment rate indicate that the gap between workers' skills and employers' needs has grown.

Labour market flexibility
The Netherlands' rank in terms of labour regulation and flexibility has worsened slightly this year.

For a full list of indicators scores, view page 52

View from the ground

The number of vacancies in the Netherlands peaked in 2017. The working population showed a sharp increase versus 2016, mostly due to an increase of permanent jobs. The rebound of permanent jobs is a remarkable turnaround after years of an increasing contingent workforce. Employers focus on retention of staff in times when finding staff is difficult. This trend is supported by unclear legislation for self-employed workers. While jobs in the administrative and financial sector are still in decline, we are seeing a structural skills shortage in nearly all other sectors, led by industrial, IT, scientific and services. Among the many sought-after roles, 'recruiter' is the most in demand, reflecting the overall demand for staff across most sectors. To face these challenges the Netherlands needs to improve the local education system and attractiveness for foreign knowledge workers.

Robert van Veggel, Managing Director, Hays Netherlands

Key skills in demand

- Account Managers
- Project Leads
- Software Engineers
- Customer Services
- Work Planners (Construction)

Note: The analysis on which the Hays Global Skills Index was based utilised data as of Q2 2018. Developments subsequent to this date are not reflected in the 2018 findings.

POLAND

The Polish labour market is complex. There is considerable evidence of increasing demand for labour. GDP rose by 4.7% in 2017 and employment rose by 1.4%.

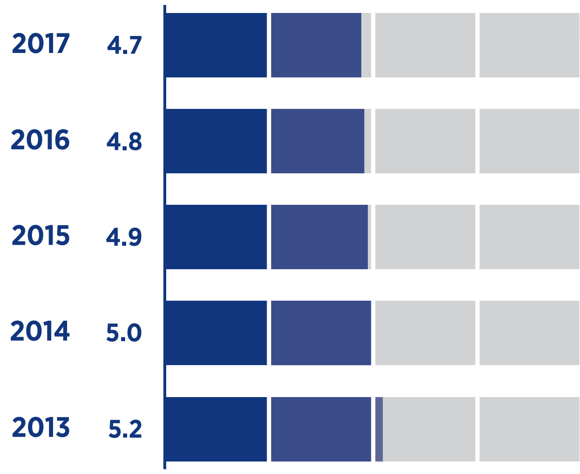
This caused the unemployment rate to fall to a 26-year low. In the European Commission's Business Survey on factors limiting production, a net balance of +37% of firms cited labour as a constraint. This is well above the average for all 28 Member States of +15%.

Yet the wage dynamics are complicated. Across the entire enterprise sector earnings rose by almost 6% in 2017. Some of the main beneficiaries have been those in low-skilled jobs and industries which pay low average wages.

	2017	2018†
Population	38.1m	**38m**
GDP		
GDP (Billion PLN*)	2,008	**2,102**
GDP growth	4.7%	**4.7%**
GDP/head (PLN*)	52,760	**55,242**
Unemployment		
Unemployment rate	4.9%	**3.9%**
Long-term unemployment rate	1.7%	**1.2%**

*2018 prices †Average forecast figures for 2018

2018 Overall Index score **4.2**



Key drivers

Wage pressure in high-skill occupations
Workers in lower-skill occupations, such as elementary, service and sales positions, experienced faster wage growth than those in high-skill ones, narrowing occupational wage gaps in Poland.

Wage pressure in high-skill industries
Wage growth in lower-skill industries, notably some manufacturing sectors, continued to outpace that in high-skill ones, contributing to Poland's lower score.

Overall wage pressure
A notable rise in real wage growth across the board is forecast for this year, putting upwards pressure on Poland's score.

For a full list of indicators scores, view page 52

View from the ground

New investments, expansion of existing production plants and the development of the business services sector are increasing recruitment activity in the Polish labour market. Poland is also at the forefront of European countries with the forecast of the highest employment growth – regardless of the size of company, region or industry. At the same time, increasingly more companies struggle with the lack of suitable candidates. This deficit has already negatively impacted the economy. There are many indications that this is a long-term trend that will shape the business environment in the coming years. Fortunately, there are still groups characterised by low labour market participation – activation of women, mature and young people may positively influence the implementation of companies' business strategies.

Charles Carnall, Managing Director, Hays Poland

Key skills in demand

- Developers/Software Developers
- Cyber Security Professionals
- Engineers (quality, process, R&D)
- Sales, Ecommerce Professionals
- Experts with Knowledge of Several Foreign Languages (Business Services Sector)

Note: The analysis on which the Hays Global Skills Index was based utilised data as of Q2 2018. Developments subsequent to this date are not reflected in the 2018 findings.

PORTUGAL

Continuing growth through 2018 is likely to see Portugal's GDP return to its pre-crisis levels by the end of the year.

Driven by an expansion in jobs in the service sector, employment rose by 3.1% in 2017. Its fastest rate of growth since 1998. As a result, unemployment has fallen sharply, the rate declining by 2.2 percentage points to 8.9%. Labour cost pressures are emerging in key sectors, as suggested by the country's high industry wage pressure score in the Index. Further pressure is expected in the future from adverse demographics: the population has been declining since 2010. In part, this reflects net outward migration.

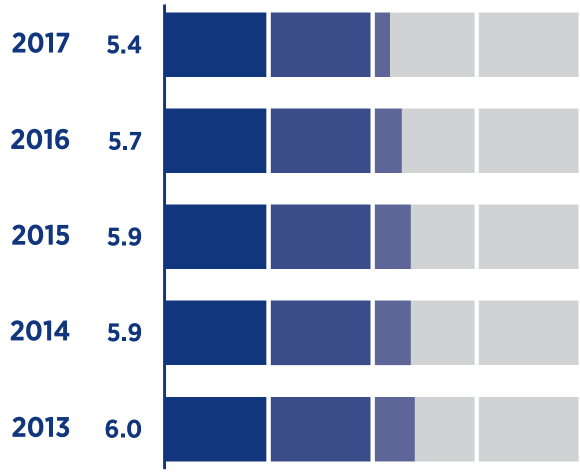
	2017	2018†
Population	10.3m	**10.3m**
GDP		
GDP (Billion EUR*)	196	**200**
GDP growth	2.7%	**2.1%**
GDP/head (EUR*)	18,954	**19,412**
Unemployment		
Unemployment rate	9.0%	**7.4%**
Long-term unemployment rate	5.0%	**3.7%**

*2018 prices †Average forecast figures for 2018

2018

Overall Index score

5.8



Key drivers

Wage pressure in high-skill industries
The wage gap between high- and lower-skill industries has widened, driven by rising wage growth in some high-skill sectors.

Talent mismatch
There is evidence of a growing skills gap in Portugal, as the rate of job vacancies rose last year.

Education flexibility
The share of Portugal's population holding degrees fell this year, causing its education flexibility score to rise slightly.

For a full list of indicators scores, view page 52

View from the ground

As the economy gains traction and the unemployment rate reaches its lowest level in 14 years, a shortage of candidates for high-skill industries is becoming a national issue and the competition between organisations for the best talent is now stronger than ever. It is imperative that all participants in the labour market work together to tackle this issue, otherwise it will soon impact our collective ability to grow and to seize all the opportunities this positive economic environment can provide us. The high level of talent mismatch seems to be a sign that part of the solution may reside in upskilling those who currently don't have the necessary skills, in order to meet the present market's needs.

Paula Baptista, Managing Director, Hays Portugal

Key skills in demand

- Full Stack Developers
- DevOps Engineers
- Maintenance Engineers
- Certified Accountants
- Internal Auditors

Note: The analysis on which the Hays Global Skills Index was based utilised data as of Q2 2018. Developments subsequent to this date are not reflected in the 2018 findings.

RUSSIA

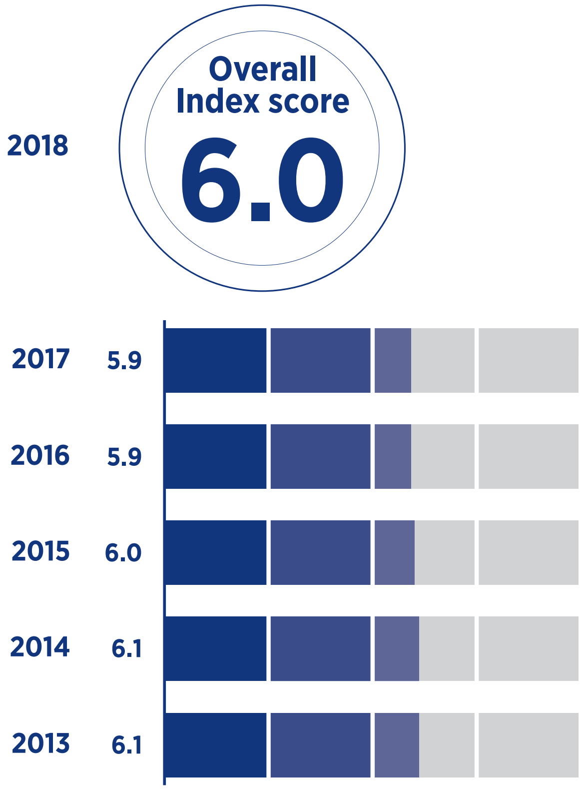
After two years of recession, Russian GDP expanded by 1.5% in 2017. The IMF forecast growth will remain at around this rate for 2018 and 2019.

As part of the explanation for the return to growth was higher oil export revenue, there was little change in employment levels in 2017. The unemployment rate (ILO definition) did however decline slightly to 5.2% and has subsequently edged lower in 2018.

There is not much sign of an acceleration of earnings growth. Average monthly accrued wages rose by 6.5% in 2017, down slightly from the year before.

	2017	2018†
Population	143.3m	**143.2m**
GDP		
GDP (Billion RUB*)	95,491	**97,131**
GDP growth	1.5%	**1.7%**
GDP/head (RUB*)	666,196	**678,164**
Unemployment		
Unemployment rate	5.2%	**5.0%**
Long-term unemployment rate	1.5%	**1.5%**

*2018 prices †Average forecast figures for 2018



Key drivers

Wage pressure in high-skill occupations
The wage gap between high- and lower-skilled occupations has increased above historical averages. This is largely due to growth in wages paid to professionals and technicians.

Education flexibility
Russia's improving education standards boosted the skilled labour supply this year.

Labour market participation
Labour market participation rates are expected to decline this year, and looking forward. This reduces the pool of labour available to firms seeking to recruit.

For a full list of indicators scores, view page 52

View from the ground

Despite the volatile economic and geopolitical situation in Russia, the labour market is coming out of its crisis. 2018 began with a drop in unemployment, while companies started to hire actively. The FIFA World Cup and local projects (such as elections and sanctions) increased the demand for temporary staff, and competition increased among employers in this segment. Attention should be drawn to the growing salary gap between highly-skilled professionals and other jobseekers. Today, employers want to attract and retain valuable professionals. According to our estimates, this trend will continue. The decrease in the labour pool of available workers also affects the general state of the labour market. As for the State policy measures to increase the retirement age, programmes for active longevity etc. – the results will be seen in the longer term.

Alex Shteingardt, Managing Director, Hays Russia

Key skills in demand

- Blockchain Developers
- Security Engineers
- Sales and Product Managers
- Procurement Specialists with Experience in Ecommerce
- Investor Relations Managers

Note: The analysis on which the Hays Global Skills Index was based utilised data as of Q2 2018. Developments subsequent to this date are not reflected in the 2018 findings.

SPAIN

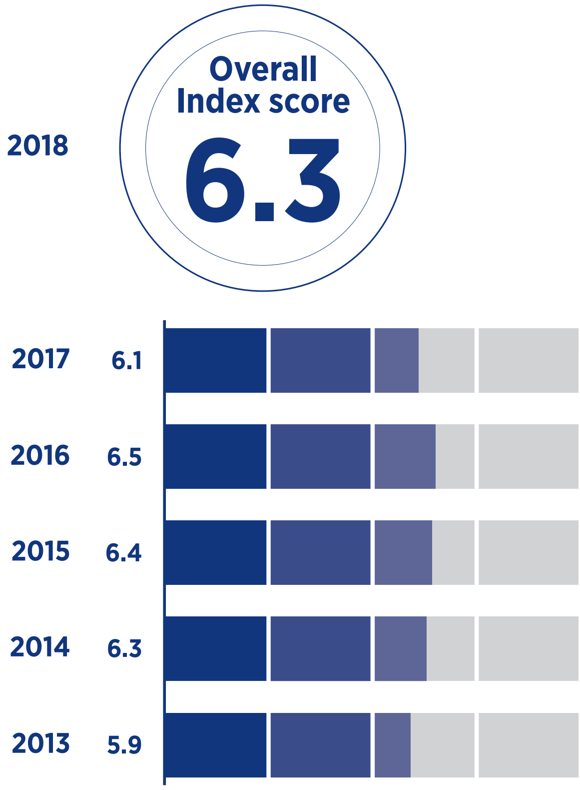
The Spanish economy has grown rapidly over the last three years, expanding at over 3% a year between 2015 and 2017.

Unemployment has fallen sharply since 2013, but at 17.2% in 2017 the rate is still among the highest in Europe. Over 43% of these people had been unemployed for more than a year. Long-term unemployment is perceived to be problematic as it erodes workers' skills, and the time they devote to job searching typically declines. Youth unemployment is also high relative to Spain's European peers.

The expansion of the Spanish economy has yet to have a big impact on economy-wide earnings growth. This rose by 0.2% in 2017.

	2017	2018†
Population	46.2m	**46.1m**
GDP		
GDP (Billion EUR*)	1,179	**1,211**
GDP growth	3.1%	**2.8%**
GDP/head (EUR*)	25,521	**26,295**
Unemployment		
Unemployment rate	17.2%	**15.5%**
Long-term unemployment rate	8.3%	**6.9%**

*2018 prices †Average forecast figures for 2018



Key drivers

Wage pressure in high-skill occupations
Faster wage growth in high-skill occupations than lower-skill ones caused Spain's occupational wage spread to increase towards historical averages.

Wage pressure in high-skill industries
The wage gap between high- and lower-skill industries in Spain has widened. This is driven by low or negative wage growth in most lower-skill sectors.

Labour market participation
Positive growth in participation rates should increase the supply of skilled labour in Spain.

For a full list of indicators scores, view page 52

View from the ground

Modern Spain attracts significant investment due to the talent available in the country. Geographically well located with excellent transport infrastructure and high living standards, the reduction in labour costs in recent years has improved the ranking of Spain when multinationals consider expansion or relocation. Local workers are traditionally well educated despite a lack of change agility in the public education sector, and the country attracts a wide base of international talent. Political instability has not affected economic growth, and while improvements can be made to the world of work – including a more dynamic labour market, increased incentivisation of research and development, improved single internal market, better collaboration between education centres and companies, retraining of the long-term unemployed – employment growth in Spain looks set to continue.

Chris Dottie, Managing Director, Hays Spain

Key skills in demand

- Real Estate Profiles (Legal Managers/ Risk Managers)
- Technical Sales Profiles with Language Skills
- Data Scientists
- Cyber Security Profiles
- Fullstack Developers

Note: The analysis on which the Hays Global Skills Index was based utilised data as of Q2 2018. Developments subsequent to this date are not reflected in the 2018 findings.

SWEDEN

Sweden's economy continues to expand. In 2017, real GDP increased by 2.5%. The IMF forecast it will increase by 2.6% and 2.2% in 2018 and 2019.

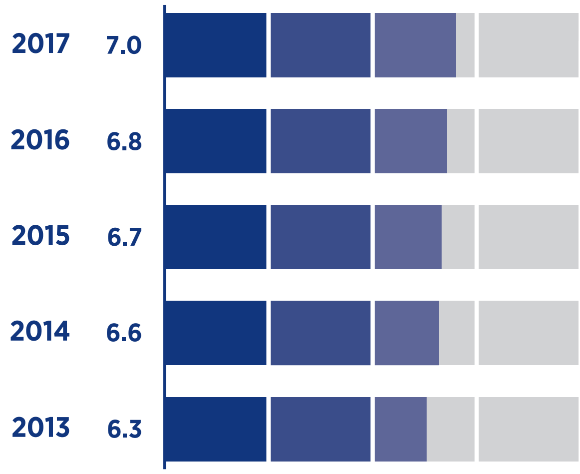
To produce the growth in output, employment rose by over 2% in 2017. This reduced unemployment to 6.7%. Vacancies for jobs of over ten days' duration increased by 19%. The increased demand for labour boosted the participation rate which rose to 73%.

The National Institute for Economic Research's business tendency survey points to continued employment growth in 2018.

	2017	2018†
Population	9.9m	**10m**
GDP		
GDP (Billion SEK*)	4,701	**4,828**
GDP growth	2.5%	**2.7%**
GDP/head (SEK*)	474,173	**483,850**
Unemployment		
Unemployment rate	6.7%	**6.0%**
Long-term unemployment rate	1.1%	**1.0%**

*2018 prices †Average forecast figures for 2018

2018 Overall Index score **6.7**



Key drivers

Wage pressure in high-skill occupations
The wage premium attached to high-skill occupations fell this year, reducing Sweden's occupational wage spread.

Education flexibility
Improving education standards in recent years contributed to Sweden's lower Overall Index score.

Labour market participation
Sweden's participation growth rate is forecast to fall this year. Declining labour market growth rates put pressure on firms seeking to expand.

For a full list of indicators scores, view page 52

View from the ground

Sweden overall is in rather good shape. Financially the country is stable and has been over the last few years, despite some alarm bells ringing. Sweden accepted a large number of migrants a few years ago, which created a larger pool of workers but not necessarily ones with the skills required by employers. The risk of industry growth stagnation is also still present. High wage pressure combined with skills mismatches are one of the biggest challenges for Swedish companies. On a positive note, educational flexibility is improving and Sweden is producing more graduates with suitable skills and who are better prepared for the world of work than previously; this should lead to improvements in other aspects of the labour market in the future.

Johan Alsen, 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 2018. Developments subsequent to this date are not reflected in the 2018 findings.

SWITZERLAND

The Swiss economy is expected to perform well this year, with strong GDP and employment growth from the second half of 2017 expected to persist into 2018 and 2019.

Like many advanced economies, Switzerland is facing the challenges of an ageing population, which could constrain the potential for future expansion. Growth of the working-age population is expected to slow to 0.5% per year, around 0.5% lower than during the previous decade. However, this increase is still among the strongest forecast among Western European countries, so the issues may be less severe than elsewhere.

	2017	2018†
Population	8.5m	**8.6m**
GDP		
GDP (Billion CHF*)	673	**689**
GDP growth	1.1%	**2.3%**
GDP/head (CHF*)	79,399	**80,507**
Unemployment		
Unemployment rate	3.2%	**2.9%**
Long-term unemployment rate	1.3%	**1.1%**

*2018 prices †Average forecast figures for 2018

2018 Overall Index score **4.4**

2017	**4.4**
2016	**4.3**
2015	**4.6**
2014	**4.5**
2013	**4.4**

Key drivers

Talent mismatch
A rise in the rate of unfilled job vacancies last year indicates that it is becoming harder for employers to find and retain the right talent.

3.8

Wage pressure in high-skill industries
Wages in lower-skill sectors have grown, while in high-skill ones they have remained broadly flat. This has reduced high-industry wage pressures.

5.1

Labour market participation
Growth in Switzerland's participation rate is expected to be higher this year, increasing the supply of labour for firms looking to expand their workforce.

5.3

For a full list of indicators scores, view page 52

View from the ground

Switzerland's unemployment rate remains low; however, we are still seeing strong demand for skilled workers in particular roles. In an effort to address local skill shortages, and for the second year running, the Government has upped the quota of residence permits to allow companies to source more foreign workers from outside the European Union. 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. We expect many outsourced projects to be moved back to countries with highly-skilled workforces such as Switzerland, as digitalisation requires skilled professionals. This will bring further jobs to the Swiss labour market; 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

- Quality Specialists (Life Sciences)
- Hardware Development Engineers
- Clinical Trial Managers
- Software Developers
- Relationship Managers (Banking)

Note: The analysis on which the Hays Global Skills Index was based utilised data as of Q2 2018. Developments subsequent to this date are not reflected in the 2018 findings.

UNITED ARAB EMIRATES

GDP growth in the United Arab Emirates decelerated in 2017 to its slowest pace since the global recession of 2009; rising by 0.8%. The pace of expansion is forecast to increase in 2018 and beyond.

Of the labour force, 91% are non-citizens, with the remaining 9% citizens. The proportion of people employed is even more heavily skewed towards non-citizens. Keeping the labour market open to migration continues to be the key to the success of the economy. The labour market flexibility indicator therefore has a greater importance than in other countries and arguably the Index score itself.

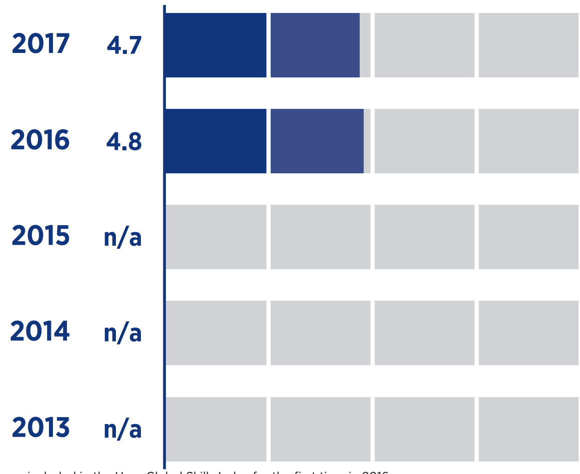
	2017	2018†
Population	9.4m	**9.6m**
GDP		
GDP (Billion AED*)	1,448	**1,485**
GDP growth	0.8%	**2.6%**
GDP/head (AED*)	153,695	**155,440**
Unemployment		
Unemployment rate	1.7%	**1.6%**
Long-term unemployment rate	n/a	**n/a**

*2018 prices †Average forecast figures for 2018

2018

Overall Index score*

4.7



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

*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.

Key drivers

Overall wage pressure

A sharp increase in overall wage growth put upwards pressure on the United Arab Emirates' labour market score.

Labour market flexibility

The United Arab Emirates' flexible labour regulations and low barriers to employment contributed to its lower Overall Index score this year.

Education flexibility

The share of the United Arab Emirates' population holding a degree grew modestly this year. The impact of this score on the economy is limited by the country's reliance on expat labour.

For a full list of indicators scores, view page 52

View from the ground

Sentiment is increasingly positive for the UAE jobs market in 2018 as oil prices strengthen and the region continues to evolve with transformations taking place across multiple sectors. We have seen the number of available jobs to rise up modestly year-on-year across all industries, but with a significant uplift within the IT profession, as well as strong and ongoing demand for sales and executive-level professionals. IT jobs are being driven largely by an influx of investment in digital transformation projects across all industry sectors and we expect this to continue over the coming months. As ever, the pool of available talent within the region is vast with candidates willingly migrating to the UAE thanks to the low-tax environment and high earning potential this provides.

Chris Greaves, Managing Director, Hays UAE

Key skills in demand

- Information and Cyber Security Specialists
- Data Science and Analytics Specialists
- Digital & IT Transformation Leaders/Executives
- Application Development & Product Management (mobile and web) Specialists
- Digital Marketing Managers

Note: The analysis on which the Hays Global Skills Index was based utilised data as of Q2 2018. Developments subsequent to this date are not reflected in the 2018 findings.

UNITED KINGDOM

The UK's economic growth slowed to 1.9% in 2017, dampened by the impact of Sterling's depreciation on consumption and uncertainty over Brexit. It is forecast to remain at about this rate over the next two years.

Business surveys point to the availability of skilled staff being a constraint on growth. In 2017, the CBI's Service Sector survey found that an average of 38% of business and professional firms, and 22% of consumer services firms, thought the availability of professional staff would limit their ability to increase the size of their business over the next year. The CBI's Industrial Trends Survey also found a net balance of +23% of firms thought the lack of availability of skilled labour would limit output over the next three months, in Q3 of 2018.

	2017	2018†
Population	66.1m	**66.6m**
GDP		
GDP (Billion GBP*)	2,087	**2,106**
GDP growth	1.9%	**0.9%**
GDP/head (GBP*)	31,561	**31,636**
Unemployment		
Unemployment rate	4.4%	**4.2%**
Long-term unemployment rate	1.2%	**1.1%**

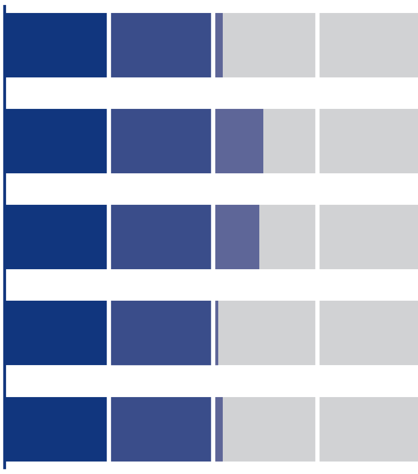
*2018 prices †Average forecast figures for 2018

2018

Overall Index score

5.1

2017	5.2
2016	6.2
2015	6.1
2014	5.1
2013	5.2



Key drivers

Talent mismatch
A fall in the UK's long-term unemployment rate suggests that skills mismatches are becoming less of a problem in the country.

7.6

Overall wage pressure
Real wage growth is set to recover in 2018, following a year of decline, although it remains below normal levels by historical standards.

3.4

Labour market participation
The UK's participation rate is expected to continue to decline, but at a slower rate, this year. Participation amongst those aged between 55 and 64 is increasing.

6.4

For a full list of indicators scores, view page 52

View from the ground

Against a backdrop of ongoing economic uncertainty around the outcome of the Brexit negotiations, the UK labour market remains healthy with record levels of employment. Regardless of the outcome of the EU negotiations, the availability of skilled labour is, and will remain, a critical issue for employers. Shortages are particularly acute in the construction industry and in technology, particularly for specialists in areas such as data and cyber security. The potential extension of IR35 reforms to the private sector also threatens to put pressure on employers' access to the flexible contractor workforce. Most sectors remain candidate-led, with candidates receiving multiple offers and putting pressure on employers to make quick recruitment decisions. Wage pressure has cooled but candidates in skill shortage areas are still receiving significant salary and day rate increases.

Simon Winfield, Managing Director, Hays UK

Key skills in demand

- Data Scientists
- Front-end Developers
- Cyber Security Analysts
- Part Qualified Accountants
- Building Surveyors

Note: The analysis on which the Hays Global Skills Index was based utilised data as of Q2 2018. Developments subsequent to this date are not reflected in the 2018 findings.

2018 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	**5.7**	4.5	5.2	4.4	5.6	5.0	8.7	6.2
Austria	**5.6**	5.3	5.6	4.1	7.2	7.0	6.7	3.6
Belgium	**3.9**	5.9	5.7	3.8	1.6	6.1	0.0	4.5
Brazil	**5.5**	5.9	5.8	9.3	8.7	3.9	4.0	0.8
Canada	**5.7**	5.9	5.7	4.2	5.5	4.2	9.2	5.5
Chile	**5.0**	5.7	5.2	6.6	0.3	5.8	4.4	6.7
Colombia	**6.4**	5.4	9.2	7.9	6.6	6.2	3.2	n/a
Czech Republic	**4.4**	7.6	4.5	3.4	4.4	3.6	1.9	5.5
Denmark	**6.4**	5.8	3.9	3.5	9.0	8.8	8.8	4.9
France	**5.7**	4.2	4.7	8.4	9.9	2.2	6.3	3.9
Germany	**6.3**	6.2	5.1	6.8	3.4	5.6	9.8	7.5
Hong Kong	**4.3**	1.8	5.6	2.6	5.0	8.7	6.2	0.0
Hungary	**5.3**	8.2	3.5	4.8	8.9	4.9	2.1	4.7
India	**4.8**	0.8	4.4	8.7	5.1	6.4	3.0	5.0
Ireland	**5.8**	2.9	7.5	2.8	8.0	5.9	5.7	8.0
Italy	**4.7**	6.2	3.8	6.4	8.4	4.0	2.5	1.3
Japan	**5.9**	3.3	6.2	6.9	10.0	7.0	0.2	7.5
Luxembourg	**6.7**	5.7	5.0	3.6	10.0	9.9	8.5	4.4
Mainland China	**3.8**	1.0	1.3	8.1	4.2	3.1	4.0	5.0
Malaysia	**4.6**	4.8	3.5	5.6	n/a	4.7	5.1	3.9
Mexico	**5.7**	4.9	4.7	7.0	5.6	4.9	9.6	2.9
The Netherlands	**5.6**	4.8	6.8	4.9	5.9	5.4	6.2	5.5
New Zealand	**5.6**	4.7	5.4	4.2	5.3	6.2	10.0	3.2
Poland	**4.2**	5.0	4.2	6.6	6.0	4.2	3.3	0.4
Portugal	**5.8**	5.2	5.1	6.2	9.4	5.0	9.9	0.0
Russia	**6.0**	6.8	6.2	7.6	4.2	5.4	5.9	5.6
Singapore	**4.4**	0.7	5.7	0.7	6.0	2.4	7.7	7.6
Spain	**6.3**	4.1	7.1	5.2	10.0	4.0	8.6	5.0
Sweden	**6.7**	7.9	4.1	4.9	9.9	7.3	10.0	2.6
Switzerland	**4.4**	3.7	5.3	3.7	3.8	6.6	5.1	2.5
United Arab Emirates	**4.7**	8.6	4.7	1.6	n/a	6.9	1.1	5.0
United Kingdom	**5.1**	4.5	6.4	5.1	7.6	3.4	3.5	4.9
United States	**5.7**	6.4	3.9	4.8	8.4	5.9	9.7	1.1

CONTRIBUTORS

Hays

Hays has been helping organisations and businesses fill permanent positions, contract roles and temporary assignments, across the private and public sectors for 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 11,000 staff operating from 257 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

Oxford Economics

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 3,000 cities. 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.

Headquartered in Oxford, England, with regional centres in London, New York, and Singapore, Oxford Economics has offices across the globe in Belfast, Chicago, Dubai, Miami, Milan, Paris, Philadelphia, San Francisco, and Washington DC. The company employs over 300 full-time people, including more than 200 professional economists, industry experts and business editors – one of the largest teams of macroeconomists and thought leadership specialists. The global team is highly skilled in a full range of research techniques and thought leadership capabilities, from econometric modelling, scenario framing, and economic impact analysis to market surveys, case studies, expert panels, and web analytics. Underpinning Oxford Economics' in-house expertise is a contributor network of over 500 economists, analysts and journalists around the world.

Oxford Economics is a key adviser to corporate, financial and government decision makers and thought leaders. The company's worldwide client base now comprises over 1000 international organisations, including leading multinational companies and financial institutions; key government bodies and trade associations; and top universities, consultancies, and think tanks.

For more information, visit www.oxfordeconomics.com

Data sources for indicator scores

The analysis on which the Hays Global Skills Index was based utilised data as of Q2 2018. Developments subsequent to this date are not reflected in the 2018 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)
Educational Attainment (UNESCO)

THE BREADTH OF HAYS' EXPERTISE WORLDWIDE

Listed below are the main offices for each of our countries of operation.
To find your local office, please visit haysplc.com

Australia
T: +61 (0)2 8226 9600
F: +61 (0)2 9233 1110
Level 13, Chifley Tower
2 Chifley Square
Sydney NSW 2000
info@hays.com.au
hays.com.au

Austria
T: +43 1 535 34 43
F: +43 1 535 34 43 299
Europaplatz 3/5
1150 Wien
info@hays.at
hays.at

Belgium
T: +32 (0)56 653600
F: +32 (0)56 228761
Brugsesteenweg 255 b2
B-8500 Kortrijk
info@hays.be
hays.be

Brazil
T: +55 11 3046 9800
Rua Pequetita
215 – 13° andar, Vila Olímpia
Sao Paulo, SP
04552-060
communicacao@hays.com.br
hays.com.br

Canada
T: +1 416 367 4297
6 Adelaide Street East
Suite 600, Toronto, Ontario
M5C 1H6
recruit@hays.com
hays.ca

Chile
T: +56 (2) 449 1340
Cerro el Plomo 5630 Of. 1701
Las Condes, Santiago
P.O. 7560742
chile@hays.cl
hays.cl

Mainland China
T: +86 (0)21 2322 9600
F: +86 (0)21 5382 4947
Unit 1205-1212
HKRI Centre One
HKRI Taikoo Hui
288 Shimen Road (No.1)
Shanghai 200041
shanghai@hays.cn
hays.cn

Colombia
T: +57 (1) 742 25 02
F: +57 (1) 742 00 28
Paralelo 108
Autopista Norte # 108-27
Torre 2 – Oficina 1105
Bogotá D.C.
colombia@hays.com.co
hays.com.co

Czech Republic
T: +420 225 001 711
F: +420 225 001 723
Olivova 4/2096
110 00 Praha 1
prague@hays.cz
hays.cz

Denmark
T: +45 33 38 32 60
Kongens Nytorv 8
DK-1050 København K
info@hays.dk
hays.dk

France
T: +33 (0)1 45 26 62 31
147, Boulevard Haussmann
75008 Paris
paris@hays.fr
hays.fr

Germany
T: +49 (0)621 1788 0
F: +49 (0)621 1788 1299
Willy-Brandt-Platz 1-3
68161 Mannheim
info@hays.de
hays.de

Hong Kong
T: +852 2521 8884
F: +852 2521 8499
6604-06,66/F, ICC
1 Austin Road West
West Kowloon
Hong Kong
hongkong@hays.com.hk
hays.com.hk

Hungary
T: +36 1 501 2400
F: +36 1 501 2402
Bank Center
1054 Budapest
Szabadság tér 7.
Gránit torony
hungary@hays.hu
hays.hu

India
T: +91 124 475 2500
11th Floor, Building 9b
DLF Cyber City
Gurgaon 122002
haysplc.com

Ireland
T: +353 (0)1 571 0010
26/27a Grafton Street
Dublin 2
D02 HH24
info@hays.ie
hays.ie

Italy
T: +39 02 888 931
F: +39 02 888 93 41
Corso Italia, 13
20122 Milano
milano@hays.it
hays.it

Japan
T: +81 (0)3 3560 1188
F: +81 (0)3 3560 1189
Izumi Garden Tower 28F
1-6-1 Roppongi
Minato-ku
Tokyo, 106-6028
info@hays.co.jp
hays.co.jp

Luxembourg
T: +352 268 654
65 Avenue de la Gare
L-1611 Luxembourg
luxembourg@hays.lu
hays.lu

Malaysia
T: +603 2786 8600
F: +603 2786 8601
Suite 4 & 5, Level 23
Menara 3 Petronas
KLCC 50088
Kuala Lumpur
kualalumpur@hays.com.my
hays.com.my

Mexico
T: +52 (55) 52 49 25 00
F: +52 (55) 52 02 76 07
Torre Optima 1
Paseo de las Palmas 405
Piso 10
Col. Lomas de Chapultepec
C.P. 11 000 Mexico DF
mexico@hays.com.mx
hays.com.mx

The Netherlands
T: +31 (0)20 3630 310
H.J.E. Wenckebachweg 210
1096 AS Amsterdam
marcom@hays.nl
hays.nl

New Zealand
T: +64 (0)9 377 4774
F: +64 (0)9 377 5855
Level 12, PWC Tower
188 Quay Street
Auckland 1010
info@hays.net.nz
hays.net.nz

Poland
T: +48 (0)22 584 56 50
F: +48 (0)22 584 56 51
Ul. Złota 59
00-120 Warszawa
info@hays.pl
hays.pl

Portugal
T: +351 21 782 6560
F: +351 21 782 6566
Avenida da República 90
Galeria
Fracção 4, 1600-206
Lisboa
lisboa@hays.pt
hays.pt

Russia
T: +7 495 228 2208
F: +7 495 228 2500
Paveletskaya Plaza
Business Center
2, bld. 2 Paveletskaya square
3rd Floor
115 054 Moscow
moscow@hays.ru
hays.ru

Singapore
T: +65 (0) 6223 4535
F: +65 (0) 6223 6235
80 Raffles Place
#27-20 UOB Plaza 2
Singapore 048624
singapore@hays.com.sg
hays.com.sg

Spain
T: +34 91 456 6998
F: +34 91 443 0770
Paseo de la Castellana, 81
Planta 10
28046 Madrid
madrid@hays.es
hays.es

Sweden
T: +46 (0)8 588 043 00
Stureplan 4C
11435 Stockholm
stockholm@hays.com
hays.se

Switzerland
T: +41 (0)44 2255 000
F: +41 (0)44 2255 299
Sihlstrasse 37
8001 Zürich
info@hays.ch
hays.ch

United Arab Emirates
T: +971 (0)4 559 5800
F: +971 (0)4 368 6794
Block 19, 1st Floor
Office F-02
Knowledge Village
P.O. Box 500340, Dubai
clientmiddleeast@hays.com
hays.ae

United Kingdom
T: +44 (0)20 3465 0021
107 Cheapside
London
EC2V 6DB
customerservice@hays.com
hays.co.uk

United States
T: +1 (813) 936 7004
4300 West Cypress St.
Suite 900
Tampa, FL 33607
recruit-us@hays.com
hays.com

Hays plc
250 Euston Road
London
NW1 2AF

haysplc.com

recycle