

**EARLY CHILDHOOD
EDUCATION & CARE
WORKFORCE TRENDS
& ASSOCIATED FACTORS**



WE ARE PROUD TO LAUNCH OUR FIRST MARKET INSIGHT REPORT IN THE EARLY CHILDHOOD EDUCATION AND CARE SECTOR

The Early Childhood Education & Care Sector (ECEC) is a dynamic market which plays a very important role in our society. Demand for early years childcare has never been greater as social trends and economic drivers continually evolve. ECEC providers deliver a vital service which enables parents to remain and go back into employment whilst providing babies and pre-school children with the critical foundations in terms of early learning, education, nurture, care and support.

Within Christie & Co, the early years sector forms a key part of our wider healthcare business which extends across the complete spectrum of age and acuity whilst also encompassing healthcare service businesses including dental and pharmacy. Whilst each sub sector has its own individual nuances, the delivery of all these services and the sustainability of provision is dependent on sufficient funding and workforce availability where there are common themes.

Globally, early years childcare is acknowledged as forming a very important part in shaping societies, both now and in the future although there are many cultural, political and economic variances which influence how ECEC is delivered on a country by country basis. The UK early years sector is relatively mature and operationally, the Early Years Foundation Stage statutory framework, is viewed by investors in emerging markets such as China and Asia as being a blueprint for success. However, emerging markets also exist much closer to home with the sector as a whole remaining fragmented. A recent report from the European Commission highlights that there is significant variance in the extent, quality and type of ECEC available for under three year olds across European countries.

Christie & Co's position at the forefront of the ECEC sector provides us with a unique insight due to the range of businesses which we advise on and transact. Our work ranges from single asset nursery settings to the largest portfolios whilst engaging on a daily basis with a wide range of operators, investors, government bodies and other stakeholders.

Over the last four years our Healthcare Consultancy team has produced ground breaking research on workforce related issues impacting the social care sector and, in 2018, we launched a major research report which focussed on the shortage of dental associates. We are delighted to now publish our first report which looks at workforce trends and associated factors in the ECEC sector and provides an international perspective on the key themes through leveraging the reach of our international connections and office network. For the purpose of this research, we have focused specifically on the UK children's day nursery facility and settings of an equivalent type in the countries of focus.

We would like to acknowledge with thanks the support we have received from the ECEC sector in compiling this research and very much hope that you find this report to be of interest.



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This report explores key workforce trends and associated dynamics relating to the ECEC sector in the UK by comparison with various established and emerging markets

November 2019 marks the celebration of my 20th anniversary at Christie & Co. When I first joined the business as a Graduate in 1999, commencing my training to become a Chartered Surveyor, my experience of the Early Childhood Education & Care Sector ('ECEC') was as a consumer. My son Chad attended Birmingham City University's nursery while I studied for my degree, and then as a working parent I embarked, as many working parents do, on the juggling act of accessing various forms of ECEC including; day-care, wraparound care, and childminders.

As a result, my work across valuation and advisory projects, as well as the facilitation of mergers and acquisitions quickly became focussed around the early years sector, and since 2006, our specialist ECEC team has advised on virtually every major UK nationwide day nursery portfolio transaction.

In 2010, we received our first international ECEC and specialist childcare valuation mandate. A global private equity firm appointed Christie & Co to advise on their prospective investment in Solhagagruppen, a leading Swedish organisation, and provider of care and education to children and young adults with autism-spectrum disorders.

Having subsequently established our Childcare & Education team as the UK's go-to advisors, we have increasingly received requests from worldwide ECEC providers, investors, and stakeholders to assist with their expansion or divestment plans.

During the last 12 months, our specialist team have visited more than 1,000 ECEC settings across Europe, The Middle East, Asia, China, Hong Kong and Japan. It is incredibly interesting to observe the commonalities between ECEC settings, despite the varied economic, regulatory, and demographic landscapes and the geographic distances between them.

We have observed that most founders, owners, and operators demonstrate an overwhelming desire to deliver the highest calibre of early years care and education – it is undoubtedly their passion. It is also notable that workforce-related issues are frequently cited as the number one challenge by the vast majority of operators, regardless of global geographic location.

This is especially true of the UK, where the operational landscape has changed almost beyond recognition over the past 20 years. As with the Adult Social Care sector, ECEC operators have increasingly cited concerns of a workforce crisis, compounded by inadequate funding. With growth and evolution, there inevitably comes change, but effective change with a future vision and landscape in mind, can take time to evolve and, as a starting point, strategies for a long term sustainable vision need to be constantly appraised, revisited and reviewed against an ever changing operational landscape.

This report has been produced out of a desire to investigate and compare the UK ECEC operational landscape against other selected countries, we do so with long term sustainability and the highest quality of ECEC outcomes, and workforce at the forefront of our thoughts. We have produced this report with the hope to inform, encourage and stimulate debate about ECEC workforce trends.



Courteney Donaldson

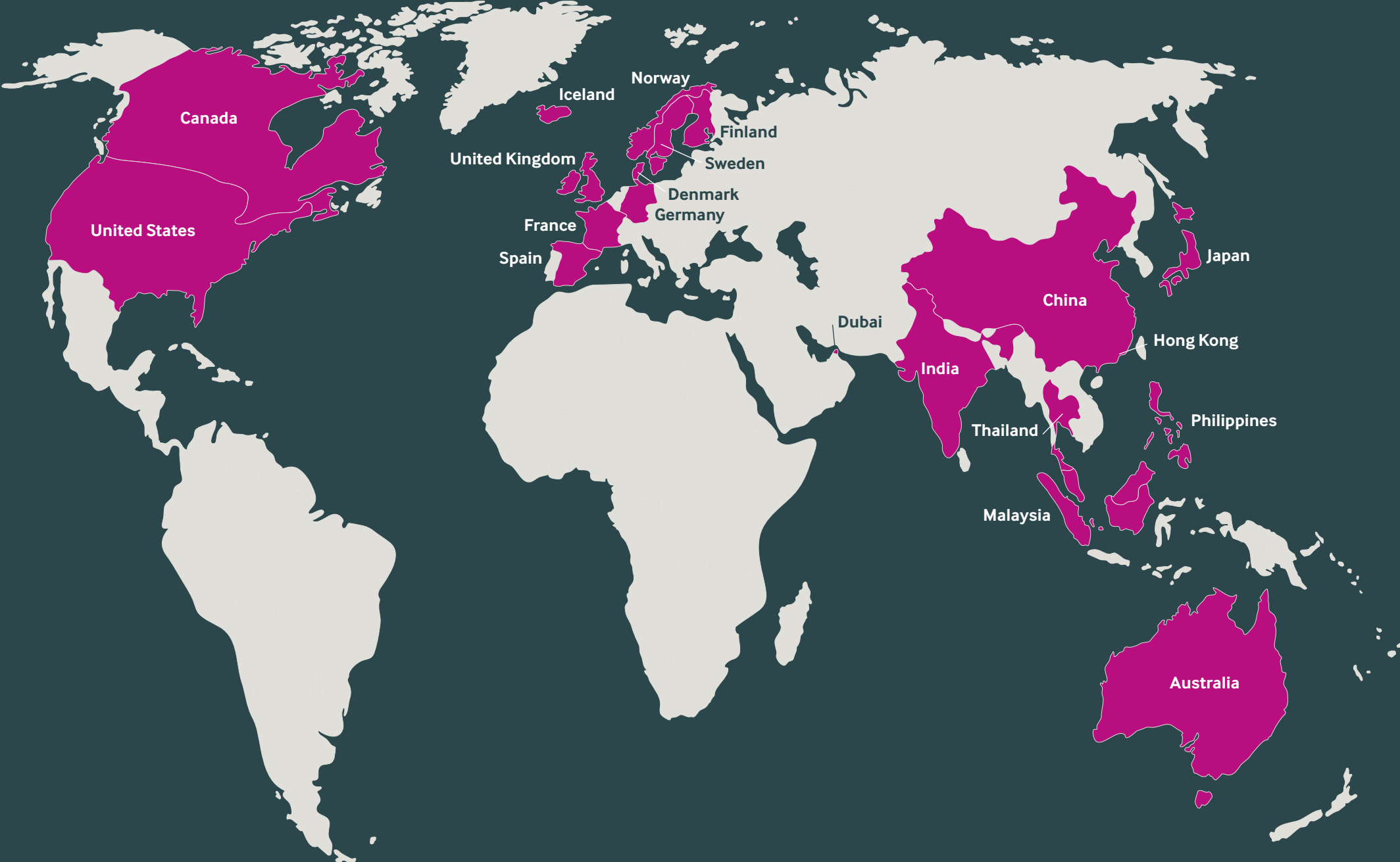
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During the last 12 months, our specialist team have visited more than 1,000 ECEC settings across Europe, The Middle East, Asia, China, Hong Kong and Japan

CHRISTIE & CO GLOBAL OFFICE AND PROVIDER NETWORK



COUNTRIES OF FOCUS

Country	Code
Germany	DEU
Sweden	SWE
Denmark	DNK
Canada	CAN
United States	USA
Australia	AUS
Japan	JPN
United Kingdom	UK
France	FRA
Norway	NOR
Finland	FIN
Iceland	ICE

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KEY DEMAND DRIVERS

ECEC - Background and International Overview

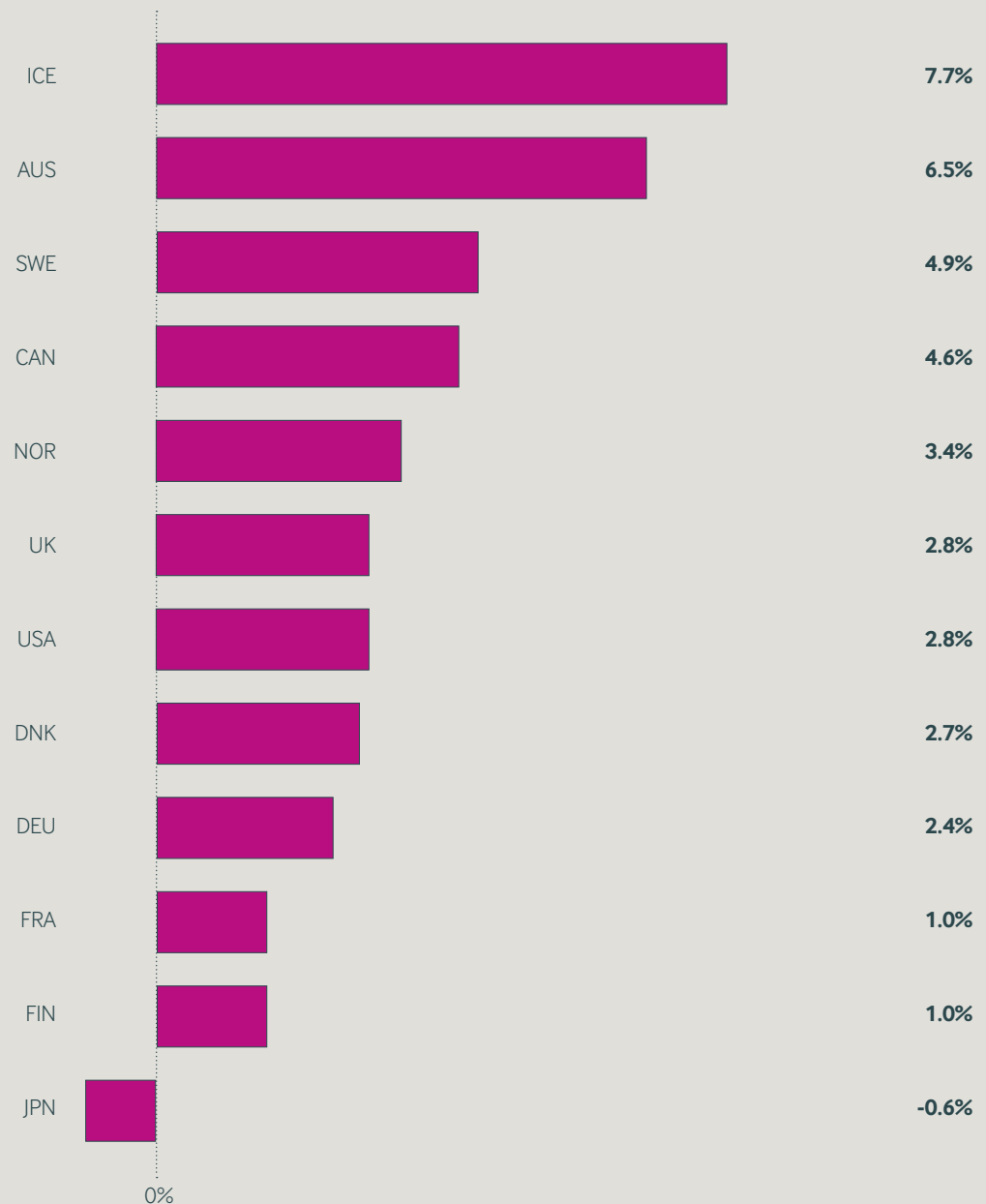
The concept of ECEC relates to early years care and education which is delivered as a service to parents by an external provider (typically a state, charitable or private sector operator) before a child enrolls in primary school education.

Parents with pre-school children not using ECEC but wishing to resume employment may choose to use family members, friends, child minders or nannies as alternatives. The choice a parent makes is driven by many factors including the extent, quality and suitability of the choices available, cultural issues and cost.

This research seeks to provide an international perspective by comparing key trends and dynamics in 12 different countries from different parts of the world. We have extensively researched key publications and data points in these, our chosen countries of focus, with our sources referenced in the report whilst also incorporating the findings of an operator survey which we have conducted across these markets, which had a specific focus on workforce related themes.

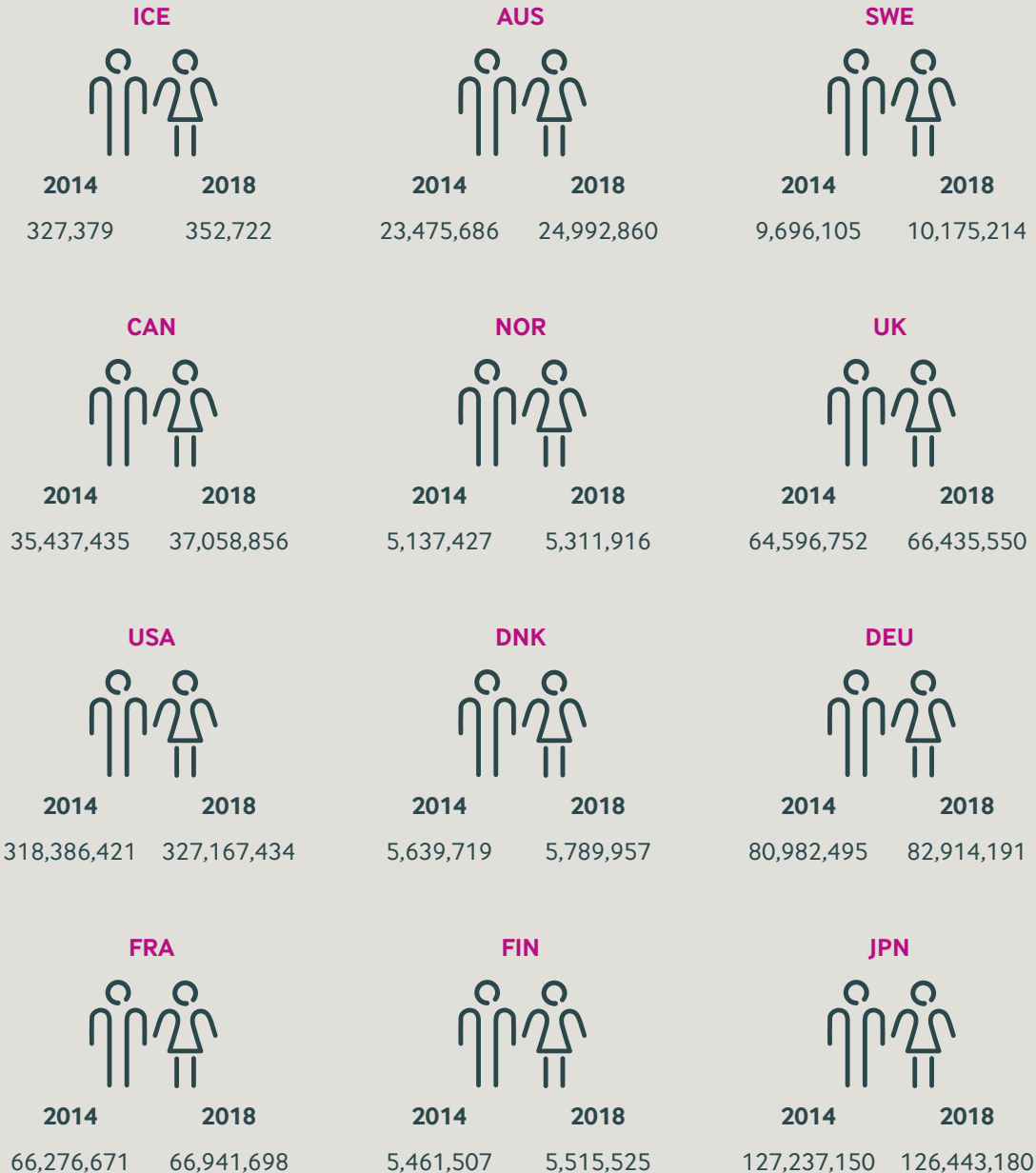
At the outset it is important to acknowledge that there are many cultural, legal, political and economic differences across the countries of focus detailed herein and, in a number of cases, there are variances within a country due to different policies at state, province, regional or authority level. The objective of this report is to provide a broad overview of key themes as opposed to being an exhaustive academic study and, therefore, we have focussed on key trends covering the demographic landscape, demand drivers, supply side headlines, operational, structural and workforce related themes. The document concludes by showcasing some interesting examples of innovation through the use of evolving technology created with the aim of reducing the workload burdens of the workforce from an administrative perspective, so that they can focus on the individual needs of each child in their care.

Total population percentage change 2014-2018



KEY DEMAND DRIVERS - POPULATION DYNAMICS

Over the last four years all our countries of focus apart from Japan have seen an increase in total population



Source: Christie & Co Analysis, OECD.Stat (2019)

Commentary

To provide initial context, we set out a comparison of key demographic demand drivers relative to specific countries which we have investigated for the purpose of this research.

The graphic illustrates the substantial differences between the countries in relation to the size of the population with Iceland being the smallest at c. 350k people and the USA being the largest at nearly 330m (based on 2018 data).

When comparing population growth trends between 2014 to 2018, all of our countries of focus apart from Japan have seen an increase in the total population albeit with the majority being at or below c. 3.5% for the period.

KEY DEMAND DRIVERS - POPULATION DYNAMICS

On average and as at 2018 the population of 0 - 4 year olds accounts for c. 5.4% of the population in our countries of focus albeit with negative growth trends over the last four years in seven of the 12 markets

Code	Percentage of population 2014	Percentage of population 2018
AUS	6.6%	6.3%
USA	6.2%	6.1%
ICE	7.0%	6.0%
SWE	6.0%	5.9%
UK	6.2%	5.9%
FRA	6.0%	5.6%
NOR	6.0%	5.6%
CAN	5.4%	5.3%
DNK	5.3%	5.2%
FIN	5.5%	5.0%
DEU	4.3%	4.7%
JPN	4.1%	3.8%

5.6%

Average percentage of 0 - 4 year olds population in 2014

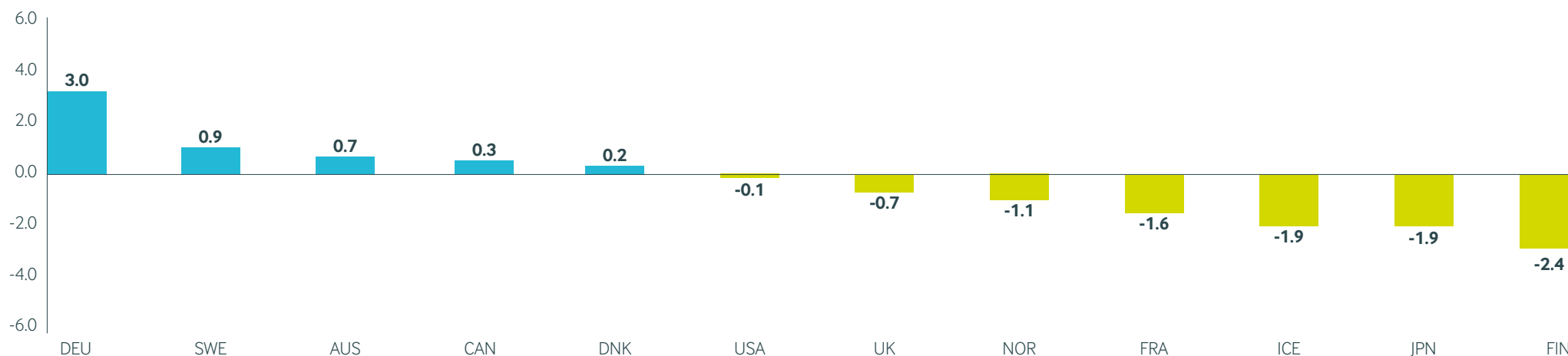
5.4%

Average percentage of 0 - 4 year olds population in 2018

Commentary

The early years population within the 0 - 4 year age range accounts on average for 5.4% of the total population, as at 2018, across the different countries with there being limited variance in this metric. However, when considering the growth rate of this population segment over the four year period, only Germany records notable growth at 3% with the majority of countries showing a largely static position (expansion or contraction by less than 1%). Three countries, Iceland, Japan and Finland show a decline at around or slightly above 2%.

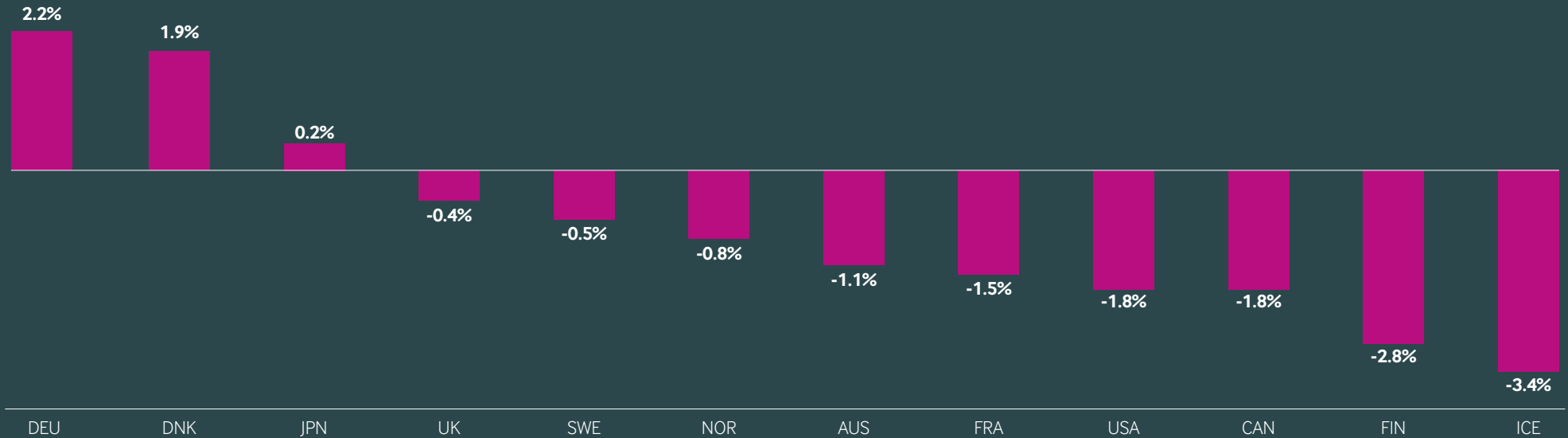
Compounded Annual Growth Rate of children aged 0 - 4 years old 2014 - 2018 (%)



KEY DEMAND DRIVERS - BIRTH RATE TRENDS

Over the period 2014 to 2017, the average number of children per woman decreased by 2.6% across the countries of focus

Compounded Annual Growth Rate of number of children per women aged 0 - 4 years old 2014 - 2018



Commentary

When considering birth rates, a key emerging trend is that the number of children per female is reducing.

Whilst exact comparison with the overall 0 - 4 years population trend (see page 8) is not possible as average birth per woman data is unavailable for 2018, it would appear that the 0 - 4 years population over 2014 - 18 is decreasing in real terms on an aggregate basis across the countries of focus.

KEY DEMAND DRIVERS - AVERAGE AGE OF WOMEN AT CHILDBIRTH

Over the last 16 years, women have deferred having their first child by 1.8 years with an average age of 28.9 across the countries of focus as at 2016. Four countries, including the UK, have seen the average age of the female at childbirth increase by two years or more

28.9 years

Is the age, on average that women were having their first child in 2016

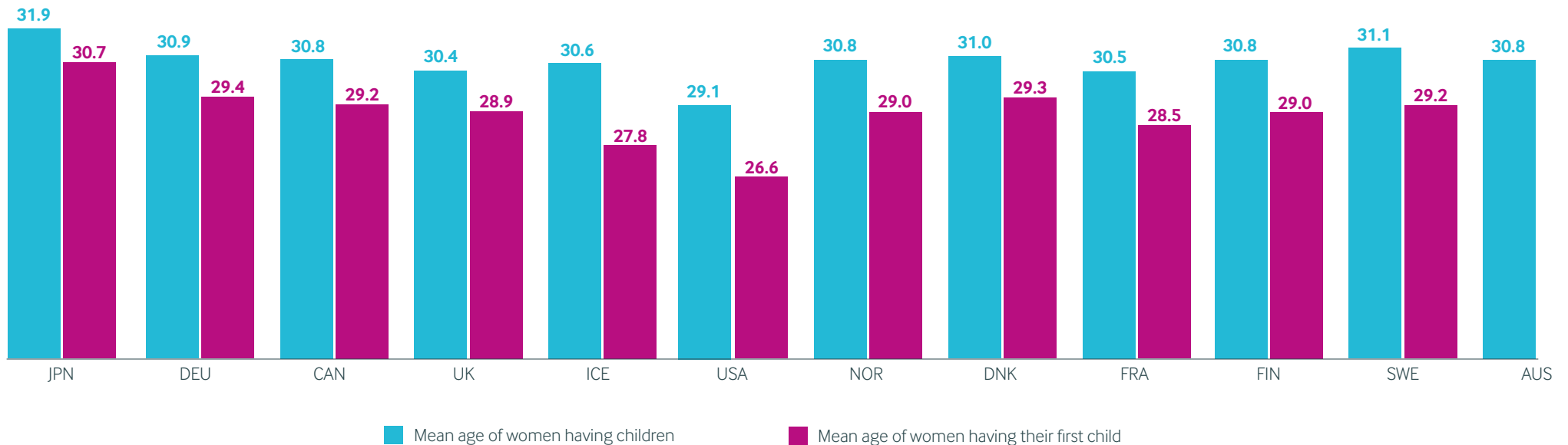
1.8 years

Is the amount of time that women were deferring their first birth on average, in 2016 and relative to the preceding 16 year period

30.7 years

Is the age, on average that women were having children in 2016

Average age of women having children vs average age of woman having their first child in 2016



KEY DEMAND DRIVERS - FEMALE UNEMPLOYMENT TRENDS

Female unemployment has reduced by 0.20 percentage points over the last 10 years, reducing faster than the overall unemployment rate of 0.14 percentage points

Commentary

There is some variability in employment trends over the last 10 years across the different countries although, overall, unemployment has reduced by 2.7% when considered on a total head of working population basis.



5.11%

unemployment in 2008



5.00%



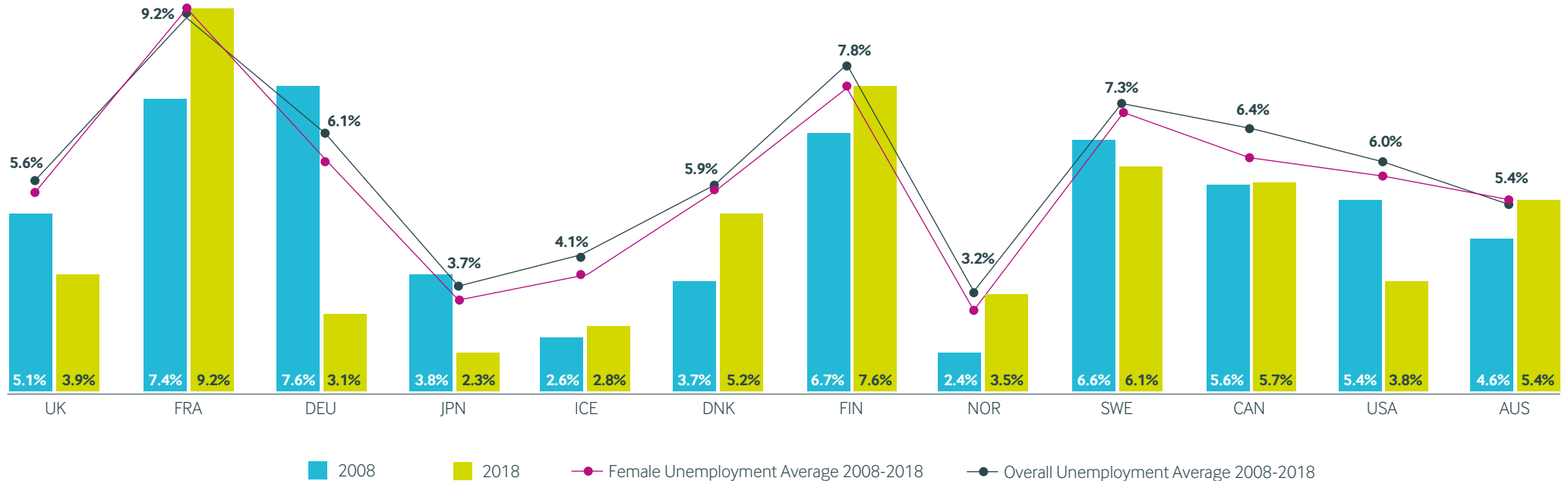
4.97%

unemployment in 2018



4.80%

Female unemployment % of female workforce vs average from 2008 - 2018



KEY DEMAND DRIVERS - DEMOGRAPHIC SUMMARY



Overall population

Increasing in all countries except Japan



0 - 4 years population

Generally static movement (+ or - c. 1%) but broadly consistent at around 5% of total population



Birth rate trends

- The average age of a mother at childbirth has increased over recent years
- The average number of children per mother is reducing



Employment trends

Across our countries of focus employment has increased marginally




Demand for childcare


Demand fundamentals for early years child care are strong



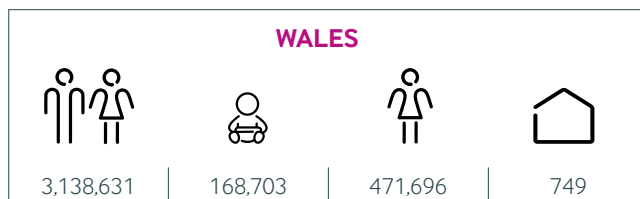
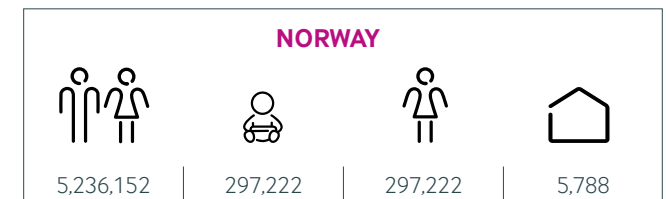
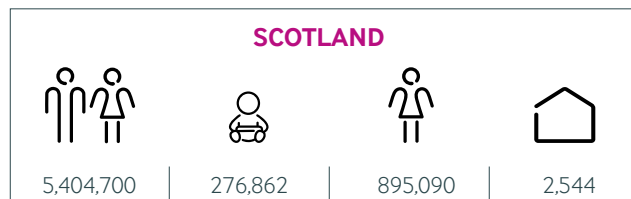
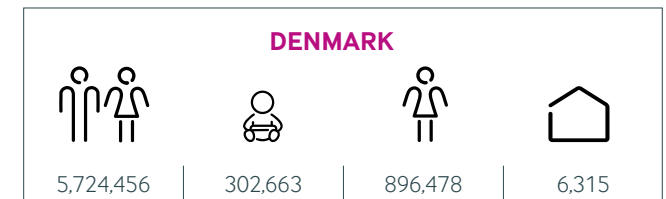
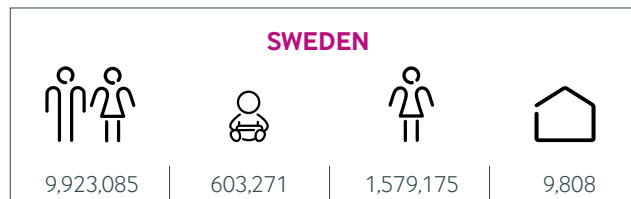
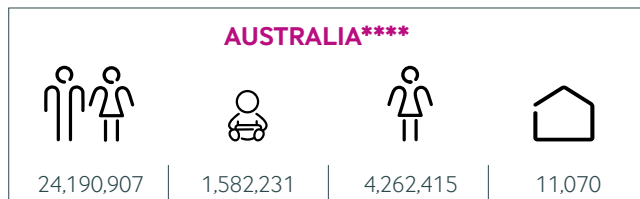
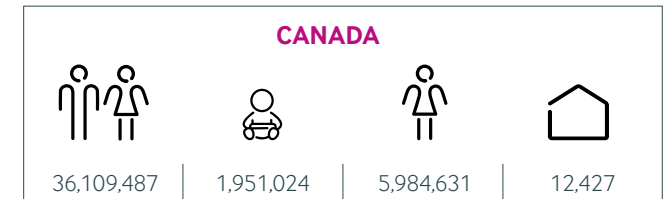
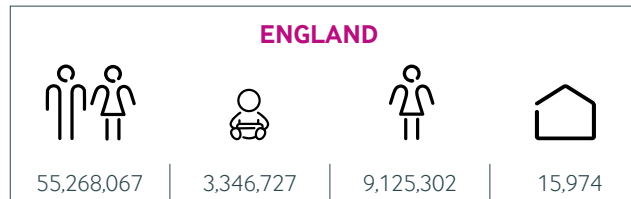
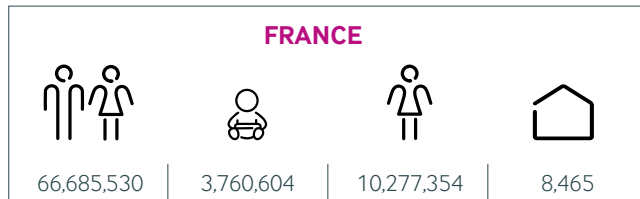
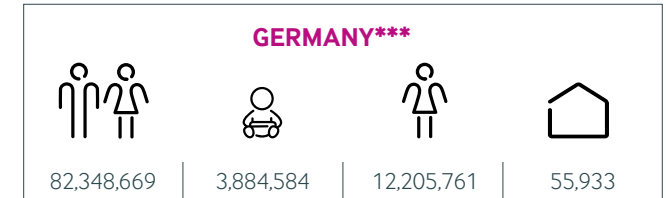
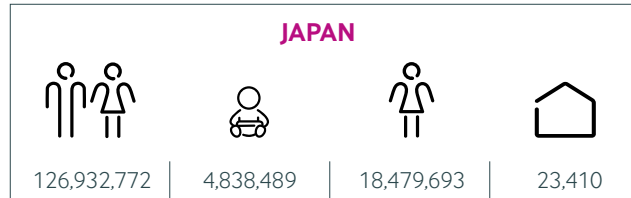
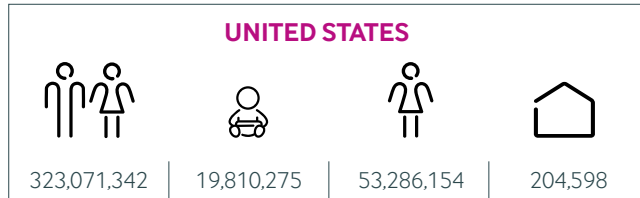
THE SUPPLY LANDSCAPE - KEY HEADLINES BY COUNTRY

 Total Population

 Children aged 0 - 4

 Women aged 20 - 44

 ECEC group settings*

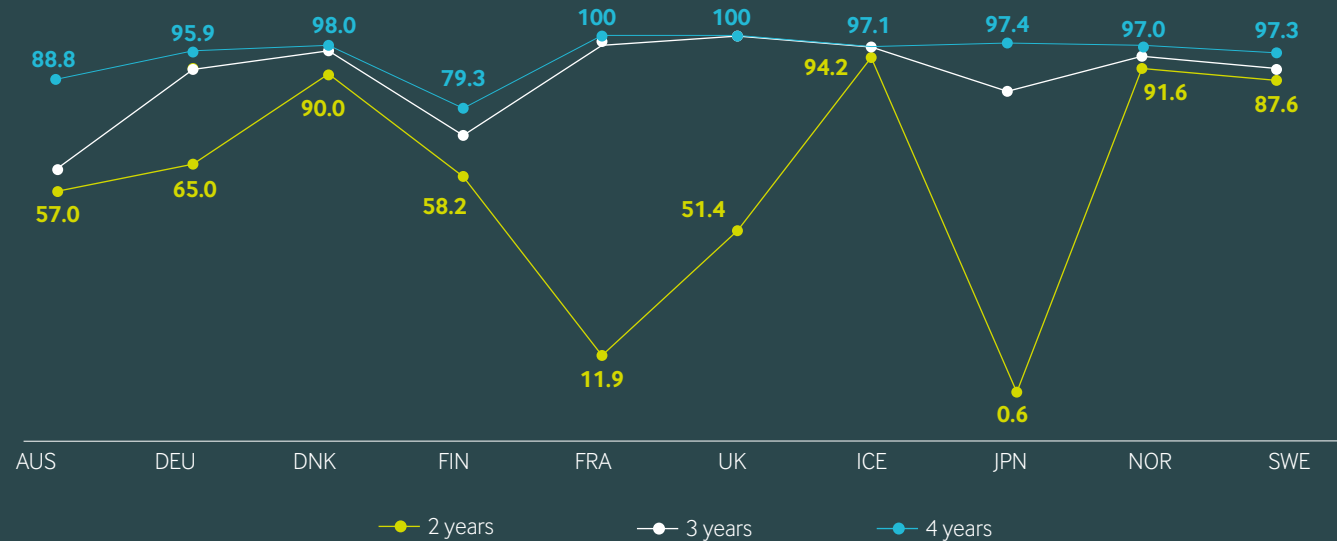


Page 14 Commentary

There is significant variance in the extent and type of ECEC provision which is available on a country by country basis, and then at a more localised level with this reflecting cultural and structural differences across the various countries.

For the purpose of this research, we have focussed specifically on children's ECEC group settings which can include day nurseries, kindergartens, or the local equivalent based on the jurisdiction.

Proportion of 2 year olds, 3 year olds and 4 year olds enrolled in ECEC settings (ISCED2011 level 0) in 2016 (%)

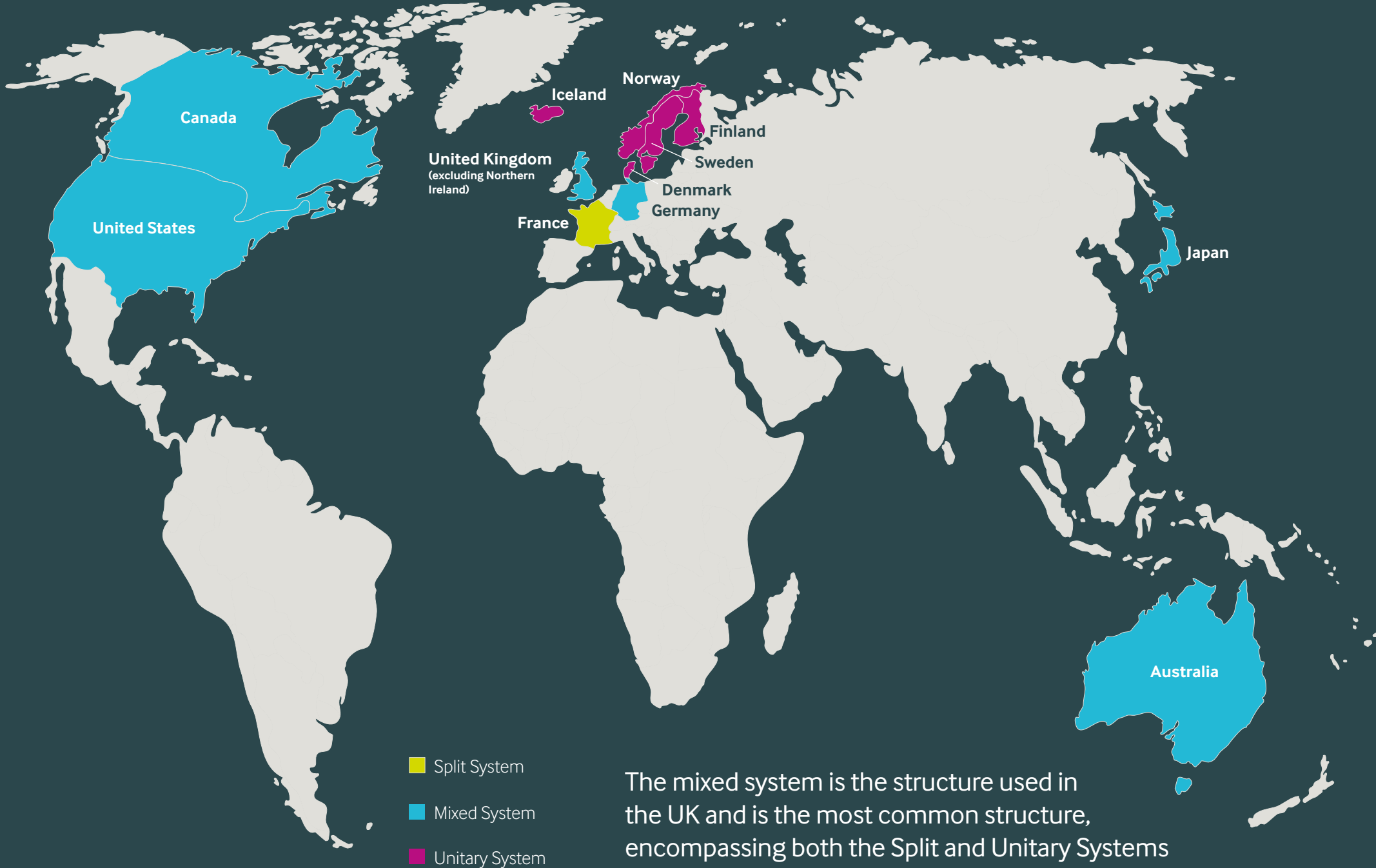


Commentary

The age at which a child enrolls in early childhood education varies considerably by country where different operational systems apply with associated regulations, grants and subsidies as detailed further in this report.

To set the scene, the graph above shows the age at which children enrol in early years provision. As detailed by the white line, the majority of enrolment occurs at three years with a very high proportion of children enrolled by the child's fourth birthday. Conversely, the level of enrolment at two years shows material variance by country with this primarily a factor of localised regulations and subsidies as discussed further overleaf.

OPERATIONAL FRAMEWORK - BY COUNTRY



The mixed system is the structure used in the UK and is the most common structure, encompassing both the Split and Unitary Systems

OPERATIONAL FRAMEWORK - BY COUNTRY

The 2019 European Commission report* references three main systems with the mixed structure being the most commonly adopted

To consider further the differences between each country, we have identified key features of their respective operational frameworks and categorised between the three different systems referred to in the EC report. For the countries covered by the EC report this categorisation reflects the EC report findings. For the countries not covered, we have undertaken our own research and applied the most relevant structure based on the key characteristics identified. This is not exhaustive as the system can vary within a country at state or local government level but, nonetheless, provides a good overview.

The three systems detailed in the EC report are **Split**, **Unitary** and **Mixed**.

Split systems refer to separate settings or a distinction between provision for older and younger children. This is triggered typically by an age break at around three years.

In a **split system**, phase one (0 - 3yrs) is based in a nursery or childminder home setting. Phase two (3yrs+), often referred to as kindergarten or preschool typically takes place at a separate or adjoining setting and focuses on education, preparing the child for primary school when they reach the compulsory age.

Unitary systems refer to settings that cover the whole age range from 0 years to primary school age.

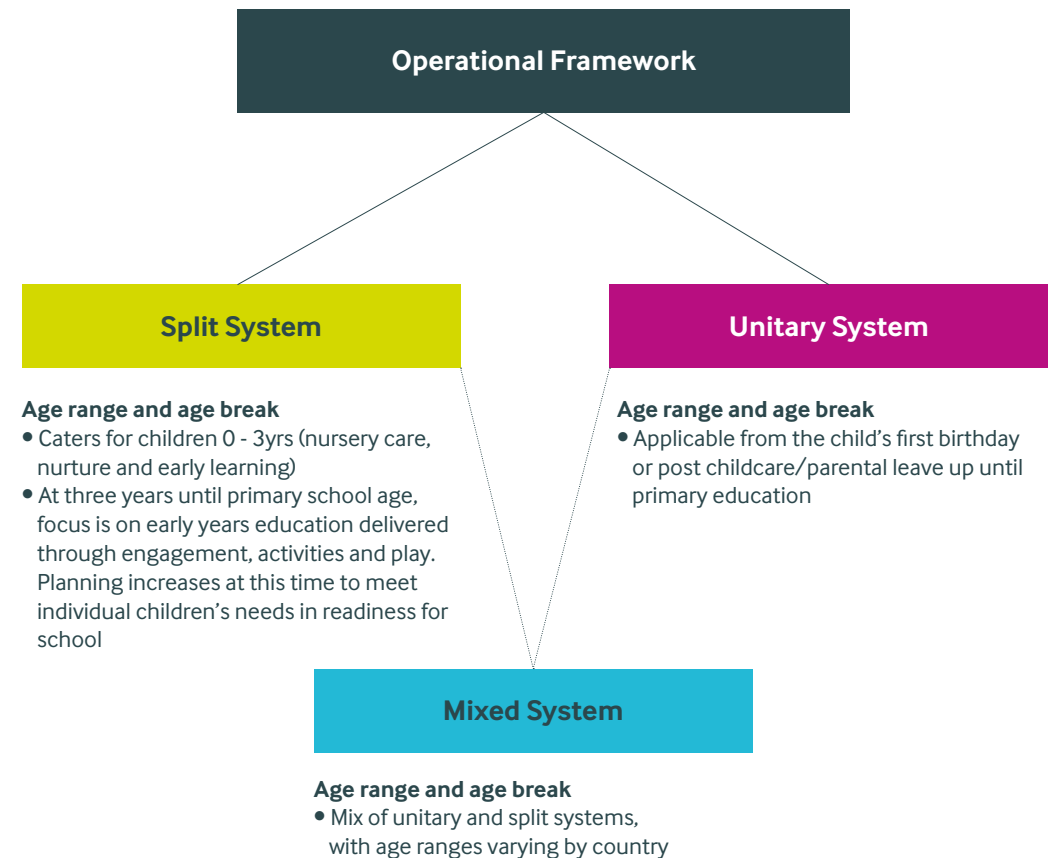
Unitary systems are mainly seen in the Nordics where younger and older children are catered for in an integrated setting. There is a form of unitary provision seen in the US and UK where settings cater for a child from birth until pre-primary school age (4 - 4.5yrs), at which point they attend a kindergarten or preschool facility for one year and prepare for the transition to school.

A mixed system relates to a combination of both.

The majority of countries have **a mixed system** with the option of both the **split** or **unitary** structures.

In countries such as the UK, Germany, Australia and Japan where both **split** and **unitary** ECEC programmes exist, one system often dominates.

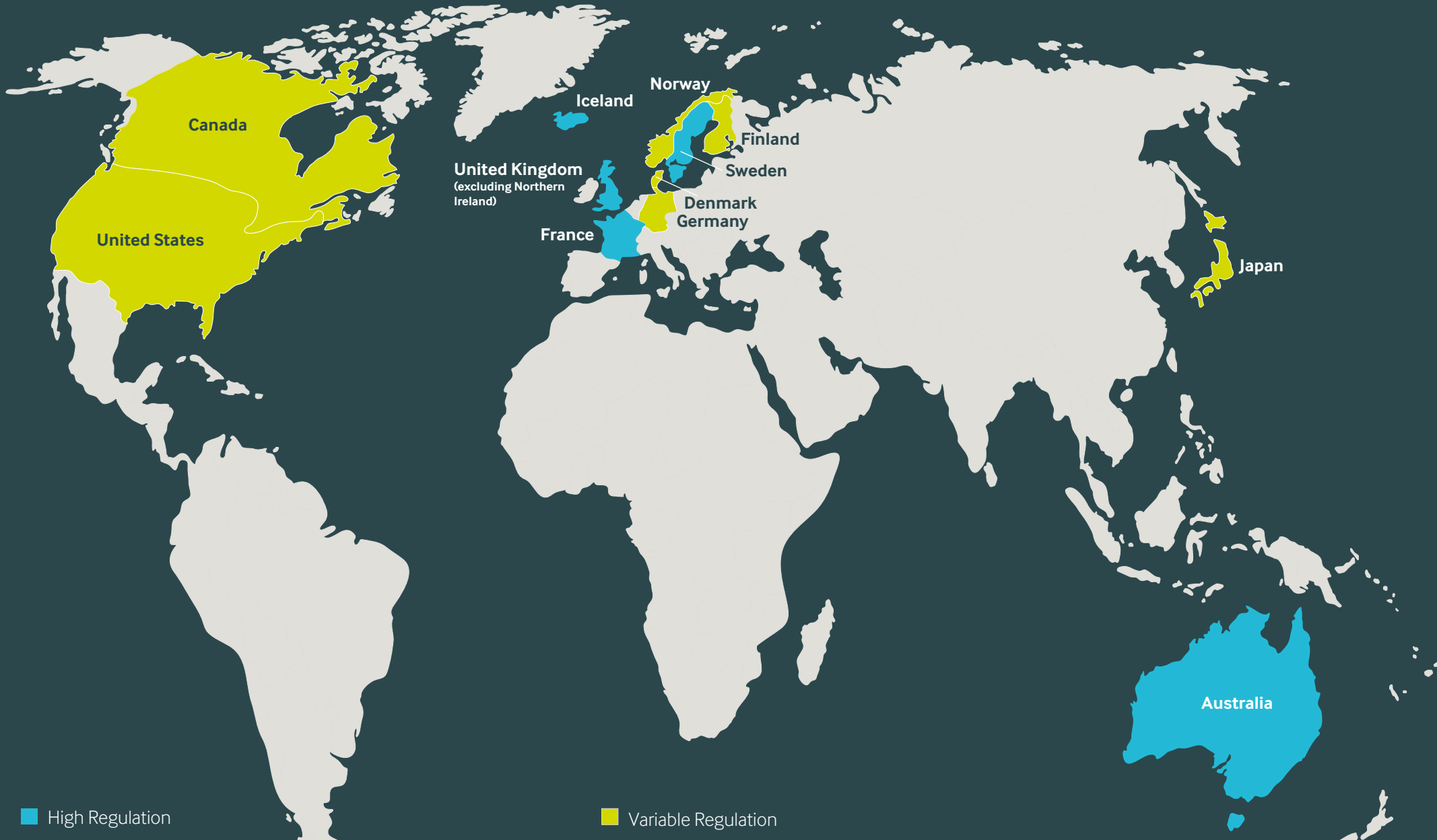
Historically, the preschool **split** was the most dominant form of early education typically catering for children aged 3 - 5 years. However, over the last 30 years, there has been an increase in women returning to work, creating a need for childcare immediately after maternity leave. The majority of operators are catering to the needs of parents by providing childcare in a **unitary** setting from birth until primary school age.



*European Commission/EACEA/Eurydice,2019

Source: Christie & Co Research & Analysis, Australia.gov.au (2019), OECD online-Australia (2016), OECD online-Japan (2017)

OPERATIONAL FRAMEWORK - REGULATION



■ High Regulation

■ Variable Regulation

UK	France	Sweden	Iceland	Australia	Germany	USA	Denmark	Norway	Finland	Canada	Japan
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OPERATIONAL FRAMEWORK - REGULATION

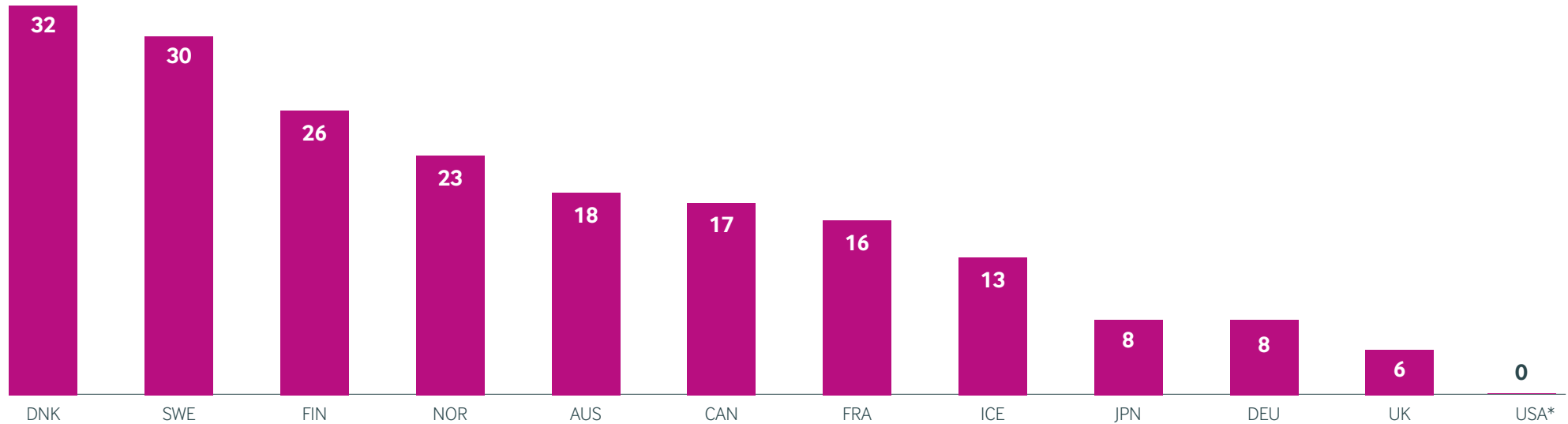
The UK and England, in particular stand out as being one of the highest regulated countries

Country	Commentary
UK	Designated statutory regulatory bodies (OFSTED and Care Inspectorate), responsible for registration, regulation and inspections. Prescriptive standards in relation to the operation of the setting
France	Regulation by the Ministry of Social Affairs and Health (until the age of three years) and Ministry of National Education. Defined and prescriptive standards for the operation of the setting. Regulation and monitoring undertaken at a national level
Sweden	Regulated by the Swedish Schools Inspectorate, an independent regulatory body which is responsible for registration, regulation and inspection
Iceland	On behalf of the Ministry of Education, Science and Culture, the Icelandic Directorate of Education together with respective local authorities have overall responsibility for the quality of education in pre-primary schools. The Icelandic Directorate of Education, jointly with the local authorities, undertake inspections and monitoring
Australia	Australian Children's Education and Care Quality Authority (ACECQA) is the independent national body, responsible for supporting national consistency amongst the regulatory authorities in each state and territory. Collectively, they are responsible for the inspection and monitoring processes with defined minimum standards in ECEC services
Germany	Monitoring and regulation are undertaken by regional and state-level authorities with variations between different federal states
USA	Regulation varies across each state. In many states, licensed childcare providers are required to have licensing inspections and the regularity of these inspections differs
Denmark	Each local authority is responsible for the inspection and monitoring process of ECEC provision. There is no designated national regulatory body
Norway	Monitoring of all ECEC setting types is the responsibility of municipalities and county governors with frequency and prescriptive standards varying between municipalities
Finland	Regional state administrative agencies are responsible for the inspection and monitoring process, which ensure minimum standards in ECEC services are met. There is no national monitoring system; frequency of monitoring and prescriptive standards differ between municipalities
Canada	Generally, the responsibility for ECEC falls under provincial/territorial jurisdiction to monitor regulated childcare. Local school boards/school divisions who are subordinate to the provincial governments are responsible for the operation and regulation of these ECEC facilities
Japan	The Ministry of Health, Labour and Welfare is responsible for regulating childcare in Japan. The level of regulation varies by type with registered centres subject to regular inspections

STRUCTURAL CONTEXT - PARENTAL LEAVE

The USA and the UK have the shortest fully paid parental leave entitlements creating a greater incentive or need for early childhood education and care as parents look to return to work earlier than may otherwise be the case

Length of fully paid parental leave in each country in weeks (2018)



Commentary

Moving into structural-related themes, we have undertaken research to establish the extent of parental leave entitlements across the countries of focus.

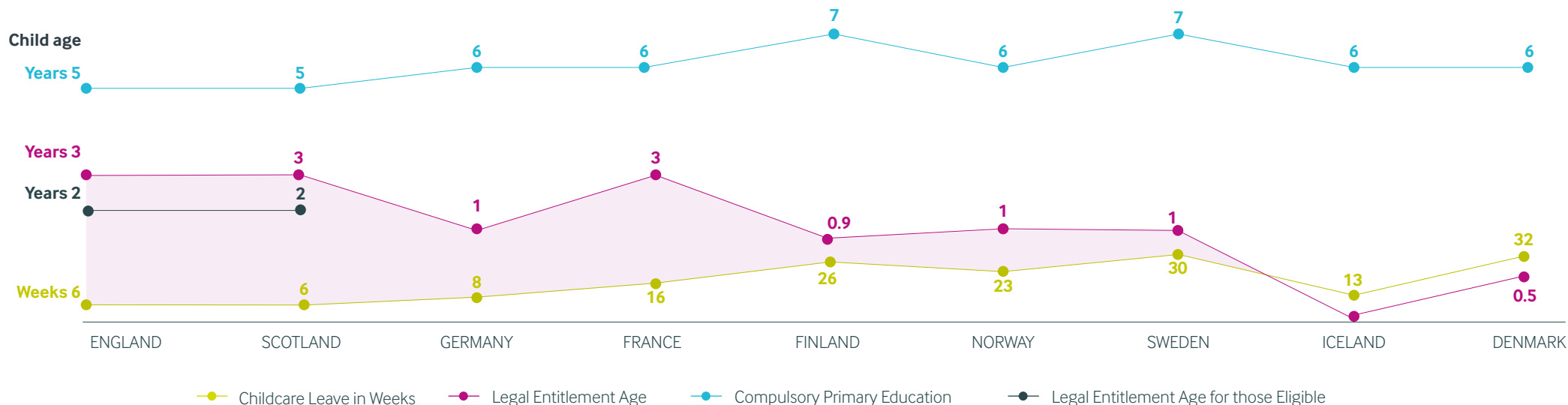
The graph shows the length of fully paid parental leave in each country by number of weeks as at 2018 (this excludes any discretionary leave offered by companies through employment benefits). From this, Denmark and Sweden followed by Finland and Norway are notably above the majority of other nations with the UK standing out as having the second lowest level of fully paid parental leave.

When the level of fully paid parental leave is low, there is a greater incentive or, in some cases, need for childcare provision as parents look to return to work earlier than may otherwise be the case.

STRUCTURAL CONTEXT - CHILDCARE GAP

There is significant variance in the childcare gap per country with the UK and France standing out, due to the limited amount of fully paid maternity leave

Stages of entitlement in Early Childhood Education: childcare leave, legal entitlement age and compulsory primary education



Commentary

The gap in childcare occurs from when maternity leave ends until the entitlement to childcare begins, with key factors being maternity leave, legal entitlement to childcare and compulsory school age.

In countries such as the Nordics, there is a smaller childcare gap mainly because children are legally entitled to a childcare place from an earlier age and the governments are responsible for ensuring this demand is met. Once the fully paid parental leave period is over, parents have the option to extend their leave with a marginal decrease in pay or they wait a short time to place their child in a childcare facility until they reach compulsory school age.

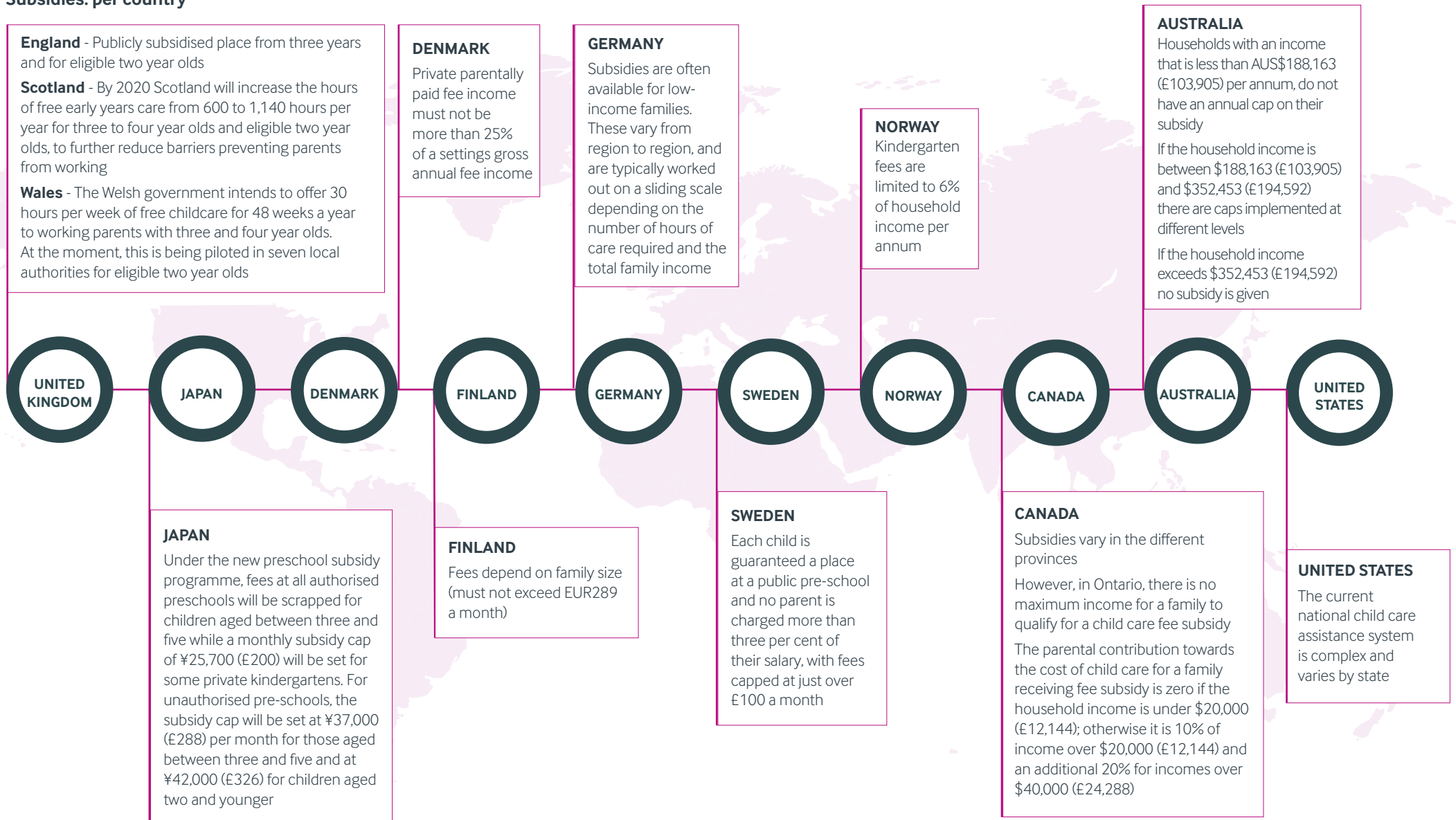
In the UK and France, the gap in childcare is comparatively large as fully paid maternity leave is relatively low and children are not entitled to childcare or ‘funded-hours’, in the majority of cases, until they reach three years of age. In England, 30 funded hours are available for children at three years and, for eligible parents, 15 hours are available at the age of two.

Where nursery or centre-based demand is not met, live in au-pairs, home-based childminders and grandparents are often used to undertake the childcare. With an ageing population coupled with the trends of people deferring parenthood and retiring later in life, the use of grandparents for childcare is on the decline. This creates additional demand for ECEC provision with this trend expected to continue.

STRUCTURAL CONTEXT - FUNDING AND SUBSIDIES

The availability and extent of subsidies varies materially by country, impacting on the cost of childcare to parents

Subsidies: per country



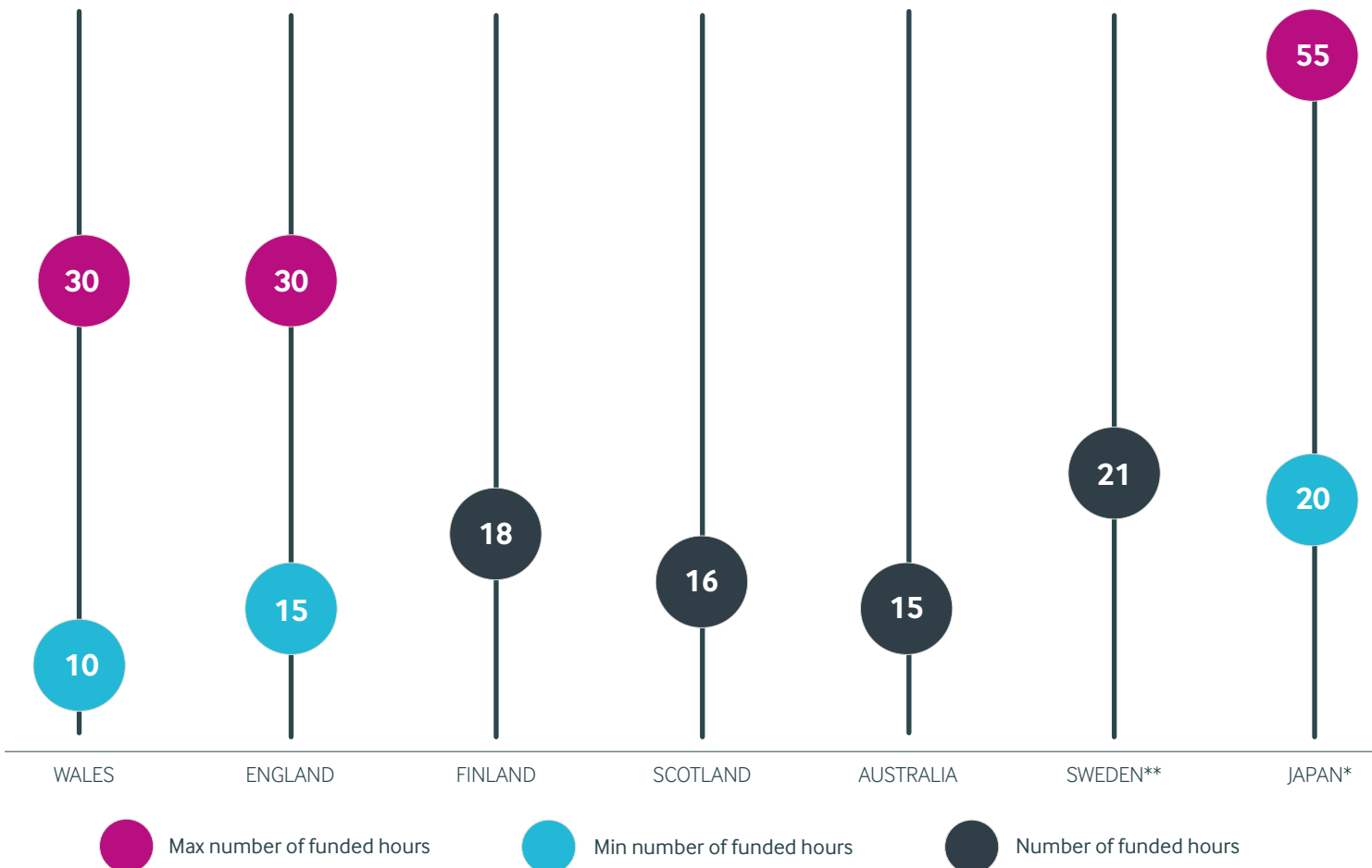
STRUCTURAL CONTEXT - FUNDING AND SUBSIDIES

Significant variation in the number of publicly funded hours, albeit many countries also offer other incentives including tax breaks to support parents and encourage the use of formal ECEC settings

The number of funded hours per child per annum

480 - 1,440	570 - 1,140	700	608	600	525	--
WALES	ENGLAND	FINLAND	SCOTLAND	AUSTRALIA	SWEDEN	JAPAN

The number of guaranteed publicly funded Early Years hours, per week (over 38 weeks)



Commentary

As the analysis on the previous page has shown, there is considerable variation on how ECEC provision is funded, the age range where subsidies are available and, for countries where parents are required to pay, the quantum of this cost.

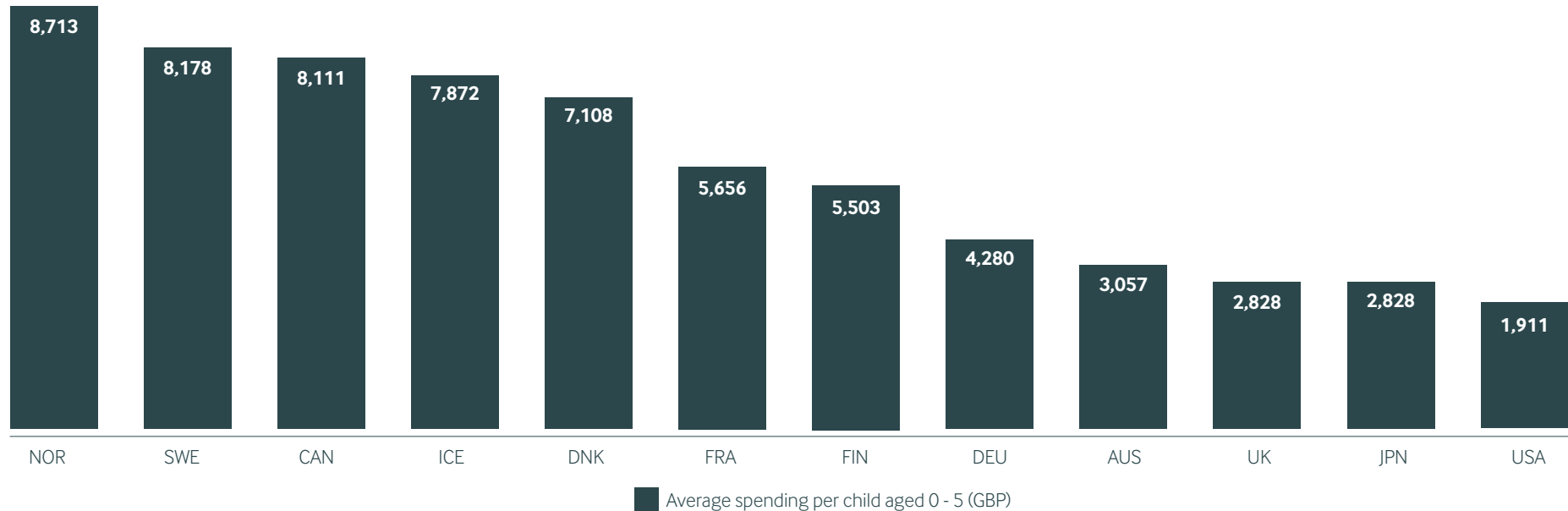
We have explored these issues further over the coming pages. The adjoining chart provides an overview of the number of guaranteed publicly subsidised early years hours per week. Whilst there are notable variations, it is important to acknowledge that this excludes other incentives and schemes which are available. The table and chart overleaf provide an overall analysis on the extent of average government expenditure on ECEC per child.

NB: The only countries included are those that use subsidised hours as one of their childcare policies
 * Up to 20 hours a week in kindergartens and up to 55 hours a week in day-care centres **Sweden's funded hours are over a 25 week period
 Source: Christie & Co Analysis: European Commission/EACEA/Eurydice (2019), OECD online (2016)- Finland

STRUCTURAL CONTEXT - FUNDING AND SUBSIDIES

Based on OECD data, the UK stands out as having the joint second lowest level of average government expenditure per child, per year

Government spending on early childhood education and care per child per year in GBP*



Commentary

In order to consider the relative level of overall government spending on ECEC across the countries of focus, we have obtained and analysed OECD data. The chart shows the overall average level of expenditure per child per annum.

A key headline is that despite being one of the countries offering between 10 - 30 subsidised hours, the UK overall has some of the lowest levels of overall government spending per child. The implication of this is that the cost falls to parents as opposed to the state and therefore helps to explain the frequent reference to England childcare costs being some of the highest in Europe.

STRUCTURAL CONTEXT - FEE RATES, FINDINGS FROM CHRISTIE & CO OPERATOR SURVEY

There is a direct relationship between average daily fee and the degree of subsidy; our operator survey shows that the USA, Australia and UK have the highest average daily fees

Operator survey - average daily fees (in GBP using exchange rate on 03/07/19)

£65

United States

£61

Australia

£53

United Kingdom

£38

Canada

£37

Japan

£13

Norway

Commentary

To examine further key themes related to funding, fee rates and workforce, we have undertaken a survey of operators across our core countries of focus leveraging international operator network relationships as established by our Childcare and Education team. In total, the responses we received relate to a sample size of c. 200,000 ECEC places with these covering a complete cross section of different ECEC settings, cultures and jurisdictions.

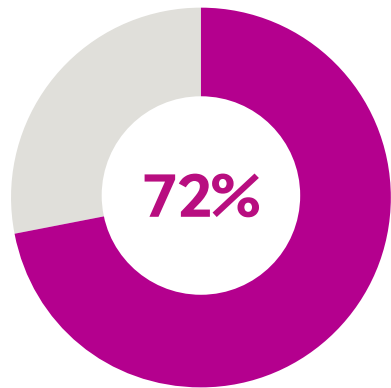
A key headline is the direct relationship between the level of average fee and the degree of government subsidy or funding available, consistent with themes emerging earlier in the report.



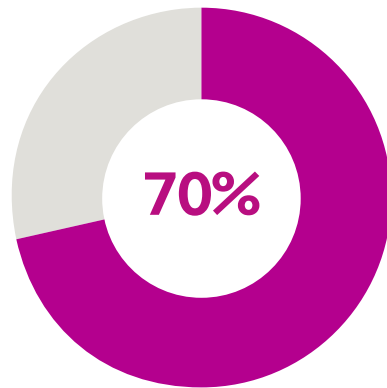
WORKFORCE - OVERALL STAFF COSTS; FINDINGS FROM CHRISTIE & CO OPERATOR SURVEY

Across the countries of focus average ECEC staff cost margins, as a percentage of revenue, range from 35 - 80% with an overall average of 66.4%

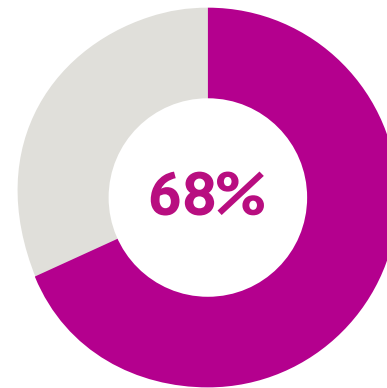
Survey findings - average staff cost margins, as a percentage of revenue, by country



CAN

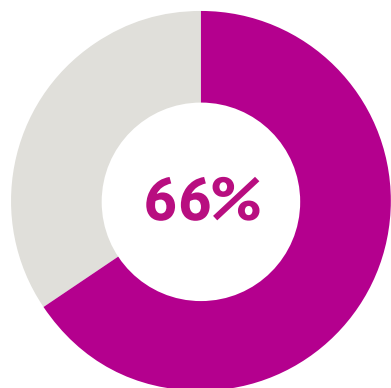


AUS

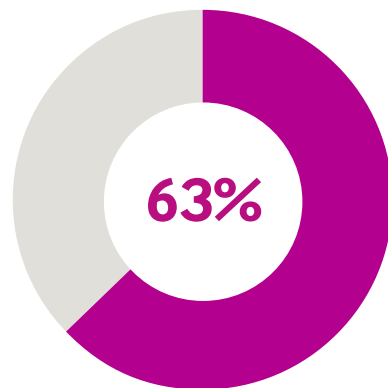


NOR

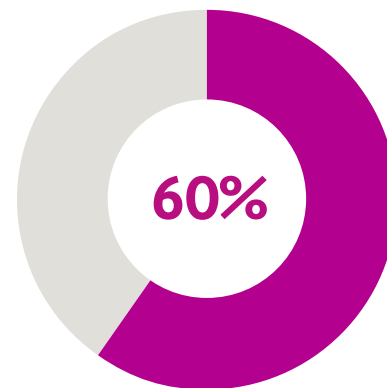
66.4% Staff cost margin for all settings from Operator Survey



USA



JAP



UK

Commentary

The delivery of good quality ECEC provision is dependent upon the quality and availability of a suitable workforce. In addition, the sustainability of an ECEC setting, is dependent upon the level of staff costs being carefully controlled relative to revenue.

As part of our operator survey, we requested a number of workforce related data points. Ahead of considering wider themes, the charts on this page show the results of our survey in relation to the level of average staff costs as a percentage of ECEC setting revenue.

The overall staff cost ratio amounts to 66.4% with the UK slightly lower at 60%. The range in staff cost margin reflects a number of different factors impacting on the cost of the workforce including qualification levels, the supply of labour and geographical factors. The margin is also reflective of the level of revenue achieved and the commercial requirements of the organisation involved.

State or third sector owned providers enjoy some advantages not awarded to private operators, such as differentials in the level of funding rates received and business rate exemptions. These challenges are further compounded due to private operators having to service financing costs, such as mortgages, and commercial rents, alongside other associated obligations.

WORKFORCE - ENTRY LEVEL QUALIFICATION REQUIREMENTS BY COUNTRY

The UK stands out as a country where school leavers can be employed in day nursery settings with no formal qualifications. However, there is considerable competition for prospective trainee nursery practitioners from other industries including retail and leisure businesses with this creating challenges in terms of recruitment and retention



Early Years Teaching Staff

(Masters, Bachelors degree or teaching qualification)

- France
- Germany
- Denmark
- Norway
- Iceland
- Sweden
- Finland



Nursery Practitioners

(Vocational training, secondary or post secondary qualification)

- Canada
- Japan
- Australia



Nursery Assistants

(School leavers or equivalent with no secondary qualification)

- United Kingdom
- United States

Commentary

Aside from remuneration rates which vary considerably by geography and also on a town by town basis, the ratio of children to staff member is a critical factor in determining the level of overall staff costs.

There are many factors impacting on child : staff ratio levels. These include regulatory requirements, qualification levels, the age range of the children being cared for and operational challenges associated with different operating environments, including accommodation, layout and configuration of space.

Ahead of exploring some of these themes in greater detail, we begin by providing an overview of the different types of practitioners who typically work in an early years setting. As shown opposite, the type of qualification within these categories can vary by country.

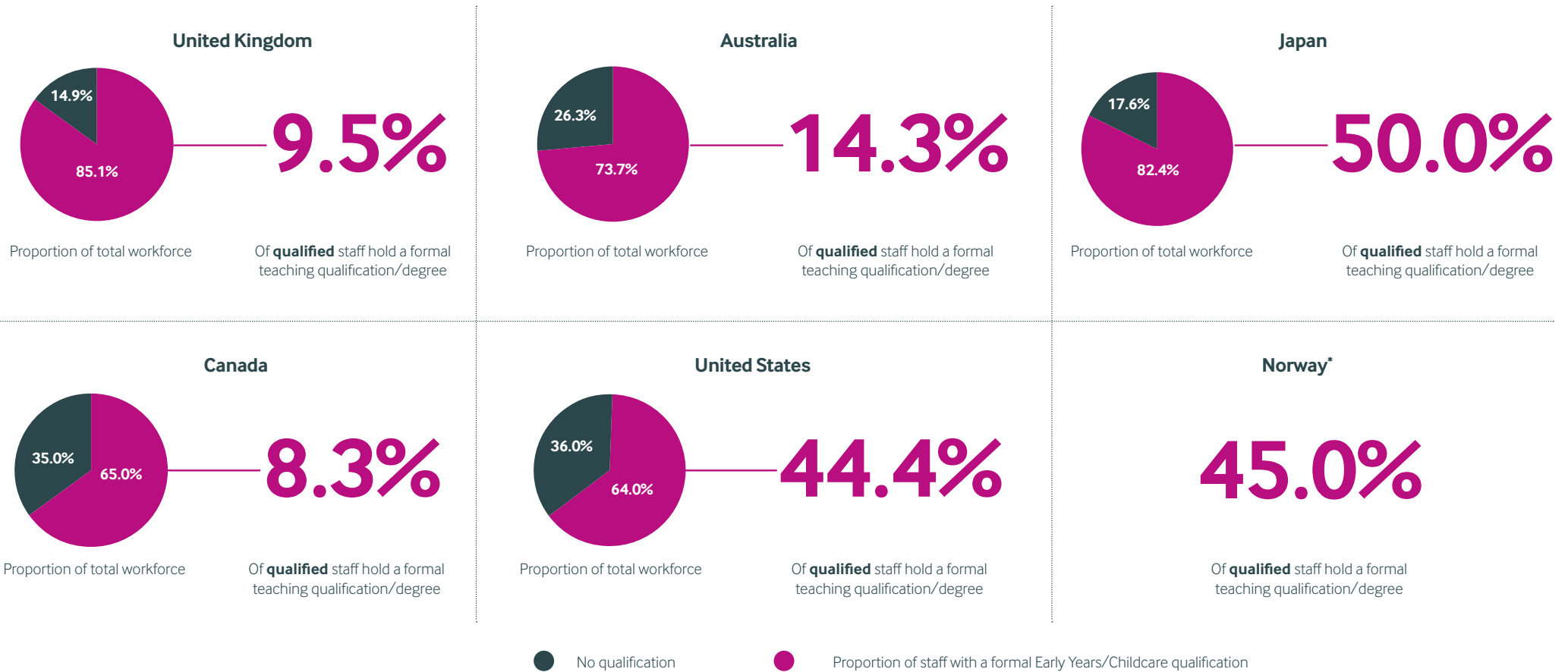
The analysis shown specifically relates to entry level qualification requirements for entry level employees. In relation to the operational staff, there is a trend that as children get older, the qualification requirements increase as the degree of educational input rises although there is significant variation by country as to the base qualification required for staff taking up employment in an ECEC setting. Unitary settings, as an example, have the same minimum qualifications regardless of the age of the child being cared for, with educational staff in this type of setting generally being qualified to a higher level in comparison to the split or mixed systems. This is one of the reasons why despite having the highest level of government spending per child, the average staff cost margin for Norway, based on our operator survey, is relatively high at 68% of revenue.

A particular feature of the UK market is that school leavers can be employed in children's day nursery settings with no additional ECEC qualifications although operators provide comprehensive training and induction programmes to ensure the staff are familiar with the EYFS. Furthermore, many operators choose not to include such staff in their overall room ratio calculation until such training has been successfully completed. With pay rates for unqualified staff in the UK generally aligned to base Living Wage levels, there is however considerable competition for this workforce from retail and leisure businesses and related industries including care homes.

A recent survey conducted by the National Day Nurseries Association, a charitable organisation representing UK nursery operators, revealed a general theme that remuneration levels for UK nursery staff fall below pay rates offered in alternative sectors with operators therefore facing a continual challenge to attract and retain staff. Furthermore, despite having the ability to utilise a workforce with pay rates aligned to base Living Wage levels, our operator survey shows that the average staff cost ratio for UK nurseries is still relatively high at c. 60% of revenue.

WORKFORCE - OPERATOR SURVEY FINDINGS - QUALIFICATION LEVELS

Our operator survey shows that whilst a high proportion of staff have an early years qualification, the proportion of UK staff with a formal teaching or degree qualification in the UK is the lowest after Canada



Commentary

We asked respondents to provide details on the proportion of their setting level workforce who hold a formal early years teaching qualification/degree with the results shown above. Operators in five of the six countries have 60% of their workforce or more with an early years qualification (data unavailable for Norway).

In terms of the qualified workforce the level of qualification varies by country. For example, in the UK, 9.5% of the qualified workforce have a formal teaching qualification whereas in Japan, the USA and Norway, the proportion is much higher at c. 45%.

*Data unavailable for proportion of total workforce
Source: Christie & Co Operator Survey (2019)

WORKFORCE - STAFFING RATIOS

Staffing ratios are subject to variation by country and in some cases by state although there is a general trend that the maximum number of children allowed per staff member often doubles for children aged three years and above



ENGLAND				SCOTLAND			
1:3	1:4	1:8	1:13	1:3	1:5	1:8	1:8
0-2yrs	2-3yrs	3-4yrs	4-5yrs	0-2yrs	2-3yrs	3-4yrs	4-5yrs
WALES				GERMANY			
1:3	1:4	1:8	1:8	1:(4-8)	1:(4-8)	1:(9-20)	1:(9-20)
0-2yrs	2-3yrs	3-4yrs	4-5yrs	0-2yrs	2-3yrs	3-4yrs	4-5yrs
FRANCE				ICELAND			
1:5	1:8	NR*	NR*	1:3	1:3	1:5	1:5
0-2yrs	2-3yrs	3-4yrs	4-5yrs	0-2yrs	2-3yrs	3-4yrs	4-5yrs
FINLAND				NORWAY			
1:4	1:4	1:8	1:8	-	1:3	1:6	1:10
0-2yrs	2-3yrs	3-4yrs	4-5yrs	0-2yrs	2-3yrs	3-4yrs	4-5yrs
SWEDEN				DENMARK			
NR*	NR*	NR*	NR*	1:3	1:3	1:6	1:6
0-2yrs	2-3yrs	3-4yrs	4-5yrs	0-2yrs	2-3yrs	3-4yrs	4-5yrs
JAPAN				AUSTRALIA			
1:3	1:6	1:20	1:30	1:4	1:5	1:11	1:11
0-2yrs	2-3yrs	3-4yrs	4-5yrs	0-2yrs	2-3yrs	3-4yrs	4-5yrs
USA***				CANADA**			
1:3	1:6	1:10	1:15	1:3	1:5	1:8	1:12
0-2yrs	2-3yrs	3-4yrs	4-5yrs	0-2yrs	2-3yrs	3-4yrs	4-5yrs

Commentary

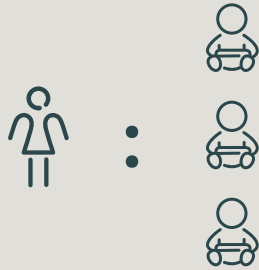
We set out on the adjoining graphic current ratios which reflect the maximum number of children per staff member. Please note this is an overall guide which can be subject to variation relative to different countries and, indeed, variations between states within the same overall jurisdiction.

It will be observed that in a number of cases, the maximum number of children allowed per staff member often doubles when the child reaches three years of age. This reflects a trend whereby the lowest ratios are applied to the youngest children, acknowledging their lack of independence and the higher level of care required.

WORKFORCE - STAFFING RATIO FINDINGS FROM OPERATOR SURVEY

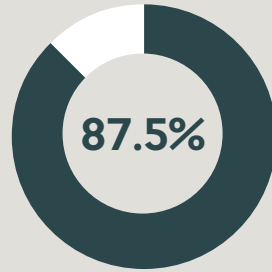
Proportion of respondents that work at various ratios in the UK

0-2yrs



1 to 3

Most common ratio used by operators

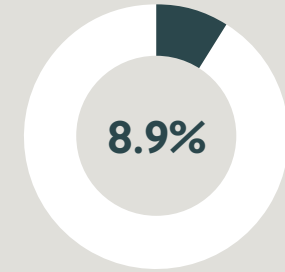


Proportion of respondents with this ratio



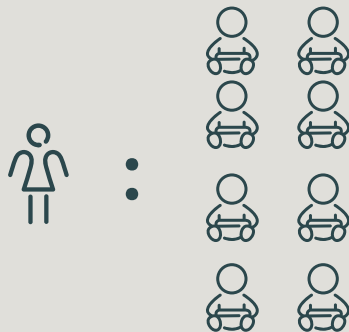
1 to 4

Other notable ratios seen



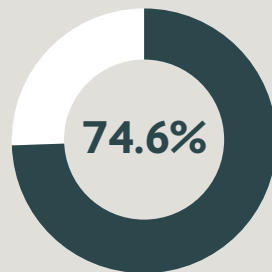
Proportion of respondents with this ratio

3-4yrs

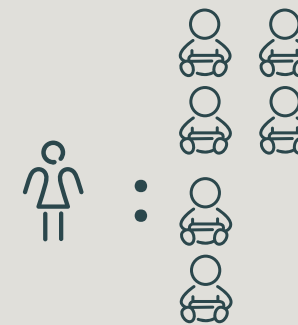


1 to 8

Most common ratio used by operators

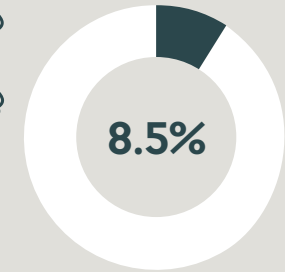


Proportion of respondents with this ratio



1 to 6

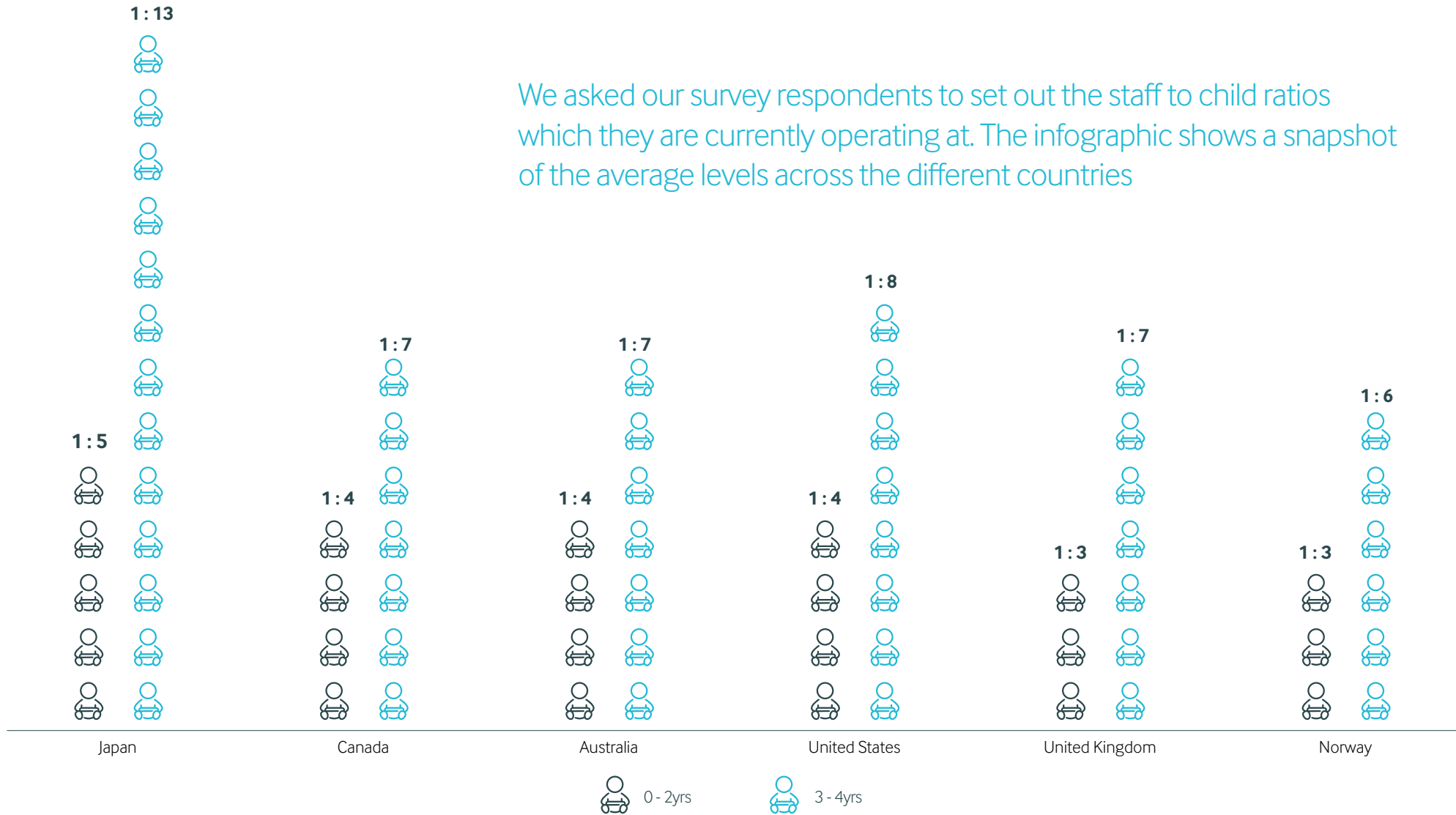
Other notable ratios seen



Proportion of respondents with this ratio

WORKFORCE - STAFFING RATIO FINDINGS FROM OPERATOR SURVEY

We asked our survey respondents to set out the staff to child ratios which they are currently operating at. The infographic shows a snapshot of the average levels across the different countries




Commentary

Many of the countries have different requirements between state (or equivalent) and, therefore, this summary provides a general guide only.

Japan stands out with the highest ratio of children to staff. Putting this into context, Japan has significant qualification requirements together with policies that encourage parents to use family members to look after children in the 0 - 2 years segment. At the other end of the spectrum, our survey findings show that respondents in the UK and Norway operate with one staff member to three children in this segment.

UK WORKFORCE - CHALLENGES & RATIO DEBATE IN ENGLAND

The Department for Education's **More Great Childcare** report, as published in January 2013, was a catalyst for debate in England in relation to ratios and various policy initiatives. Whilst some workforce initiatives were introduced, operators across the UK continue to report inadequate levels of government funding and workforce related challenges



England's relatively tight staffing rules drive higher costs for parents and lower pay for staff

Department for Education **More great childcare report January 2013***

"We need to change the way we think about staffing in the early years, placing the emphasis on the individual development needs of each child, rather than relying on tight central prescription" - **More Great Childcare - January 2013**

"After months of campaigning by the early years sector and parenting organisations, Nick Clegg has confirmed that the changes to ratios for pre-school children that were consulted on earlier in the year have been scrapped"
- **Nursery World - June 2013**

"DfE claims ratio plans could slash fees by more than a quarter" - **Nursery World - May 2013**

"There is a good reason why, despite immense financial pressures, most providers choose not to work to the absolute minimum staff-child ratios and that's because it is not in the best interests of the children in their care" - **Chief Executive, Neil Leitch, Early Years Alliance - Nursery World - November 2015**

"No one doubts the dedication and quality of childcare professionals – but who can blame them for leaving the sector for better pay, more opportunities and less pressure?" - **Chief Executive, Neil Leitch, Early Years Alliance - Ceeda Sector Skills Survey 2019**

"Not enough good qualified staff coming out of colleges. Standard is very poor. Attracted to work for the council for lavish salaries & £5,000 more per annum than the company can pay them regardless of their effectiveness. As a Montessori & Forest School setting, we invest heavily in staff training towards these formal qualifications" - **Christie & Co operator survey response**

"Recruitment of quality practitioners continues to be challenging. We are looking at reducing our qualification percentage to hire enthusiastic staff. We are also investing heavily in apprentices" - **Christie & Co operator survey response**

"Not enough qualified practitioners" - **Christie & Co operator survey response**

"We have been advertising for 4 months for a room leader, have had poor response but just been able to recruit one person out of about 14" - **Christie & Co operator survey response**

"Poor pay makes it difficult to recruit along with forever changing qualifications to train as nursery practitioners" - **Christie & Co operator survey response**

"Over the past 18 months it has been significantly harder to recruit staff with fewer applicants applying for jobs" - **Christie & Co operator survey response**

"Staff seem to want to flit in and out of work these days, you get a maximum of 2 - 3 years of commitment then they move on" - **Christie & Co operator survey response**

"We need to pay more to keep good staff but parents don't want to pay more and the government won't put anything more in the pot. It is a constant challenge and frustration and I won't carry on much longer" - **Christie & Co operator survey response**

"Ratios are too high considering staff qualifications. They are now unrealistic" - **Christie & Co operator survey response**

"30% of childcare workforce with me for 13 + years" - **Christie & Co operator survey response**

Commentary

Over recent years, there has been considerable debate on whether there may be scope to relax ratio requirements in England. Prior debate stems from the Department for Education's "More Great Childcare" report which was published in January 2013 and various statements made by politician Elizabeth Truss who at the time was the Parliamentary Under Secretary of State for Education and Childcare.

While the report centred around a stated ambition of 'raising quality and giving parents more choice', many providers, and indeed parents too, were outraged and significant concerns were expressed about a potentially adverse effect on quality and a two-tier market of provision arising.

The report included many key representations and while initiatives such as new Early Years Teachers have been introduced, our research and recent surveys by the NDNA illustrate that UK operators are being faced with considerable funding and workforce related challenges.

On the pages overleaf we provide key themes arising from recent operator surveys conducted by the NDNA on operational related topics with the full reports available on their website.

UK FUNDING CHALLENGES - KEY HEADLINES FROM RECENT NDNA SURVEYS

The NDNA operator surveys reveal consistent themes in relation to funding with hourly shortfalls in England and Scotland. Wales has challenges relating to the Foundation Phase although sentiment is more positive relating to the new 30 hours pilot scheme

30 hours childcare policy for three and four year olds is underfunded

NDNA survey shows an average shortfall of £1.90 per hour with 87% of respondents stating the hourly funding rate is insufficient to cover costs

The NDNA report references funding rates for 2018/19 being frozen across 70% of local authorities with 21 authorities seeing a funding decrease

71% of NDNA operators are increasing fees to offset losses (essentially a cross-subsidy)

Nearly a third of respondents are looking to limit the number of three to four year old funded places offered

Whilst 89% of respondents deliver funded places for two year olds, there is an increase in the number looking to either reduce the number of places or withdraw from the scheme

Shortfall in the funded hourly rate for two year olds of £1.82

87%

of respondents stating the hourly funding rate is insufficient to cover costs

In terms of the current Foundation Phase, 82% of respondents stated that the average hourly rate from local authorities is insufficient to cover costs with the average hourly rate for 2018 reflecting a decrease of 2.2% relative to 2017

30 hours of funded early years education for three and four year olds is currently being piloted ahead of full roll out by 2020

Increase in overall optimism in the sector with 59% of providers delivering the 30 hours pilot reporting the funding rate is in line with costs albeit with concern that additional funding in the future will be needed to cover anticipated cost increases

Strong demand for equal funding between the Foundation Phase and 30 hour offer (97% of respondents to the NDNA survey supported this)

2.2%

Decrease in the average hourly rate for 2018

As with Wales, Scotland is in a transitional phase with plans to increase from 600 hours to 1,140 hours of funded childcare per annum by 2020

In terms of the current system for three to four year olds, 79% of NDNA respondents reported a shortfall in funding which overall amounts to £1.98 per hour, per child

For two year olds, a similar picture was portrayed with an average hourly shortfall of £1.33 per child. Furthermore, the NDNA survey showed a decline in the number of nurseries providing funded places for two year olds

79%

of NDNA respondents reported a shortfall in funding



UK WORKFORCE CHALLENGES - KEY HEADLINES FROM RECENT NDNA SURVEYS

The NDNA operator surveys set out a number of workforce challenges relating to a wide range of areas including recruitment and retention (especially for qualified staff), uncompetitive pay rates and rising payroll costs. Insufficient government funding is noted as being a key theme across each country

Challenges around the recruitment and retention of qualified staff. The NDNA survey showed respondents reporting a reduction in the number of employees with a Level 3 qualification or above. This follows prior years with NDNA reporting a 31% decline overall in this segment between 2015 - 2019

Employee mix is becoming increasingly polarised between employees of a younger or older age

Issues associated with funding challenges and the delivery of government funded hours are leading to an increase in the use of apprentices and a general reduction in the number of experienced/qualified staff

The reduction in qualified staff numbers reflects a combination of cost, recruitment and retention related challenges

In terms of retention and reasons for leaving, the NDNA survey highlighted uncompetitive pay rates relative to other sectors together with a loss of general motivation or passion (the latter being the key reason for managers)

31%

Decline between 2015-2019 in the number of employees with a Level 3 qualification

Similar themes to England with the main issues relating to upward pressure on payroll costs, insufficient funding to cover pay rate inflation together with recruitment and retention

40% of NDNA respondents reported recruitment and retention as being challenging or very challenging with pay being capped due to insufficient funding (this relates specifically to the Foundation Phase)

Increases in the National Minimum and Living Wages have been the main drivers of upward wage pressure with the NDNA survey showing that average payroll costs for 2018 increased by 6%

6%

Increase in payroll costs for 2018

The level of staff costs, recruitment and retention are key themes impacting the sector in Scotland as shown by the results of the NDNA survey

As with Wales, the NDNA survey reported an overall increase in staff costs of 6% with operators receiving insufficient funding to compensate. Furthermore, reference was made to the requirement for all providers delivering the 1,140 hours to be remunerated at the higher Real Living Wage and concerns were reported over the sustainability of this in the absence of additional funding

The NDNA survey highlighted retention as being a particular problem with respondents reporting an increase in the average loss of staff per nursery per annum to c. 15%

Recruitment of graduates was also noted to be disappointing despite government initiatives. The NDNA survey states that the average nursery employs only two graduates with c. 23% not employing any

c. 15%

Average loss of staff per nursery per annum



WORKFORCE RATIOS - RESPONSES FROM ROUNDTABLE DISCUSSIONS

As part of this research, we hosted two roundtable lunches to debate workforce and ratio related issues in England with insight gained from a broad cross-section of operators and sector stakeholders



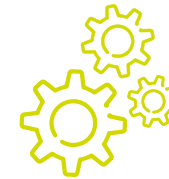
WORKFORCE

- Childcare is not perceived as a professional, highly valued 'career'
- Institutes providing early years qualifications should take more responsibility for the quality of student they produce at the end of the qualification
- Childcare salaries are extremely low, operators would love to give staff a pay rise however it is not feasible due to shortfalls in funding. The private sector and parents are having to pick up the Government shortfall
- Childcare staff are leaving for roles in retail which are less intense, and come with fewer responsibilities in order to receive better pay
- Operators are losing staff to schools who offer better pay, shorter hours and longer holidays
- Local Authorities are poaching the good quality staff and offering them better pay to work in their childcare facilities
- Low quality of applicants applying for roles, candidates not showing up to interview
- Childcare apprentice applicants admit they want to pursue a childcare qualification because other vocational training programs like beauty and hairdressing were full
- We need to encourage the older mature staff to return to employment within childcare



RATIOS

- Historically it was suggested that a reduction in ratios could reduce the cost of childcare thus demonstrating an acute lack of understanding. Lower ratios would not reduce fees, they could however allow a provider to operate autonomously, meeting the needs of each child using a skilled and experienced workforce which is appropriately remunerated
- Ratios are inconsistent, both internationally but also across the UK between Scotland, England and Wales
- If there was a change in ratios, this could possibly compromise the quality of childcare given and would the current building facilities have the ability to accommodate?
- While few and far between, unscrupulous providers could use a ratio reduction for their commercial gain, thus putting profits first which could very negatively impact on quality. The consequence of this could lead to two tiered provision, with the differential between poor quality, high quality ECEC widening particularly for disadvantaged children



OPERATIONAL/GENERAL

- Nurseries are all incredibly different however, they are measured the same
- Buildings need to meet the needs of the children and the staff but it is routinely difficult to obtain planning permission to build nurseries for communities outside of London
- There is no community without education

WORKFORCE RATIOS - CHRISTIE & CO OPERATOR SURVEY INSIGHT

The sourcing and retention of high quality, qualified staff are key recurring challenges identified by respondents to our operator survey when asked to contribute commentary on the ratios question



COMMENTS FROM OPERATORS



More centres have sprung up that leave fewer teachers to fill vacancies. It is difficult to compete with multi site organisations



Recruitment of quality practitioners continues to be challenging. We are investing heavily in apprentices



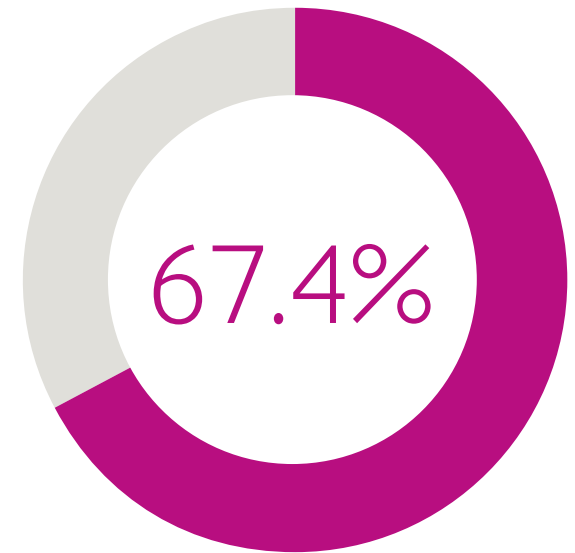
We need to pay more to keep good staff but parents don't want to pay more and the government won't put anything more in the pot. It is a constant challenge and frustration and I won't carry on much longer



Nightmare with no new staff entering the sector and many leaving



We feel that the number of quality applicants and general number of people looking to be employed in childcare has reduced gradually over the last five years

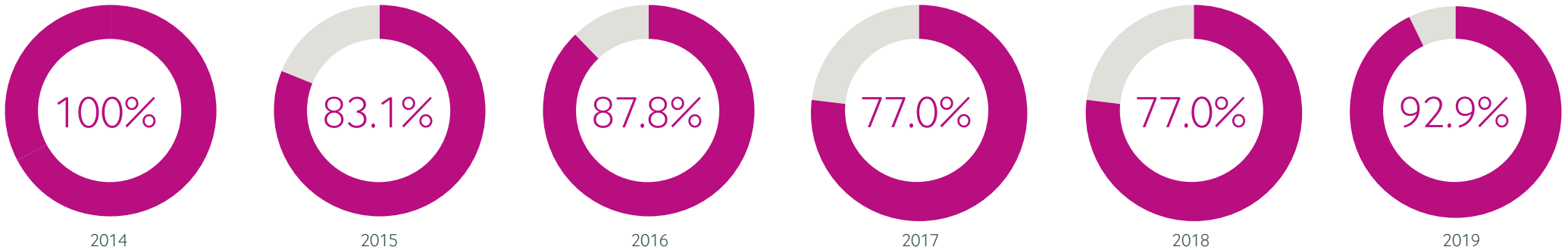


Of UK operators expressed difficulty in finding good quality staff and staff retention

BUILT ENVIRONMENT RELATED CONSIDERATIONS

The high proportion of converted as opposed to purpose-built nurseries in the UK inhibits the creation of optimum layouts, particularly in terms of delivering staffing efficiencies

Proportion of Christie & Co transactions that were converted ECEC settings



80.7% Proportion of nurseries sold by Christie & Co that were converted or converted with a purpose built extension

19.3% Proportion of nurseries sold by Christie & Co transactions that were purpose built

Commentary

Over the previous pages, we have focussed on workforce related considerations relating to the ratios debate. To complete the picture, we now consider physical constraints relative to limitations associated with the existing stock.

It is generally accepted that the most efficient buildings to staff are purpose-built facilities. Christie & Co maintains a database of every children's day nursery setting in the UK alongside our international setting databases. The adjoining graphics relate to the number of UK located transactions which we undertook over recent years involving converted nurseries. Overall, our data illustrates the high proportion of converted as opposed to purpose built stock in the UK market. Whilst many buildings will have been adapted to provide the best setting possible, this is within the context of converted buildings where structural constraints prevent optimal layouts being achieved.

Furthermore, a significant number of early years places are delivered in small, very low capacity facilities which further impact on operating efficiencies, long term financial viability and sustainability.

INTERNATIONAL INSIGHT - WORKFORCE INNOVATION THROUGH TECHNOLOGY

Whilst qualification requirements are ultimately determined by the regulatory framework, progressive operators recognise that innovation is vital and many are using technology as a way of improving efficiency, assisting staff and ultimately providing the best outcomes for parents and children.

For the final part of this research, we have considered what the future may look like through showcasing some of the innovation currently being deployed around the world, including the use of robots to help and support early years practitioners, parents and operators.

JAPAN

In Japan, due to an acute early years workforce shortage, Tokyo based childcare centre operator Global Bridge Holdings have developed and introduced a robot called Vevo into some of their settings to assist early years practitioners

The robot undertakes some of the regulatory compliance checks normally undertaken by a practitioner. Upon arrival the child will swipe their wristband against the robot who will register the child's attendance and take their temperature. This is a requirement in Japan to ensure a child is not unwell with some of the common diseases like yellow fever

With the help of the robot, the practitioner is able to focus on delivering care, continuously updating their tablet with information such as what the child has eaten. All data from the robot and practitioner is synced to an online operational system

When the parent arrives to collect their child, the robot provides a verbal report explaining the child's day; the report is simultaneously emailed to the parent

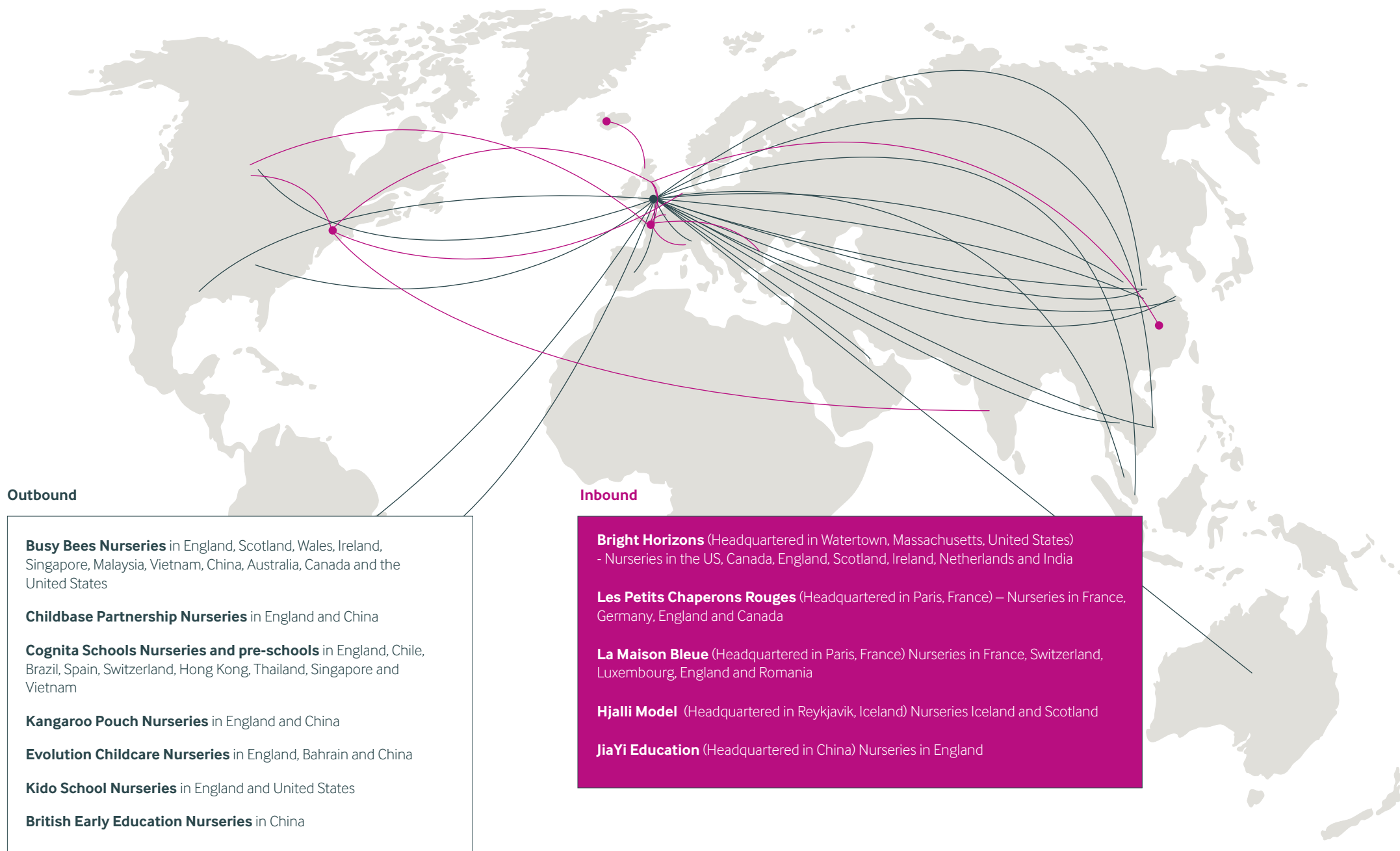
DUBAI

Technology is used more widely in school settings and in Dubai a number of schools are trialing TeachAssist Robots, which act as a personal assistant for teachers. These robots have a wide range of technical abilities and features including facial recognition software, which via WiFi can access information associated to children and staff. If TeachAssist identifies an unauthorised person within school grounds, the robot can send an alert to the relevant staff. Geomapping also means that TeachAssist Robots know the layout and configuration of the school and they can be used to greet, register and escort visitors to meetings within the facility, while in the classroom they act as teaching support to teachers

UK

In the UK, building on comprehensive nursery management software systems, early years sector tech specialists such as new innovative pioneers Connect Childcare continue to invest heavily in technological advancements to support providers, aide practitioners and facilitate interactive engagement with parents and wider sector stakeholders alike. Increasingly we are seeing more frequent use of technology to ensure efficient utilisation of staff deployment. Apps have been created to allow parents to be readily engaged and improve the communication between the nursery and staff. Parents are able to receive regular updates and picture messages throughout the week on their child's progress. Technology plays an important role for operators who are utilising IT to help with operations, HR tasks, training and forward planning

GLOBAL OPERATORS CURRENTLY IN THE UK: INBOUND AND OUTBOUND



AN EMERGING GLOBAL MARKET

The increase in global merger and acquisition activity, means that increasingly providers, large and small, are being awarded the opportunity to embrace operations outside of their domestic areas, bringing their international learnings and experiences, where appropriate and applicable, back into their own businesses to benefit children, families and indeed their workforce.

While few providers will have the infrastructure or capital required to invest in, or buy international ECEC centres or portfolios, the opportunity for international collaboration between providers, via conferences, events, WebEx, Skype, WeChat, WhatsApp, Facebook, email and conference calls is far more accessible than ever before.





CONCLUSIONS

Christie & Co is proud to work in the early years market which, as this report shows, is a hugely important global sector. Through comparing and contrasting the different countries, it is clear that there are many cultural, structural and regulatory variances although there are also key themes which emerge and transcend country boundaries

It is evident that across the countries of focus, the demand fundamentals for early years childcare are strong and likely to remain so. Similarly, the supply landscape consists of many excellent operators who are passionate about the sector although the framework within which these operators trade varies materially by country and, in some cases, different states within the same country.

At the centre of the early years market are a number of issues including entitlement, the level and duration of paid parental leave, subsidies, government funding and the cost to parents of funding ECEC in countries where limited government support is available. Central though to the delivery of ECEC is the role of the workforce where, as our report shows, there is very significant variation across the different countries in relation to a number of areas but particularly training requirements and ratio levels. It is beyond the scope of this research for Christie & Co to form an opinion as to which model may be best although it is clear that in order to deliver good quality ECEC provision, operators need to receive the appropriate level of funding. In some countries, our report shows that the level of government spending per child is very substantial with the parental contribution being minimal or capped to a specified level. In other countries, including the UK, less government funding is available with parents paying a higher sum as a consequence.

In the UK, there has been considerable debate around the cost of childcare and whether there is scope to reduce this through changes to ratio levels. It was clear from our roundtable discussions that this is a very emotive subject within the sector with many questions and concerns being raised. There is certainly an acknowledgement that the cost of childcare to parents in the UK is high. It is also evident that operators have real challenges in recruiting and retaining staff with pay rates under pressure due to alternative opportunities in other sectors being available, offering higher pay rates. These factors are not unique to the UK as illustrated by the comments received from operators across nearly all of the countries who returned survey responses. It is interesting that in Japan, where our survey showed the highest number of children to staff across all age segments, that operators are innovating through the use of robots to help alleviate staffing shortages.

Very positively, investor demand and appetite for ECEC and healthcare business remains extremely strong due to the strong underlying demand drivers which are underpinned by need and demographic trends.

We hope that this research has been informative and once again would like to express our sincere thanks to all the organisations and individuals who have supported us in the research process. We would also like to acknowledge the external data sources and research documents produced by other organisations which we have referred to in this report and are referenced fully in the appendix.

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ABBREVIATIONS

We have used the following key abbreviations:

CAGR	Compounded Annual Growth Rate
COF	Countries of focus
DfE	Department for Education
EC	European Commission
ECEC	Early childhood education and care
EYFS	Early Years Foundation Stage
ISCED2011 level 0	International Standard Classification of Education-Early childhood Education
OECD	Organisation for Economic Co-operation and Development

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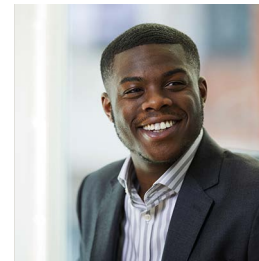
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