Economist Intelligence Unit

The Economist

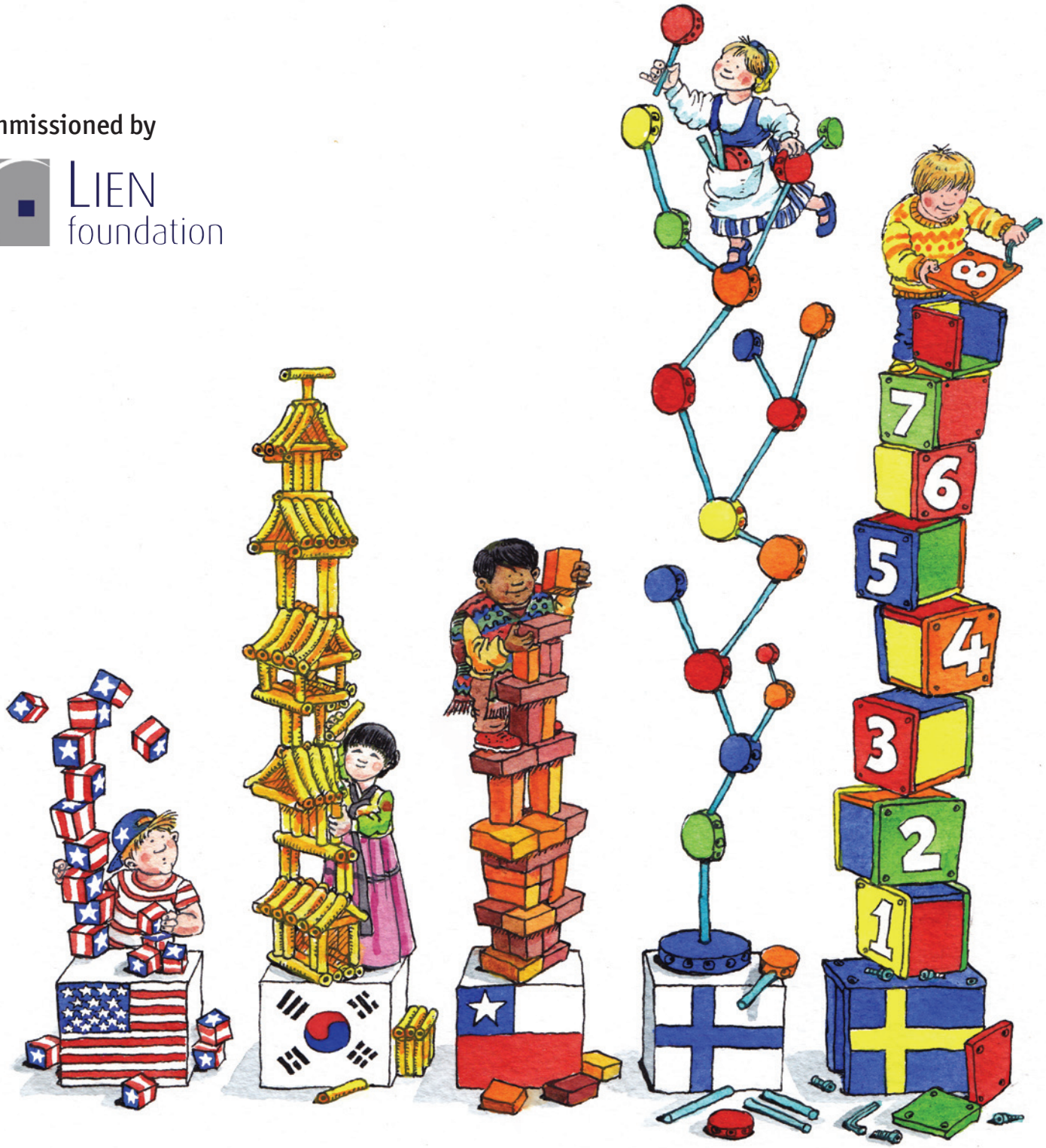
Starting well

Benchmarking early education across the world

A report from the Economist Intelligence Unit

Commissioned by

LIEN foundation



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Preface

Starting well is an Economist Intelligence Unit (EIU) research programme, commissioned by the Lien Foundation, which ranks the preschool environments in 45 countries. The EIU's editorial team built the Starting Well Index, conducted the analysis and wrote the report. The findings and views expressed in this report are those of the EIU alone and do not necessarily reflect the views of the sponsor.

During construction of the Index and research for this white paper the EIU interviewed a number of experts from across the world—including early childcare experts, academics, NGOs, preschool practitioners, and policy specialists—who are listed below. We would like to thank them all for their time.

For their time and advice throughout this project, we would like to extend our special thanks to Professor Sharon Kagan at Columbia University in the US and Professor Christine Pascal at the Centre for Research in Early Childhood in the UK.

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Executive summary

Consciously setting aside a time to stimulate young children's development is a relatively new phenomenon. Until the 1980s, preschools in most countries were largely focussed on providing simple child minding.[1] But as economies shift towards more knowledge-based activities, awareness about child development—the need to improve their social awareness, confidence and group interaction skills, and to prepare them for starting primary education—continues to grow. Nevertheless, policymakers still give most attention to the tertiary, secondary and primary levels of education, in descending order of importance, with the least focus given to the early years of child development.

This is a missed opportunity as preschools can help ensure that all children get a strong start in life, especially those from low-income or disadvantaged households. "The data are really incontrovertible," explains Sharon Kagan, a professor of early childhood and family policy at Columbia University in the US. "Three strands of research combine to support the importance of the early years. From neuro-scientific research, we understand the criticality of early brain development; from social science research, we know that high quality programmes improve children's readiness for school and life; and from econometric research, we know that high quality programs save society significant amounts of money over time. Early childhood contributes to creating the kinds of workforces that are going to be needed in the twenty-first century."

There are also broader reasons to invest in preschool. At one level, it helps facilitate greater female participation in the workforce, which bolsters economic growth. Early childhood development is also a major force in helping overcome issues relating to child poverty and educational disadvantage.[2] "It is about those very young children who are going to grow up as successful lifelong learners and citizens making an economic contribution to society," says Christine Pascal, director of the Centre for Research in Early Childhood (CREC), an independent research organisation. "This is especially so in very unequal societies where you get generational and cyclical repetition of poverty and low achievement."

Against this backdrop, the Economist Intelligence Unit (EIU) was commissioned by the Lien Foundation, a Singapore-based philanthropic organisation, to devise an index to rank preschool provision across 45 countries, encompassing the OECD and major emerging markets. At its core, the Starting Well Index assesses the extent to which these governments provide a good, inclusive early childhood education (ECE) environment for

[1] *Preschool in three cultures: Japan, China and the United States*, Joseph Tobin, David Wu, Dana Davidson, Yale University Press, 1991

[2] "Starting Strong II: Early childhood education and care", OECD, 2006

children between the ages of three and six. In particular, it considers the relative availability, affordability and quality of such preschool environments. (See the report appendix for a full methodology; and the *Terms and definitions* box at the end of this chapter for explanation on what "preschool" encompasses.)

To accompany this data-driven research, the EIU interviewed experts around the world and reviewed existing research to assess major developments, obtain guidance on good practices, and highlight key issues to address. Among the key findings of the research are as follows:

The Nordic countries perform best at preschool, and European countries dominate the rankings. Finland, Sweden and Norway top the Index, thanks to sustained, long-term investments and prioritisation of early childhood development, which is now deeply embedded in society. In general, Europe's state-led systems perform well, as the provision of universal preschool has steadily become a societal norm. This trend continues to develop. Ireland introduced a universal free year of preschool in 2010, for example, despite chronic budgetary difficulties. In general, the leading countries in this Index have the following elements in place for their preschool systems:

- A comprehensive early childhood development and promotion strategy, backed up with a legal right to such education.
- Universal enrolment of children in at least a year of preschool at ages five or six, with nearly universal enrolment between the ages of three and five.
- Subsidies to ensure access for underprivileged families.
- Where provision is privatised, the cost of such care is affordable relative to average wages.
- A high bar for preschool educators, with specific qualification requirements. This is often backed up with commensurate wages, as well as low student-teacher ratios.
- A well-defined preschool curriculum, along with clear health and safety standards.
- Clear parental involvement and outreach.
- A broad socioeconomic environment that ensures that children are healthy and well-nourished when they enter preschool.

Many high-income countries rank poorly, despite wealth being a major factor in a country's ability to deliver preschool services. Australia, Canada, Singapore and the US, for example, are all listed in the lower half of the Index, despite having high average per-capita incomes.[3] This is not to suggest that quality preschool programmes are lacking in these countries. But such schemes are not available or affordable to all strands of society, while minimum quality standards vary widely. As economies increasingly compete on the quality of their human capital, policymakers need to ensure that all children get the best possible preparation for primary school.

Several countries punch above their weight, delivering widespread preschool services, despite having lower average per-capita incomes relative to their peers. Despite budgetary challenges, a number of other countries, such as Chile and the Czech Republic, have made significant efforts to ensure preschool provision for all families, including instituting it as a legal right. Even though significant further work is needed to bolster preschool standards in these countries, they have made laudable gains in ensuring at least a minimum level of provision for all. For emerging countries seeking to improve their innovative potential, they need to ensure that as many children as possible have a strong start in life. This is a crucial first step as they seek to transform their economies from low to high value-add activities.

Public sector spending cuts pose a major threat to preschools, especially among recent adopters. Just as the logic of ECE is becoming increasingly widespread, preschool provision is threatened by

[3] All incomes in this Index are measured on a per-capita basis, in purchasing power parity. See terms and definitions box for more detail.

policymakers battling to rein in deficits. This is especially true within countries where preschool provision is not yet a societal norm, although European countries will also struggle to maintain spending amidst widespread budget cuts. The threats come despite a growing body of research, which suggests that increased government investment in early childhood development, if directed well, can result in annual returns ranging from 8% to 17%, which largely accrue to wider society.[4] Such returns come from the reduced need for later remedial education and spending, as well as lower crime and less welfare reliance in later life, among other things.

Much basic progress is still required. While many countries lack the financial and human capital resources to establish a rounded, universal preschool environment, far too many still fail to take even the first steps. At the very least, countries can still provide guidelines and quality standards, even if these cannot yet be properly enforced. Among wealthier countries that are making considerable steps towards quality universal provision, many have yet to enforce even a minimum level of preschool as a legal right for children.

Affordability of preschool is typically worst in those countries where availability is most limited. As simple economics would suggest, those countries with the lowest availability of preschool are also the ones where it is most expensive. This hits lower-income countries hard. In China, the least affordable country in this Index, preschools in Beijing charge monthly fees up to six times as much as a top university. In general, as preschool provision becomes more widely available in a country, it also tends to become more affordable.

Ensuring a high standard of teacher training and education, setting clear curriculum guidelines, and ensuring parental involvement are some of the main drivers of preschool education quality. Experts from around the world highlight the importance of a high-quality system in ensuring good overall outcomes from preschool education, not least to distinguish it from simple childcare. The factors defining quality are widespread, from high training standards and well-defined guidelines to ensuring parental involvement too. Other factors can help too: reducing student-teacher ratios in classes; ensuring good health and safety measures; and creating clear links between preschool and primary school, to name just a few.

A more globalised world requires greater integration of children in the classroom… Increased global migration in recent decades has resulted in a rise in the number of immigrant children entering the educational systems in many countries. While the UK, for example, laudably includes all children within its preschool provision, regardless of citizenship status, other countries do far less—for instance, not providing subsidies to non-citizens. As many societies face the need to adjust to increasing diversity, better preschool integration can help ensure greater societal integration.

…But globalisation also poses a risk to countries that rush to adopt curriculums from other countries, without adapting them for their local cultures and traditions. It is all too easy for countries to adopt each other's curriculums and guidelines today. While many good practices can indeed be shared, experts caution that countries need to ensure that they cherish and promote their unique individual cultures. New Zealand and South Korea, for example, both make great efforts to promote and accentuate their local cultures. In some places, such as Northern Ireland, this can form an important facet of the transition from past conflict or civil strife, by promoting greater respect of contrasting views and cultures in a society.

[4] "Early childhood development: Economic development with a high public return", Art Rolnick and Rob Grunewald, December 2003 and "The rate of return to the High/ Scope Perry Preschool Program", James Heckman, et al, Institute for the Study of Labor, October 2009

Terms and definitions

Defining preschool

Definitions and terminology relating to preschool vary significantly from one region to another: kindergarten, playgroups, pre-K, and nursery schools, to name a few, with many specific regional variations. All of these are taken to be part of early childhood education, or ECE, and so this study refers to both preschool and ECE interchangeably. This study focuses on children between the ages of three and six. This is not to detract from the importance of the vital years from birth to three, but it represents the critical years when children move from predominantly home-based care and start to interact in a group environment with specific learning targets, in preparation for the first grade of primary school.

For the underlying rankings that this report is based on, to ensure objective comparability, we used the term 'preschool' to refer to ISCED 0 (UNESCO's International Standard Classification of Education as per the 1997 definition) programmes. These programmes are defined as the initial stage of organised instruction and meet the following criteria:

- The curriculum must have 'educational' properties
- The programme must be school or centre-based
- The minimum age of children for whom this is designed is three years old, and the upper limit the entry to ISCED 1 (primary school)
- Where applicable, staff are required to have some pedagogical credentials

Defining quality and inclusiveness

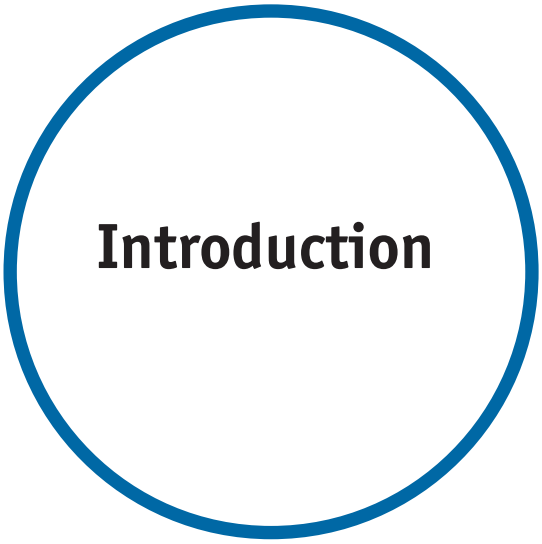
This report discusses both the quality and the inclusiveness of countries' preschool environments. These are both broad terms, but we focus on specific aspects of these:

Quality: This does not in any way relate to the specific pedagogical approaches taken within preschools, or seek to prejudge which of these are best. Instead, our quality measures relate to the aggregate national indicators of quality, such as the overall level of training of teachers, the presence of clear curriculum guidelines, and so on. These are detailed in the appendix.

Inclusiveness: This Index assumes that all children, regardless of their background, legal status and ability to pay, have a right to affordable, quality preschool provision. But use of the term inclusiveness does not imply that this ranking considers issues around disability and special needs, as comparable data on such provision is largely unavailable.

Defining income levels

This report refers to low-income, middle-income and high-income countries, for ease of analysis and interpretation of results. These income bandings are set relative to the income levels of the 45 countries in this Index, rather than stricter classifications set by agencies such as the World Bank. All are measured on a per-capita basis in purchasing power parity terms. High-income countries are taken to mean those with average incomes of more than US$30,000 per annum (25 countries in total); middle-income ones are those with US$10,000 – US$30,000 per annum (13 countries); and low-income are those with less than US$10,000 per annum (7 countries).



The importance of starting well

Compared with education in general, preschools are a new arrival. Most point to Europe for the first examples of institutions dedicated to the development of young children. Johann Friedrich Oberlin, a pastor, set up one of the first known examples in 1767, in Waldersbach, France, encouraging three- and four-year-olds to attend. In 1837, the German Friedrich Fröbel coined the term *kindergarten* for a play and activity institute he created that year, with the premise being that children should be taken care of and nourished like plants in a garden. The nineteenth century in general saw the emergence of the first early childhood education (ECE) centres in many countries, including China and India.

Progress was relatively slow until the 1960s, when female participation in the workforce climbed sharply in many countries, along with more extensive child development policies. The US, for example, introduced its first publicly funded preschool programme, entitled Head Start, in 1964. But the watershed moment appears to have been the first UNESCO *World Conference on Education for All* in 1990, in Jomtien, Thailand. This initiated a new stage in the development and promotion of ECE.[5] One of its widely cited declarations is: "Learning begins at birth. This calls for early childhood care and initial education. These can be provided through arrangements involving families, communities, or institutional programmes as appropriate."

A follow-up conference in 2000, in Dakar, Senegal, has seen the further recognition of ECE in many countries around the world, with a drive to expand such services. However, preschool programmes still vary widely from country to country today: from widespread state-led provision in some, to more limited private-sector offerings in others. Furthermore, while primary and secondary educational systems are often compared across countries, especially in terms of educational outcomes, little such attention is given to the preschool environment as yet.

Ranking preschools

To overcome this deficit, and to measure the variability of national preschool systems on a like-for-like basis, the Economist Intelligence Unit (EIU) compiled this Index. It allows for the ranking of 45 countries, across the OECD and major

[5] "A global history of early childhood education and care", Sheila Kamerman, UNESCO, 2006

Index snapshot: Overview of key indicators and weightings
See appendix for full details

Main categories	Weight %
Social context	5
Availability	25
Affordability	25
Quality	45

Indicators	Weight %
Social context	**5**
Malnutrition prevalence	20
Under-5 mortality rate	20
Immunisation rate, DPT	20
Gender inequality index	20
Adult literacy rate	20
Availability	**25**
Preschool enrolment ratio, pre-primary age (1 year) at 5 or 6 years	20
Preschool enrolment ratio, relevant age-group	20
Early childhood development and promotion strategy	35
Legal right to preschool education	25
Affordability	**25**
Cost of a private preschool programme	15
Government pre-primary education spending	25
Subsidies for underprivileged families	30
Subsidies for preschool aimed at including underprivileged child	30
Quality	**45**
Student-teacher ratio in preschool classrooms	5
Average preschool teacher wages	15
Curriculum guidelines	15
Preschool teacher training	20
Health and safety guidelines	10
Data collection mechanisms	10
Linkages between preschool and primary school	10
Parental involvement and education programmes	15

emerging markets, on the basis of their overall preschool environment. It relies on a combination of quantitative statistical data from each country, as well as unique qualitative assessments. The underlying aim is to measure the extent to which such systems are available to all children, affordable for all families, and of a high quality. (See Index snapshot here for a summary of key indicators and weightings, or the report appendix for a full breakdown of the methodology.)

Social context matters too: countries such as India or South Africa are clearly preoccupied with pressing issues of child mortality and welfare, for example. But although this context is crucial, it is given a nominal weighting in this Index, which focuses more on the supply-side that policymakers can influence. An underlying assumption is that it is not sufficient to just have a high-quality preschool environment—it must be inclusive.

All this raises many deep questions, such as what constitutes high quality? As a later chapter details, this Index considers a range of factors, from the amount of training teachers have through to the involvement of parents. The Index does not, however, try to judge which actual classroom methods and approaches are best. Many exist—Montessori, HighScope, Bank Street, Waldorf and Reggio Emilia, to name just a few—and all of these can be compatible with high quality preschool environments, providing certain foundational criteria are met.

This report highlights parts of the world where the preschool provision is best, with related case studies and insights into what is being done to improve the availability, affordability and quality of these environments.

1 The Starting Well Index

Europe dominates the Index, taking all but four of the top 20 positions. This is of little surprise: it is culturally and politically accepted in Europe that the government will assume a significant role in delivering preschool education. Investment stretches back decades, helping ensure good availability and affordability, with typically high quality.

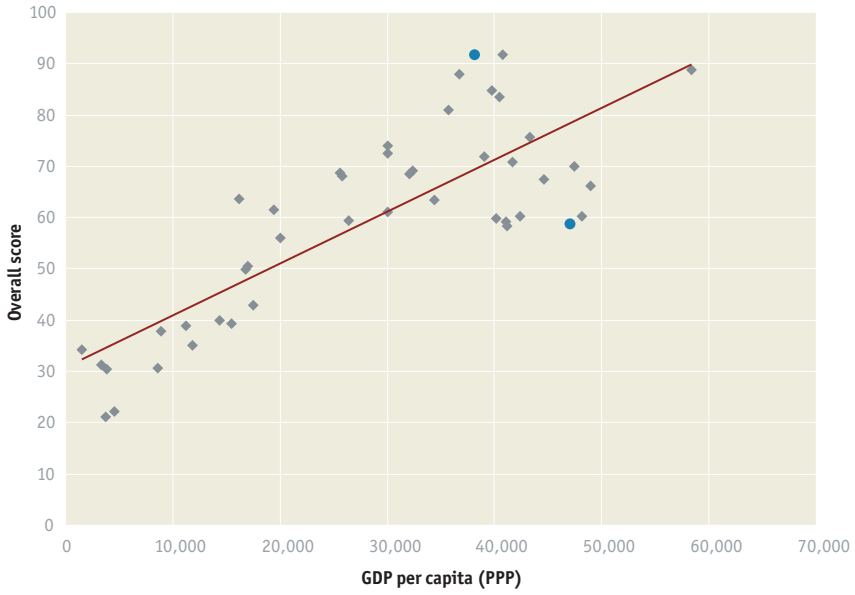
The Nordic countries do especially well, taking four of the top six places. In many respects, these countries have been dealt an easy hand: they have relatively high average incomes, fairly homogenous populations, and a well-defined and long-accepted role for the state. Nevertheless, they have also made significant efforts to entrench the importance of preschool education. For example, the status afforded to teachers usually matches other respected professions, with commensurate qualifications and wages.

The wealth factor

In general, and perhaps not surprisingly, poorer countries do worse than rich ones. There is a strong correlation between a country's income per person and its overall ranking. Within Europe, for example, middle-income countries such as Hungary (22nd), Greece (27th) and Poland (31st) lag their wealthier neighbours. Worldwide, lower-income countries dominate the lower half of the rankings. In particular, China (42nd) and India (45th), two countries capturing much of the world's attention from an investment and growth perspective, perform poorly here.

India ranks last overall, behind other countries such as Ghana (40th), the Philippines (43rd) and Indonesia (44th), with a combination of limited availability, the lowest overall quality, and relatively high costs. This is partly related to the fact that India faces the toughest social conditions: high rates of child malnutrition and child mortality, combined with low rates of literacy and immunisation. All countries face difficult decisions regarding how to allocate scarce resources towards child development, but

Chart: Overall ranking versus GDP per capita (PPP)



Source: EIU Starting Well Index

Overall score		
1	Finland	91.8
2	Sweden	91.7
3	Norway	88.9
4	UK	87.9
5	Belgium	84.7
6	Denmark	83.5
7	France	81.0
8	Netherlands	75.6
9	New Zealand	73.9
10	South Korea	72.5
11	Germany	71.9
12	Austria	70.9
13	Switzerland	69.9
14	Spain	69.1
15	Portugal	68.7
16	Italy	68.4
17	Czech Republic	68.1
18	Ireland	67.4
19	Hong Kong	66.2
20	Chile	63.6
21	Japan	63.5
22	Hungary	61.6
23	Israel	61.0
=24	UAE	60.3
=24	USA	60.3
26	Canada	59.9
27	Greece	59.4
28	Australia	59.1
29	Singapore	58.8
30	Taiwan	58.4
31	Poland	56.1
32	Mexico	50.5
33	Russia	49.9
34	Argentina	43.0
35	Turkey	39.9
36	Malaysia	39.4
37	South Africa	38.8
38	Thailand	37.9
39	Brazil	35.1
40	Ghana	34.3
41	Vietnam	31.3
42	China	30.7
43	Philippines	30.5
44	Indonesia	22.1
45	India	21.2

these are especially pressing in India. It is worth highlighting, however, that a low performance does not necessarily represent a lack of effort. "We have very, very poor countries who are very much aware and would put this as a first national priority but don't have the resources to do so," notes Columbia University's Dr Kagan.

Despite wealth being a major factor, it is certainly not the only determinant. Many high-income countries, including Japan (21st), the US and UAE (joint 24th), Canada (26th) and Australia (28th), do relatively poorly. Some, such as Australia, are in the midst of major policy reforms that will probably see them climb in future rankings. But others highlight how a lack of policy attention can hinder progress: Japan has a high quality preschool programme, but does not back this up with a legal right to such education, for example (see next chapter for a further discussion on a legal right). In some federally managed countries, such as Australia or the US, where there are stronger roles for individual states, their poor overall rankings mask the fact that both host world-leading preschools. However, the availability and affordability of these vary widely, and quality is not consistent.

Balancing quality, availability and affordability

Indeed, between the highest and lowest ranked countries, there are some surprising outcomes. Despite having a lower per capita GDP, Greece outperforms both Australia and Singapore, thanks in part to significant efforts over the past decade to bolster educational requirements for preschool teachers. Chile outranks both Canada and the US, thanks to significant efforts to ensure relatively high levels of affordable preschool provision. But Chile struggles with the quality of its provision. Despite having clear eligibility criteria in place, there are limited curriculum guidelines and low average wages for teachers, for example.

Unfortunately for parents in emerging markets, this Index highlights that the affordability of preschool programmes improves in line with a country's per-capita income. The wealthier a country is, the more likely it is to provide an affordable preschool environment. As such, low-income countries host the most expensive preschool places. In many respects, this reflects the market at work: most parents in all countries want access to preschools, but when supply does not meet demand, for-profit providers emerge to fill the gap. This further exacerbates the exclusion of low-income households, not least as preschools often act as a crucial source of nutrition for children in many countries. This amplifies the overall impact of preschool in low-income communities: as UNESCO highlights, malnourished children are more likely to start school late, drop out earlier, and achieve poorer learning outcomes.[6]

On the next three pages, we describe the preschool environment in Finland, the top-ranked country, and illustrate elements found in top preschool environments across the world.

[6] "Education for All Global Monitoring Report", UNESCO, 2012

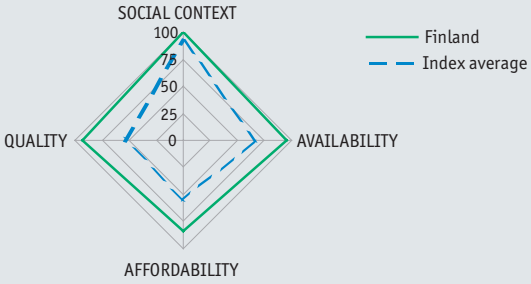
Case study: Lessons from Finland's preschool

In Finland, preschool refers to a year of free half-day classes for six-year-olds, which is complemented with day care for the other half of the day. This builds on a programme that gives parents access to full-day childcare from birth till the age of six, at a capped cost. The overall system has been developed since the 1960s to support the participation of women in the workforce. Today, it incorporates a range of rights for children: all have legal access to childcare, comprehensive healthcare, and local preschools.

To ensure quality, Finland has systematically developed teaching as a professional career. Teachers have to attain high university qualifications: all have a three-or four-year bachelor's degree in education, while many complete a master's degree (from primary level on, a master's degree is required). Studies are typically academic research-based courses at high-end universities, with detailed courses on curriculum planning and design, as well as leadership. Teachers are accorded the same respect as other professionals, such as lawyers, with comparable working conditions. Wages are good—although by no means the highest among the countries in this Index—and class ratios are low with an average of 11 pupils per teacher.

All this helps Finland take a light touch when it comes to testing and monitoring, given the strong institutional trust in teachers. "This is why we have been deliberately staying away from the unnecessary standardised testing, or unnecessary external inspection of our schools," explains Dr Pasi Sahlberg, a Finnish education expert and director general of Finland's Centre for International Mobility and Cooperation. It also allows Finland to delegate authority over curriculum planning to teachers. Indeed, trust is so high that this in turn can raise new challenges: Dr Sahlberg notes that more work is needed to educate parents about their own responsibilities in raising children, lest they assume that teachers will do it all.

Index scores



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Elements of top early childhood education environments

Overall rank	Country	Comprehensive and effective ECD strategy Out of 5	Clear legal right to preschool education Out of 1	Effective subsidies that reach underprivileged families Out of 10	Student teacher ratio under 15 Binary–1, 0	Well-trained teachers in early childhood education Out of 5	Parental involvement in preschools Out of 5	At least 98% of preschoolers enroled at age 5/6 Binary–1, 0	Well-defined curriculum and health and safety standards Out of 10	Healthy, nourished children coming into the system Out of 15
1	Finland	5	1	10	1	5	5	1	10	15
2	Sweden	5	1	10	1	5	4	1	10	15
3	Norway	5	1	10	1	4	4	1	10	15
4	UK	5	1	10	0	5	4	1	10	15
5	Belgium	5	1	9	0	4	4	1	10	15
6	Denmark	4	1	10	1	4	5	0	9	15
7	France	4	1	9	0	5	3	1	10	15
8	Netherlands	3	1	9	1	4	4	1	9	15
9	New Zealand	4	0	9	1	5	5	1	10	15
10	South Korea	4	1	9	0	4	5	0	9	15
11	Germany	4	1	8	1	3	4	1	9	15
12	Austria	3	1	8	0	4	4	0	9	14
13	Switzerland	3	1	8	0	4	5	1	9	15
14	Spain	4	1	10	1	4	3	1	10	15
15	Portugal	4	1	8	0	4	5	1	10	15
16	Italy	3	1	10	1	4	3	1	10	15
17	Czech Republic	3	1	10	1	4	5	0	10	15
18	Ireland	4	1	8	1	4	5	1	9	15
19	Hong Kong	4	0	10	1	4	3	0	10	15
20	Chile	4	1	9	1	4	5	0	8	15
21	Japan	3	0	7	0	4	5	1	10	15
22	Hungary	4	2	7	1	4	5	0	8	15
23	Israel	3	2	9	0	4	5	0	8	15
24	UAE	4	0	9	0	4	5	0	8	15
24	USA	3	2	9	1	4	5	0	8	15
26	Canada	3	3	7	1	4	5	1	10	14
27	Greece	3	3	7	1	4	5	1	8	15
28	Australia	4	0	9	0	4	5	1	10	15
29	Singapore	4	0	8	0	4	4	1	10	15
30	Taiwan	3	0	8	1	4	4	0	10	15
31	Poland	3	2	8	0	4	5	0	10	15
32	Mexico	4	2	6	0	4	5	1	6	14
33	Russia	3	2	6	1	4	5	0	10	14
34	Argentina	3	2	6	0	3	4	0	6	14
35	Turkey	3	0	0	0	4	5	0	10	13
36	Malaysia	3	0	8	0	3	4	0	6	14
37	South Africa	4	0	8	0	3	5	0	6	12
38	Thailand	3	0	6	0	3	4	0	6	13
39	Brazil	3	2	0	0	3	4	0	6	13
40	Ghana	4	2	8	0	3	4	0	6	12
41	Vietnam	3	0	0	0	3	4	0	6	12
42	China	3	0	0	0	3	4	0	6	14
43	Philippines	3	2	0	0	3	4	0	6	12
44	Indonesia	2	0	0	1	3	4	0	0	13
45	India	2	0	0	0	3	4	0	0	0

Source: The Starting Well Index

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2 Availability

The first pillar of this Index measures the availability of preschool for families. One aspect of this is simply the legal right for children to get preschool education for at least one year prior to primary school (see box on next page). The main aim here is to ensure that the rights of young children are not overlooked, but are increasingly entrenched within society. This has steadily improved in terms of rights around primary and secondary education, but many countries omit preschool education as part of this. In countries such as China, Japan and the UAE, as well as many US states, such legislation is currently absent.

Even without having the right to a preschool education enshrined in law, most countries recognise the need to try and provide preschool. While the absence of a legal right slows the process of making preschool an expected societal norm, many governments have at least set out a strategy for doing so. As such, a bigger aspect of this Index relates to the comprehensiveness of such strategies in terms of the vision, goals and objectives of preschool education, the effectiveness of implementation, and degree to which this is updated and reviewed. Although some of these factors lean into the area of quality, this is the clearest way to measure whether a government is engaged in trying to ensure that its preschool environment is actually linked to society's demands.

Belgium tops the list in terms of availability. Children there have the right to attend free preschool from the age of two and a half. It is not compulsory, but attendance is nearly universal. Many preschools share facilities with primary schools, which also helps with the transition between the two. Of course, Belgium is also a relatively small, homogenous and wealthy society, which eases the provision of ECE. Such factors certainly matter: in countries such as South Africa, the physical distance of a preschool from homes can be a major practical deterrent, for example.

A further aspect to consider is what widespread availability means in practical terms. In the UK, for example, positive progress has been made in creating universal free access to preschools. However, three- and four-year-olds are entitled to just 15 hours per week, usually offered as five three-hour classes.[7] "Fifteen hours per week is low in terms of what happens certainly in other parts of Europe and even in places like the developing world in Latin America," says Siobhan Fitzpatrick, CEO of Early Years, an organisation for young children in Northern Ireland. "In other countries, there is a recognition that to really effect change, especially for the most vulnerable children, you need a depth of coverage and a much longer day."

Towards greater inclusiveness

The research findings suggest there is a need to

[7] Three-year-olds in the UK have a legal entitlement to 15 hours free early education which is generally offered as three-hour slots, five days a week, and often linked to a childcare place which can make for a full day. The vast majority of four-year-olds are in free full day educational provision which is usually in the reception class of a primary school but comes under the preschool system

Legal right

One of the key indicators in this Index is the "legal right" to preschool education, defined here as the presence and effectiveness of clear, unambiguous legislation to the right to preschool education for at least one year.

The right to attend preschool does not imply that it is mandatory. It means simply that governments have an obligation to provide preschool services to those who want it.

A legal right may not be a sufficient condition to guarantee universal access and quality. Bureaucratic inefficiencies, corruption and regulatory hurdles, among other things, could still deny a child his or her right.

Some countries, such as Japan, have not yet instituted a legal right to preschool education, yet enjoy 100% enrolment. This begs the question about whether there is even a need for legislation. Also, it is worth noting that in some countries, such as the US, there remains some dissent over the desirability of such legislation, especially from parents who oppose the increased institutionalisation of childhood.

The argument here—reflected in the Index ranking—is that a legal right is, indeed, important because it makes governments accountable. They will have a legal obligation to provide preschool services and will have to set aside funds to ensure services are accessible to everyone—in the same way they typically do for primary school.

A legal right is a sign of a long-term, stable commitment and must be acknowledged. Furthermore, for bigger countries, such a right could help bring some consistency in approach and delivery at the state- and provincial-level.

raise awareness around the importance of an inclusive preschool environment: for all income levels, languages, cultures and backgrounds. This is a greater challenge in some countries than others. Vietnam, for example, faces a specific challenge in terms of language and cultural diversity (see case study). Other countries face the challenge of incorporating a large migrant population, with both language and cultural differences. The UK, for example, takes this very seriously. "If you are in our country, whether you are legal, illegal, temporary or whatever, you are in the statistics," says the CREC's Dr Pascal. "The government has a legal commitment to deliver that service." By contrast, many other countries, such as Singapore and the UAE, have high immigrant populaces, which are often overlooked in terms of preschool provision.

There is also a question of how best to incorporate such differences. Should separate programmes be set up, or should schools find ways to integrate children? There is generally strong agreement that a universal plan and approach leads not only to better educational outcomes, but also greater societal integration. Some go to significant lengths here. Dr Cindy Acker, principal of The Child Unique Montessori School in California, recollects preparing for the arrival of a Zimbabwean child who spoke only Shona, her native language. To help ensure a comfortable start for the child, the school arranged a translator to help the child settle in and interact. "We've learned now that you do a disservice to a child by discounting their mother tongue, as this in turn discounts their family and origins and who they are," she says.

Another aspect of inclusiveness relates to rural communities, where provision of preschool facilities is usually far patchier. Centres might be available but are physically remote. This can require new governmental collaborations. In the UK, for example, the Department of Education and Department of Agriculture and Rural Development work together to provide alternative solutions. "They look at innovative models in a rural community, for example, by not just concentrating on a small age band of three to five, but thinking about the whole needs of the younger children, including wraparound care and after school, to make preschool viable," says Ms Fitzpatrick.

2) Availability		25%
1	Belgium	99.7
2	Norway	98.6
3	UK	97.7
4	Sweden	97.5
5	Finland	94.9
6	France	91.3
7	Spain	90.5
8	Germany	88.6
9	Denmark	87.0
10	Portugal	85.8
11	South Korea	82.0
12	Italy	81.4
13	Ireland	79.8
14	Chile	77.8
15	Czech Republic	76.0
16	Austria	75.8
17	Switzerland	75.6
18	Mexico	74.3
19	Hungary	74.0
20	Netherlands	73.9
21	Canada	70.9
22	Greece	68.5
23	New Zealand	64.7
24	Israel	64.6
25	Singapore	64.3
26	Hong Kong	60.9
=27	Argentina	59.0
=27	Russia	59.0
29	Poland	57.4
30	Japan	54.9
31	USA	54.4
32	Australia	54.3
33	UAE	54.0
34	South Africa	48.6
35	Ghana	48.5
36	Thailand	47.9
37	Brazil	47.8
38	Vietnam	43.6
39	Taiwan	42.6
40	Philippines	40.6
41	Malaysia	35.1
42	China	34.8
43	Turkey	33.5
44	India	21.8
45	Indonesia	11.5

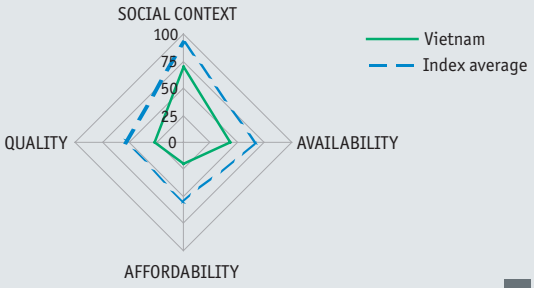
Case study: Widening access to preschool in Vietnam

Plan International is an NGO that works in Asia, Africa and the Americas to tackle child poverty and deprivation. In Vietnam, it is taking an integrated approach to childhood development that focuses on health and sanitation as well as education. Having successfully worked to provide universal primary school education, the Vietnamese government is now improving access to preschool. Provision is still uneven, so Plan is focusing its efforts on providing preschool education to children from remote areas, or less affluent backgrounds.

It also focuses on the lack of bilingual education. Sven Coppens, its Vietnam programme director, says that in a country where 15% of the population comes from over 50 ethnic minority communities, language is a major dividing factor. "Officially the language of instruction is Vietnamese, but you have children coming in with another maternal language, and there is not enough priority given to setting up systems of bilingual education." Plan targets these ethnic minorities, providing them with instruction in both languages, so that they are fully bilingual by the time they reach the age of seven. It has adopted a model that involves bringing parents into the classroom and assisting the teacher or telling stories in their maternal language.

The biggest issue, says Mr Coppens, is pedagogical: "The Vietnamese education system has traditionally been a top-down system of instruction; rather than seeing education as a transformative power in society." To get away from the rote learning that still predominates, Plan is introducing schoolteachers, managers and district officials to more child-centred learning methodologies.

Index scores



Inverting the pyramid

This Index highlights that few countries today prioritise education spending towards the preschool stage. Budgets typically follow an inverted pyramid model, with most funding going to secondary and tertiary levels, with the least to preschool.[8] But a growing body of evidence suggests that greater investment in early childhood development does, in turn, reduce costs at later stages of education, for example by cutting remedial spending and grade repetition.

The work of Nobel Laureate, Professor James Heckman, is prominent here, showing that the rate of return to investment in human capital development is highest in early years, and drops steadily thereafter.[9] His research suggests that investment into quality ECE offers a typical annual return of 7-10%, far greater than many other investments. These returns accrue in part to the children themselves—largely in the form of increased lifetime earnings—but more significantly to the wider society, through reduced costs of education, increased labour productivity, lower welfare payments, and a reduction in crime.[10] It is worth noting that the highest rates of return will be recorded by the most disadvantaged families, given that children in such circumstances typically receive less family-led support and development.

Dr Larry Schweinhart, president of the HighScope Foundation, a non-profit research and training organisation, points to the example of the Perry Preschool Project. This tested the lifetime outcomes of a random group of children randomly assigned to getting quality preschool at ages three and four, versus a randomly assigned control group that did not. Across both sets there was a

[8] "Education at a glance 2011: OECD indicators", OECD, 2011, pp. 230-231

[9] "Return on investment: Cost vs benefits", James Heckman, University of Chicago, 2008

[10] "Why early investment matters", James Heckman, www.heckmanequation.org

high proportion of low-income and disadvantaged children. "Some thought that these children were not ready for education, even kindergarten," says Dr Schweinhart. The beneficial outcomes were tracked over decades and included: fewer years in remedial special education studies, higher high school graduation rates, lower teenage pregnancy rates, reduced likelihood of being jailed, and lower reliance on state welfare.[11] Estimates vary on the specific rate of return on this investment, from 8% through to 17%, but all agree that it is significant. The best estimate of the return on this investment, from Professor Heckman and his University of Chicago team, is that society gained seven times the cost of this project from its lifelong effects.[12]

As public sector budget cutbacks are implemented in many countries, such benefits deserve consideration. The impact of the global financial crisis represents the clearest threat to a general trend towards greater availability of preschool provision. But cutbacks will not affect countries equally. Although European states are under severe pressure, recognition of ECE is so strong that preschools are unlikely to be uprooted. Indeed, prioritising investment here may in turn help save money down the line.

The real risk from budget constraints is for countries where ECE is not yet an accepted government responsibility. "Country deficits do put early childhood in jeopardy when there is not a strong value infrastructure that supports it durably," says Dr Kagan. This is clearly apparent in the US, for example, where budget cuts in many states now limit preschool enrolment. During the 2010-11 year, state funding for preschool decreased by nearly US$60m, despite the use of stimulus funding.[13] This added to further cuts in the prior year, reversing a 10-year trend towards greater expansion of preschool programmes. Lower-income households feel this impact most acutely, as they are the least likely to be able to afford private care. This hits families in two ways: through lower development of children who cannot get even minimum access to preschool, and also by hindering parents' ability to participate in the labour force.

As all this suggests, the availability of ECE for all children has an important role to play in helping to reduce social inequality. For example, the European Commission notes that women's continued engagement with the labour force is clearly linked to the period before their children turn six.[14] This is especially true for immigrant families, those with low incomes, and single-parent households. Disadvantaged families stand to benefit disproportionately from greater access to preschool. This is not only because parents can work more, but also because preschool better prepares children for formal education, improving educational outcomes later on in life, and enhancing their future earning potential.

Preschool can also play a simple, but vital, role in providing disadvantaged children with access to nutrition, as noted earlier. Indeed, the World Bank notes that nutrition interventions at a preschool level can lead to measurable improvements in a person's health, cognitive development and educability, not only throughout adolescence, but even into adulthood.[15] In general, this Index shows a correlation between greater spending on preschool education and lower rates of income inequality.

Tough choices

In poorer countries, though, policymakers face profound challenges in the allocation of scarce resources. One very real dilemma lies in choosing between providing more widespread access to more basic services versus more limited access to higher quality services. "This is a very real policy dilemma but the countries that are doing well are actually doing both," says Dr Kagan. In poorer countries, policymakers might put a greater focus on health services and parenting programmes, as one example. "They're beginning at the beginning and making sure the parents who are with children all the time have stronger understandings of the fundamentals of early development and early learning and that the children are healthy and physically fit. They have not always manifested

[11] "Lifetime Effects: The HighScope Perry Preschool Study through age 40", Lawrence Schweinhart, et al, 2005

[12] "Early childhood development: Economic development with a high public return", Art Rolnick and Rob Grunewald, December 2003 and "The rate of return to the High/Scope Perry Preschool Program", James Heckman, et al, Institute for the Study of Labor, October 2009

[13] "The state of preschool 2011", National Institute for Early Education Research, 2011

[14] "Tackling social and cultural inequalities through early childhood education and care in Europe", European Commission, January 2009

[15] "Early child development: Nutrition", World Bank, http://go.worldbank.org/DL9AKYWQ70

themselves in centre-based services," she says.

Such policy dilemmas affect all countries. Ms Fitzpatrick highlights that in the UK, a desire to ensure wider availability of preschool has involved other trade-offs, such as accepting teachers who are "trained at a fairly low level in terms of national vocational qualifications". This is a big issue: "The Heckman research is very clear. It's about the quality and generally that's linked to the competency and confidence of the staff in settings and their ability in terms of teaching and supporting young children in an appropriate way," she says.

As a general principle, most experts argue that funding should be prioritised towards human capital development, ahead of infrastructure and technology. "It's not technology that educates children, so while it's great to have computers and smart-boards, that's not as important as the relationship between adults and children," says Tim Seldin, president of the Montessori Foundation, an educational institution. "There are very cost effective ways to teach and it can be done in very marginal physical structures." He notes in particular that more child-centred approaches to education do not require major infrastructure investments, yet are "highly effective and work beautifully in third world countries".

Fioni Murray, the director of research and evaluation at the Khululeka Community Education Development Centre, a South African NGO that focuses on increasing access to early childhood development, agrees. Operating in conditions of significant poverty, she notes how learning materials can even be improvised from waste, such as cardboard boxes or plastic bottles. "The learning happens because the teacher is trained on how to help facilitate development in such environments," she says. "You can pour equipment and computers into schools as much as you like, but to no avail if the appropriate adult-child interaction is overlooked."

3 Affordability

No matter how widespread preschool facilities are, what is crucial is that parents at all income levels can afford them. This can be done through subsidies directly to disadvantaged families, to give them funds to secure preschool places for their children—or a "demand-side" approach. Alternatively, subsidies can be given directly to providers, with specific mandates about the need to accept all children—or a "supply-side" strategy. In practice, countries usually provide both. But while the right to affordable access to education for all is strongly enforced at a primary level in many countries, this is far less certain for preschool. Accordingly, costs vary widely.

In China, for example, it can cost more for a family to send a child to preschool than it does to put him or her through university—a direct consequence of limited availability of state schools, and high costs of private ones. In 2010, tuition and accommodation at Peking University, one of the country's best, was about US$102 per month, thanks to government subsidies, whereas leading preschools charged up to US$660 per month.[16] China's government provides few subsidies for preschool providers and for underprivileged families. As a result of all this, China is ranked as the least affordable country in the Index.

Although American preschools rank among the most expensive in the world at an absolute level—a number of preschools in New York, for example, charge in excess of US$30,000 per year—the country is among the more affordable for private preschools as a proportion of per capita income (measured at purchasing power parity rates).[17] The average annual cost of full-day private preschool provision is 18% of per capita income in the US. This is high, but less than Switzerland (nearly 23%), the UK (36%), South Africa (nearly 67%) and Ghana (114%). Of course, this indicator alone doesn't account for the fact that many countries balance private options with state provision, making private schools an option for parents, rather than a necessity.

In general, those countries that are culturally and politically willing to recognise the importance of ECE are in turn more willing to ensure that such services are affordable for parents. Ireland, for example, introduced one year of free preschool education as of January 2010 despite tough budgetary considerations. Dr Noirín Hayes, a professor at the Dublin Institute of Technology, cites this as hugely significant in changing the way that preschool is funded and made more affordable there. "It is the beginning of state involvement in supporting preschool settings directly and in enhancing the incentives for greater quality," she says.

By contrast, where state support is limited, (costly)

[16] "In China, kindergarten costs more than college", *Christian Science Monitor*, February 23rd 2010

[17] "The most expensive preschools in New York City", *Business Insider*, October 10th 2011

[18] The Gini coefficient is a measure of income inequality on a scale of 0 to 1, where 0 represents perfect equality and 1 represents perfect inequality, i.e. one person earns all the income

private provision tends to step in. In South Africa, for example, limited availability of quality public preschools has led to a surge in private sector alternatives aimed at high-income earners. Indeed, there is a clear correlation between countries with high degrees of income inequality—measured by their Gini coefficient—and low preschool affordability: including Argentina, Brazil, China, Mexico and South Africa.[18] In essence, the more concentrated a society's wealth is amongst a small elite, the less likely it is for that country's preschool system to be affordable for all.

This is not to suggest that a state-led approach is the only or preferred approach. This Index simply measures whether mechanisms are in place to either subsidise families unable to afford preschool, or else support providers of preschool services for those who cannot afford their services, or both. Among other things, this considers the availability of additional subsidies or tax credits for low-income families, or those with other disadvantages. (Due to a lack of data, this Index does not rate provision for disabled children, or other special needs.)

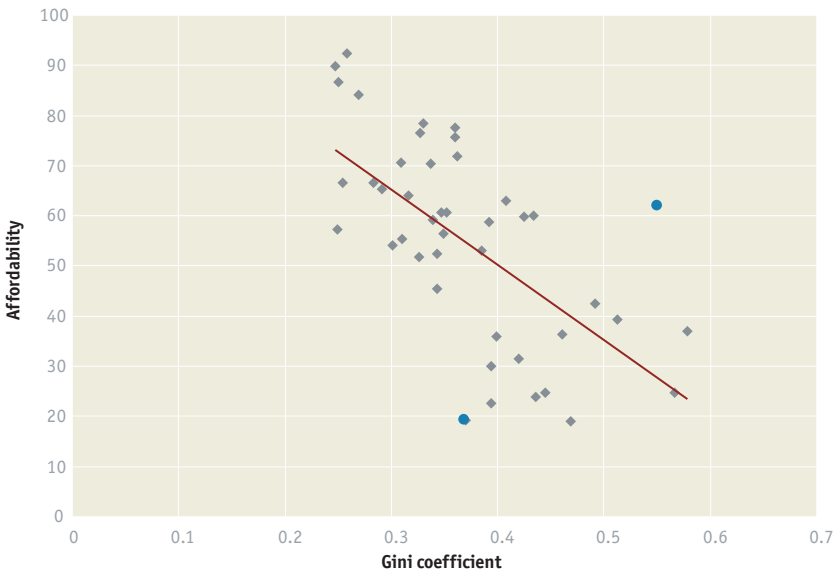
Prioritising the flow of funding

From a policy perspective, choosing how to direct funds is a key point of debate, in terms of choosing between a supply-side or demand-side strategy. Some experts suggest that a combination of both is needed. "Providing only demand-side subsidies is problematic because it doesn't ensure that the programmes will have the capacity to develop over time," notes Dr Kagan. "I am strongly in favour of a supply-side strategy mixed with a demand-side strategy. The demand side makes the providers accountable to parents, and gives parents the choice to meet whatever their needs might happen to be."

Comparing France and the UK gives an instructive example of this balance in practice. Both countries provide free universal preschool from the age of three to all children, for the specified number of hours allowed (15 hours per week in the UK; full day programmes in France, although extras, such as the lunch period, can be chargeable). This is paid for through subsidies to providers, giving both countries a top score in this indicator. However, within the UK, England gives an additional subsidy direct to disadvantaged parents, in the form of a tax credit. This is aimed at helping such families pay for additional childcare hours on top of the basic minimum provided. This is important, as it gives parents the option of working a bit longer, while also giving disadvantaged children additional development support. By contrast, France does not provide any additional subsidies to poorer families, to enable them to top-up the free minimum preschool provision.

Most of the top-ranked countries in this Index pursue a more supply-side strategy, as part of the universal provision of childcare. However, for any country still developing its preschool services,

Chart: Affordability ranking versus countries' Gini coefficients



Source: EIU Starting Well Index

3) Affordability		25%
1	Norway	92.4
2	Denmark	89.8
3	Sweden	86.7
4	Finland	84.2
5	Belgium	78.5
6	UK	77.6
7	France	76.6
8	Italy	75.6
9	New Zealand	71.9
10	Netherlands	70.7
11	Switzerland	70.4
12	Germany	66.6
13	Czech Republic	66.5
14	Austria	65.4
15	South Korea	64.0
16	USA	63.0
17	Chile	62.1
=18	Australia	60.6
=18	Spain	60.6
20	Hong Kong	60.0
21	Singapore	59.8
22	Taiwan	59.2
23	Israel	58.8
24	Japan	57.2
25	Poland	56.5
26	UAE	55.3
27	Hungary	54.2
28	Portugal	53.0
29	Ireland	52.5
30	Canada	51.9
31	Greece	45.4
32	Malaysia	42.6
33	Argentina	39.4
34	South Africa	36.9
35	Mexico	36.3
36	Russia	36.0
37	Thailand	31.4
38	Ghana	30.0
39	Philippines	24.8
40	Brazil	24.7
41	Turkey	23.9
42	Indonesia	22.7
43	India	19.5
44	Vietnam	19.2
45	China	19.0

and having to come up against a number of tough choices, a combination of supply and demand is useful. In Singapore, for example, preschool provision is market-led, with families paying for the preschool they choose, but is subsidised directly by the government. For the majority of countries, where governments do not assume the full responsibility of delivering universal preschool services, this balance is important.

By contrast, providing funding directly to parents only, as a demand-side strategy, helps foster a competitive marketplace, but with widely varying quality. In Ireland, the transition to free universal provision has involved a switch from a direct parental cash benefit to supply-side funding. "The childcare supplement was going straight into parents' pockets, with no guarantee it was going to the early years sector [anywhere]," notes Dr Hayes. "In 2009 the budget was halved, and the remaining half was redistributed to provide free universal preschools."

It is too early to determine the wisdom of this switch, though, and there is still a lot of work to be done in upgrading quality and standards. As the OECD notes, it is not enough simply to target affordable services, countries have to also aim for high-quality provision.[19] For policymakers, this means setting standards as well as providing financial and technical support to ensure preschools can attain those standards cost-effectively. Typical support includes subsidising operating costs, providing durable financing mechanisms, infrastructure development and improving systems of accountability. More generally, government plays a crucial role in investing to ensure the professional development of the workforce, in terms of both training and capacity.

In Singapore, the government offers private providers the ability to gain various levels of quality assurance, though its SPARK (Singapore Pre-School Accreditation Framework) accreditation.[20] Providers have an incentive to boost quality standards, gain accreditation, and move to higher levels, as this makes their programmes more attractive to parents.

The poverty gap

One obvious issue is that many countries in this Index not only face severe developmental challenges, but also significant limitations in both funding and human capital. For many, affordability is clearly a future goal; what matters in the short term is trying to provide any kind of child development support at all. At a foundational level, the balancing act lies between ensuring some kind of educational support with some kind of healthcare provision. It is futile to try and educate sick children, or to raise healthy children without any other kind of development. "The starting point for early childhood is healthy, well nourished, well inoculated children," says Dr Kagan.

[19] "Starting strong III: A quality toolbox for early childhood education and care", OECD, 2012

[20] "Singapore Pre-School Accreditation Framework (SPARK)", Ministry of Education, Singapore

Case study: Chile's dramatic rise in preschool provision

Chile is a lower-income country that handily outperforms its peers in this Index. It ranks 20th in the Index overall, while others with a similar level of per capita income are firmly in the bottom one-third of the rankings. This comes as a result of concerted efforts by the Chilean government to improve access. Preschool provision has improved dramatically in recent years: between 2006 and 2009, the number of preschools increased from 781 to 4,300. About 85% of four-year olds, and 90% of five-year olds, now attend a preschool of some kind.

There is a mix of both private and public provision. The two principal public ECE providers are JUNJI (the National Board of Education) and the Integra Foundation. Both offer nursery and preschools for children from the ages of three months to four years, and between them they account for about 50% of preschool places in Chile. Preschool provision at Integra and JUNJI is free. There is no national curriculum, but there are national guidelines. In comparison with many countries, there is a lot of curricular alignment in public programmes, says Alejandra Cortazar, a researcher in early childhood development at the University of Chile. Although the government sees preschool as a key driver of social mobility, Dr. Cortazar argues that government has so far focused on provision rather than on quality: "They talk about the importance of early childhood, but they are reluctant to put all the money required to achieve high quality. Everyone wants to help young children and everyone talks about brain development, but the problem is that it is still difficult to make society realise that early childhood education entails much more than opening early childhood slots."

The difficulties, Dr. Cortazar says, lie in the lack of quality standards and regulations as well as suitable training for preschool teachers. Chile maintains a low bar for entry to preschool teacher training. Teachers in the public programs have only a two-year degree. A project financed by the Inter-American Development Bank aims to help improve teachers' skills, but progress is limited so far. All this drags the country down in the Index: in the crucial Quality category, it is ranked 29th overall, its weakest score overall.

Index scores

4 Quality

Achieving the desired long-term outcomes of a solid preschool education is contingent on ensuring good quality. But what governs quality? An inspirational teacher can make a substantial difference to a child, almost regardless of the quality of the environment and resources at hand. Policymakers strive to ensure that standards are at a uniformly high level.

There are many ways to improve quality: raising the skill set of the workforce; reducing student-teacher ratios in classes; setting clear curriculum guidelines; bolstering parental involvement and awareness; ensuring good health and safety measures; creating clear links between preschool and primary school; and putting robust data collection mechanisms in place, to name just a few. All of these matter in terms of ensuring good quality—and are measured in this Index. In particular, experts emphasise three main elements that affect quality.

1. Teacher quality and training

In many countries, one of the main differences between preschool and primary education is the extent of teacher training. Often, preschools are treated as little more than basic childcare centres, with teachers lacking the skills to foster child development. Overall, a well-trained workforce is the most important determinant of quality. "At the end of the day, if you really want to improve the quality, you have to provide the professional development and you have to professionalise the service and provide better conditions for the staff," says Dr Collette Tayler, an ECE professor at the Melbourne Graduate School of Education.

Countries vary widely on this. As part of significant reforms to bolster teacher quality that took place around the year 2000, Dr Christine Chen, founder and president of Singapore's Association for Early Childhood Educators (AECES) notes that the entry requirements for pre-school teachers were gradually raised from the minimum three O-level credits. Today, new teachers need at least five O-level credits as well as a diploma in preschool education.[21] But in some other countries, preschools often hire literally anybody who is physically able and interested in working with children. By contrast, at the top of the rankings, Finland requires a minimum of a bachelor's degree for preschool teachers; many attain a master's degree, which is the norm for primary school and above.

Finland sets a high bar, but there are various ways of ensuring a stronger workforce. First, countries need to ensure a basic level of literacy and numeracy, as well as a clear grasp of early childhood development and pedagogy. Although an advanced degree is an excellent benchmark,

[21] "Motion on pre-school education", Parliamentary replies, November 24, 2010

[22] "How the world's best-performing school systems come out on top", McKinsey & Company, September 2007

[23] "Encouraging quality in early childhood education and care", Research brief, OECD, 2011

other steps can help too. One is to ensure that teacher-training courses proactively select the best candidates. Although this is usually not as strictly enforced for preschools, countries such as Finland and South Korea explicitly recruit from the top third of each cohort of school-leavers.[22]

Elsewhere, the UK makes strong efforts to attract qualified working professionals from other careers to transition into teaching, to tap into their broader experience and backgrounds. Other governments provide scholarships or graduation bonuses, or else ascribe a higher pay grading to those who attain certain educational criteria, to further attract potential candidates. For example, Australia offers a tax refund upon graduation in an ECE field, as part of its Higher Education Loan Program and Higher Education Contribution Scheme ("HECS-HELP") loan scheme, while various US states offer Teacher Education And Compensation Helps ("T.E.A.C.H.") scholarships for ECE.

Creating a career

More generally, there is a need to raise the profile and status of preschool teaching. Part of this involves ensuring that the field's remuneration is sufficiently high. At the top end, Denmark pays preschool teachers an average of nearly US$50,000 a year, in purchasing power parity terms (it is higher in absolute terms). By contrast, Israel pays less than US$17,000 to its preschool educators, or little more than half the average per capita income. Similarly, in the US, preschool teachers struggle to survive. "For the most part a teacher is not a highly valued profession," says Mr Seldin at the Montessori Foundation. "The pay is certainly not high enough that the average person can really support themselves on a teacher's pay: they really need to either share a home or be the second income earner within a family."

In Japan, private preschool teachers are paid far less than their public sector peers. "For public kindergartens or daycare centres, teachers continue to work because they hold secure jobs, supported by the government," explains Sachiko Kitano, an associate professor at Kobe University. "For public kindergarten teachers, their salaries are exactly the same as public elementary school teachers. The government should bear the labour costs of private kindergarten, too." In private preschools, therefore, there is a tendency to use younger, less experienced teachers who are cheaper to employ.

Other factors also influence the overall attractiveness of the career, such as the ratio of children to teachers. Here, the variance can be significant: Denmark and Sweden average about six children per teacher, whereas teachers in Ghana, India and the Philippines must contend with 35 or more. Although there is some contention as to what class size is optimal for better developmental outcomes, smaller classes are clearly less daunting for teachers.[23] A related point is the infrastructure itself. Although this should not be the first investment priority, an enjoyable physical environment plays a part in making roles appealing.

Governments can also regulate the profession with a codified body of knowledge that has to be attained in order to join. Ideally, preschool teacher pay should be on par with primary and secondary teachers, but at the very least government should ensure that the minimum non-pay benefits match up. Easing the administrative burden helps too. Mr Seldin notes that the teaching climate in the US has become almost adversarial, due to efforts to coerce people into performing better, which is tracked by child performance. "This is leading to unnecessary stress, a growing number of teachers say they would like to leave the profession, a greater amount of paperwork that teachers are having to complete every day and a growing focus on preparing children for the annual test," he says. All of this, he argues, is "wrong-headed".

Building leadership

A related area that is often overlooked is the need for investment in strong ECE leadership training. These preschool leaders—or senior

4) Quality		45%
1	Finland	93.5
2	Sweden	90.2
3	UK	86.9
4	Norway	80.4
5	Belgium	78.0
6	New Zealand	77.3
7	Netherlands	76.6
8	Denmark	76.3
9	France	75.5
10	South Korea	69.0
11	Hong Kong	68.9
12	Austria	68.6
13	Japan	67.7
14	Ireland	65.2
15	Portugal	64.5
16	Switzerland	63.1
17	Germany	62.4
18	UAE	62.3
19	Taiwan	62.2
20	Czech Republic	61.0
21	Spain	58.6
22	USA	57.8
23	Greece	57.6
24	Australia	56.4
25	Israel	56.0
=26	Canada	54.5
=26	Hungary	54.5
28	Italy	53.7
29	Chile	53.0
30	Singapore	50.6
31	Poland	50.2
32	Russia	48.0
33	Turkey	47.8
34	Mexico	41.5
35	Malaysia	33.9
36	South Africa	33.7
37	Argentina	30.9
38	Thailand	30.6
39	Brazil	28.9
40	Ghana	28.1
41	China	27.8
42	Vietnam	26.8
43	Philippines	24.7
44	Indonesia	24.0
45	India	22.5

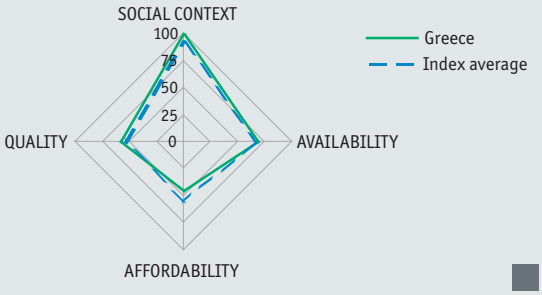
Case study: Greece's drive to improve

In Greece, both public and private kindergartens are available for children aged four to six. Since 2006, attendance has been compulsory for children from the age of five. These kindergartens, which are supervised by the Ministry of Education, teach the national curriculum, which has recently been revised. These combined measures are intended to prepare children more effectively for primary education, but also to address inequality, so that all children will have access to the same resources.

Overall, the country has made notable strides in preschool education. In the 1990s, the government made the bold decision to turn kindergarten teaching into a graduate profession. To achieve this, it launched an intensive—although not compulsory—retraining programme, sending almost every existing kindergarten teacher on a professional development course that would result in a graduate qualification. At the same time, all new preschool hires had to have graduate degrees.

Though impressive, challenges remain. There is no system of external evaluation, though a self-evaluation system has been piloted and is going to be fully implemented from September 2012. Pressures on preschool will mount as steep budget cuts persist. Furthermore, ECE has not been a priority either for government or parents, according to Konstantinos Petrogiannis, associate professor of developmental psychology at the Democritus University of Thrace in Greece: "Traditionally, the care and the education of the preschool child has belonged to the family principally and not to the educational system." Such mindsets are difficult to change, not least because much of Greek society holds fairly traditional views on the role of the family, says Dr Petrogiannis.

Index scores



management—can act as the "engineers of innovation, experimentation and networking at the local level," as Dr Pascal puts it. She cites an example from South Africa, where one initiative involves a local university running leadership courses for the local township and kindergarten. "These leaders can inspire, motivate, and educate. And they can help develop and recreate new kinds of local systems that encourage participation, collaboration, cooperation, partnership work and that is what the system in those countries need."

Singapore's Dr Chen echoes the need for more leadership development. AECES has started a dedicated forum to raise awareness of this at a preschool level in Singapore. This involves pedagogical leadership, leadership instruction and teacher motivation. Effective leadership fosters commitment, which can help address staff attrition and shortages. In countries such as Finland, where teachers are trained to deal with such challenges, there is less of a need to focus on leadership. But for preschools with less qualified teachers, stronger leadership can make a vital difference.

2. Setting out curriculum guidelines and standards

Policymakers also focus on developing clear curriculums and standards. Philosophies on this vary. Some countries, particularly Anglo-Saxon ones, specify particular learning goals for children, generally termed as an "outcomes"-based approach.[24] Others aim for an "inputs"-based approach, which gives specific requirements as to what is expected from teachers within preschool.

A country's approach is guided to some degree by the quality and training of its workforce. Those with highly educated teachers have far less need

[24] "Starting strong III: A quality toolbox for early childhood education and care", OECD, 2012

for a more detailed curriculum, but can simply set the overall principles and expectations. Much of the daily lesson planning and content can be left to the teachers. By contrast, those with a weaker workforce would likely benefit from closer guidance, especially in the form of prescriptive lesson plans. Similarly, more support will be needed to implement any curriculum changes.

This Index scores countries based on the presence of well-defined guidelines, which cover children's basic education, care, and cognitive and intellectual needs. It also considers whether there are adequate mechanisms to monitor and enforce this. On this basis, Finland, France, New Zealand, Sweden and the UK top the rankings. By contrast, India and Indonesia offer only general guidelines, with no specific curriculum relating to a child's cognitive and intellectual needs.

An important issue that many experts raise from a curriculum perspective is the need for this to reflect the values and attitudes of the country in question. This has been a particular emphasis within New Zealand's preschool development (see case study). Others, such as South Korea, also do well on such measures, with efforts to promote local culture. "It's not just simply having standards, principles and expectations or having a curriculum approach, it is really making sure that these are reflective of the values and the destinies of the country," says Dr Kagan at Columbia University. "Within the context of high quality early education you can still honour individual cultures." She notes how easy it is for governments to simply adopt, wholesale, another country's curriculum, without any thought to local culture.

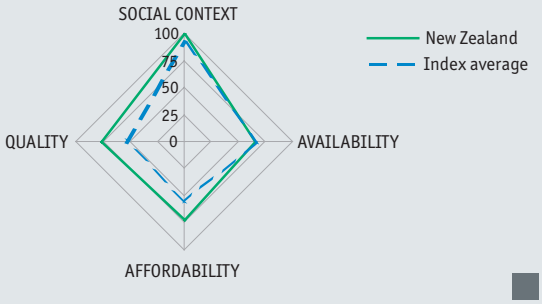
Case study: New Zealand's pioneering curriculum

Transformation of New Zealand's early childhood services began 26 years ago, when childcare and preschool education, such as kindergartens (for three- and four-year-old children), were integrated under one Ministry of Education. From 1990 there was a unified funding system although it took until the 2000s before education and care centres (childcare) and kindergartens were funded at the same rates. All ECE services receive a funding subsidy for up to 30 hours a week for every child, from birth until the age of five. All three-and four-year-old children can access 20 hours of free ECE.

New Zealand recognised that qualified teachers were the key to quality provision and preschool success, says Helen May, a professor at the University of Otago's College of Education. It set out to train early childhood professionals in universities, just like their primary and secondary school colleagues. All centres receive additional funding related to the number of qualified teachers they employ: the higher the number of teachers, the greater the funding. Due to financial constraints the government has recently reduced its target of 100% qualified staff in all early childhood centres to 80%.

New Zealand was also one of the first countries to develop a national curriculum for early childhood education. The Te Whãriki curriculum—translated from Maori as, "A woven mat for all to stand on"—was created in 1996. It is non-prescriptive and there are many possible 'patterns' for enacting Te Whãriki's fundamental principle of "empowering children to learn and grow". There is a strong emphasis on 'relationships' and the wider context of family and community. Numerous experts cite this as an exemplar of an inclusive curriculum that honours the unique cultures of its indigenous people as well as the many migrant settlers who now live in New Zealand.

Index scores



This matters, as local cultural sensitivity can also help a country overcome past traumas and support a more tolerant society. For instance, as part of efforts to recover from its long internal conflict, Northern Ireland's preschool guidelines specifically promote greater respect for other cultures and beliefs. "This issue of supporting young children and their families to develop a respect for different cultures has been allowed to develop locally because of the context in which we have found ourselves emerging from," says Ms Fitzpatrick. "I think it's critically important that there's that interplay and that communities can enter into a dialogue around what they want for their children and how they have to deliver that."

3. Ensuring parental engagement

Though opinions differ on the specific role of the state in preschool provision, it is clear that parents have a major role to play. Here, countries do at least have the ability to proactively encourage parental involvement. "We know from research that 80% of what is important in young children's development happens in the home environment," says Ms Fitzpatrick. As a result, Northern Ireland puts community development at the heart of its service delivery. "It's a good way of getting local parents involved in supporting, delivering and understanding the importance of early education," she says.

But a surprisingly large number of countries do not do so: France and Italy both have significant gaps here, for example, with limited parental education programmes and relatively low awareness. By contrast, the Czech Republic bolsters its overall score through a strong performance, with the country recognising the family as a vital part of a quality preschool environment. It has a national Union of Parents, which works to strengthen the influence of parents, while the country's guidelines note that preschools should provide education support and help to parents, as well as children.[25] In some countries, such as Belgium, there is a statutory responsibility to work with the parents as well as the children and to offer parenting programs, parenting support as well as early learning or childcare. "High performing countries really recognise that they have got a role to play with the family and particularly with the parents of the child around their parenting skills," says Dr Pascal.

[25] Czech Republic, in "Starting Strong II: Early Childhood and Care", OECD, 2006

Case study: Australia's preschool turnaround

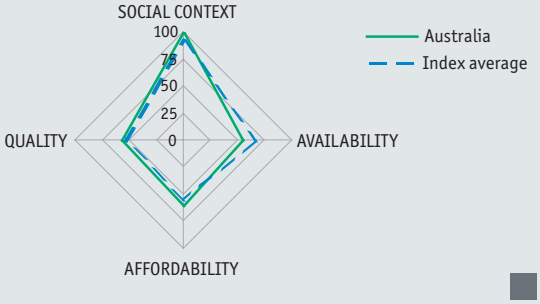
Despite being a relatively wealthy country, Australia is ranked just 28th in this Index. This is at least partly because the provision and management of preschools has historically been delegated to the state and territory governments, making it harder to achieve a consistent approach. But major reforms are now underway, with all governments committed to a system of universal access to preschool education. Instead of following nine different sets of regulations, the eight states and territories, as well as the federal government, will now adhere to a single set of regulations and a new National Quality Standard: these became effective from the start of 2012.

"It's a mixed market, and every approved service gets tax dollars, but these are all now subject to seven quality standards," notes Professor Collette Tayler, chair of early childhood education and care at the Melbourne Graduate School of Education. "It's the first time we've set a standard in this way, one that is higher than the field at large is currently practising."

By the end of 2013, all four-year-old children will have access to 15 hours per week of preschool, for 40 weeks of the year before they attend school. The goal is for each preschool programme to be delivered by a teacher with four years of university training, although this will take time to be phased in. Some services will be delivered in integrated child and family programmes. These will often be set up in areas with a bigger proportion of disadvantaged families. This is seen as "a way of providing access to multiple services, to make that more accessible to families who fall through the hoops," says Frances Press, a senior lecturer on early childhood policy and sociology at Charles Sturt University in Australia.

Part of the new framework also includes a commitment to increasing access for Aboriginal and Torres Strait Islander children, with the target of ensuring all four-year-old indigenous children in remote communities have access by the end of 2013.

Index scores



Conclusion

As countries transition towards knowledge-based economies, policymakers need to consider what all can be done to develop their stock of human capital. Encouragingly, this Index highlights the growing global recognition of the importance of the whole of a child's development, rather than just from the start of primary school. Those countries that do this best will position themselves well for success in the decades ahead. Put another way, as countries increasingly compete on the basis of their talent and human capital, they need to invest in all their people as early in life as possible.

As with the provision of education in general, ensuring high quality preschool education that is affordable for all requires major long-term government commitment and resources to achieve. For poorer countries, all this can feel like a luxury that lies beyond their grasp, not least as they grapple with the most basic challenges around child health and development. However, there are several encouraging lessons for policymakers that emerge from this study, even as many grapple with budget constraints.

The first is simply about ensuring that ECE is on the policy radar and not overlooked in the battle for funding. Greater attention should be given to the research that highlights how investment in the early years can in turn help cut costs in later years, both to the individual and society. This is more easily done in countries where society has accepted the importance of preschool provision, but remains an important lesson for all.

Another lesson is that while quality provision is crucial for delivering on such benefits, human capital development should be prioritised ahead of infrastructure and technology. Examples abound of excellent child development taking place in the poorest surroundings, such as within South African townships. Again, for those with scarce resources, this can be a useful principle to guide investment.

For countries seeking to improve their rankings, some simple measures are often overlooked. For example, in a range of countries where preschool provision is close to universal, this is yet to be solidified as a legal right for children. This may make little practical difference, but it helps to cement the progress made in the past decade. In other countries, even though resources are scarce, policymakers still fail to provide clear standards and guidelines to aim for, regardless of whether or not they are enforced.

Indeed, such aspirations are important not only from an institutional perspective, but also socially. One of the challenges for a state assuming a greater role in preschool education, for example, lies in reinforcing the vital role that parents still

need to play in their children's education and development. This might be specifically outlined in policy, or countries may simply focus on promoting awareness, but this is a major element in ensuring that children get the best start.

Similarly, even if funds for better wages and working conditions are tight, policymakers can still work to target higher minimum targets for teacher training and do their bit in raising the profession's status in society. This requires a pragmatic approach: abruptly setting a high standard might immediately exclude a significant proportion of the existing workforce, for example. However, as both Australia and Greece show, setting a minimum educational target with a realistic implementation period can help ensure a shift in the right direction over time. In poorer countries, such as South Africa, this can be practically implemented via support to NGOs, such as Khululeka, which can in turn help promote skills development.

Finally, what this study also highlights is that no country has yet perfected its preschool provision. As all countries seek to develop a more highly skilled labour force that can better compete in a globalised knowledge-based economy, greater consideration of the role of preschool education is needed. Even Finland, top-ranked in this Index, has room for improvement, according to a recent OECD report.[26] For all countries, there remains much to learn.

[26] "Quality matters in Early Childhood Education and care: Finland", OECD, March 2012

Appendix 1 Index ranking

Overall score			1) Social context		5%	2) Availability		25%	3) Affordability		25%	4) Quality		45%
1	Finland	91.8	=1	Australia	100.0	1	Belgium	99.7	1	Norway	32.4	1	Finland	93.5
2	Sweden	91.7	=1	Belgium	100.0	2	Norway	98.6	2	Denmark	89.8	2	Sweden	90.2
3	Norway	88.9	=1	Czech Republic	100.0	3	UK	97.7	3	Sweden	86.7	3	UK	86.9
4	UK	87.9	=1	Denmark	100.0	4	Sweden	97.5	4	Finland	64.2	4	Norway	80.4
5	Belgium	84.7	=1	Finland	100.0	5	Finland	94.9	5	Belgium	78.5	5	Belgium	78.0
6	Denmark	83.5	=1	France	100.0	6	France	91.3	6	UK	77.6	6	New Zealand	77.3
7	France	81.0	=1	Germany	100.0	7	Spain	90.5	7	France	76.6	7	Netherlands	76.6
8	Netherlands	75.6	=1	Greece	100.0	8	Germany	88.6	8	Italy	75.6	8	Denmark	76.3
9	New Zealand	73.9	=1	Hong Kong	100.0	9	Denmark	87.0	9	New Zealand	71.9	9	France	75.5
10	South Korea	72.5	=1	Hungary	100.0	10	Portugal	85.8	10	Netherlands	70.7	10	South Korea	69.0
11	Germany	71.9	=1	Ireland	100.0	11	South Korea	82.0	11	Switzerland	70.4	11	Hong Kong	68.9
12	Austria	70.9	=1	Israel	100.0	12	Italy	81.4	12	Germany	66.6	12	Austria	68.6
13	Switzerland	69.9	=1	Italy	100.0	13	Ireland	79.8	13	Czech Republic	66.5	13	Japan	67.7
14	Spain	69.1	=1	Japan	100.0	14	Chile	77.8	14	Austria	65.4	14	Ireland	65.2
15	Portugal	68.7	=1	Netherlands	100.0	15	Czech Republic	76.0	15	South Korea	64.0	15	Portugal	64.5
16	Italy	68.4	=1	New Zealand	100.0	16	Austria	75.8	16	USA	63.0	16	Switzerland	63.1
17	Czech Republic	68.1	=1	Norway	100.0	17	Switzerland	75.6	17	Chile	62.1	17	Germany	62.4
18	Ireland	67.4	=1	Poland	100.0	18	Mexico	74.3	=18	Australia	60.6	18	UAE	62.3
19	Hong Kong	66.2	=1	Portugal	100.0	19	Hungary	74.0	=18	Spain	60.6	19	Taiwan	62.2
20	Chile	63.6	=1	Singapore	100.0	20	Netherlands	73.9	20	Hong Kong	60.0	20	Czech Republic	61.0
21	Japan	63.5	=1	South Korea	100.0	21	Canada	70.9	21	Singapore	59.8	21	Spain	58.6
22	Hungary	61.6	=1	Spain	100.0	22	Greece	68.5	22	Taiwan	59.2	22	USA	57.8
23	Israel	61.0	=1	Sweden	100.0	23	New Zealand	64.7	23	Israel	58.8	23	Greece	57.6
=24	UAE	60.3	=1	Switzerland	100.0	24	Israel	64.6	24	Japan	57.2	24	Australia	56.4
=24	USA	60.3	=1	Taiwan	100.0	25	Singapore	64.3	25	Poland	56.5	25	Israel	56.0
26	Canada	59.9	=1	UAE	100.0	26	Hong Kong	60.9	26	UAE	55.3	=26	Canada	54.5
27	Greece	59.4	=1	UK	100.0	=27	Argentina	59.0	27	Hungary	54.2	=26	Hungary	54.5
28	Australia	59.1	=1	USA	100.0	=27	Russia	59.0	28	Portugal	53.0	28	Italy	53.7
29	Singapore	58.8	=29	Austria	95.0	29	Poland	57.4	29	Ireland	52.5	29	Chile	53.0
30	Taiwan	58.4	=29	Canada	95.0	30	Japan	54.9	30	Canada	51.9	30	Singapore	50.6
31	Poland	56.1	=29	Chile	95.0	31	USA	54.4	31	Greece	45.4	31	Poland	50.2
32	Mexico	50.5	=29	China	95.0	32	Australia	54.3	32	Malaysia	42.6	32	Russia	48.0
33	Russia	49.9	=29	Malaysia	95.0	33	UAE	54.0	33	Argentina	39.4	33	Turkey	47.8
34	Argentina	43.0	=34	Argentina	90.0	34	South Africa	48.6	34	South Africa	36.9	34	Mexico	41.5
35	Turkey	39.9	=34	Russia	90.0	35	Ghana	48.5	35	Mexico	36.3	35	Malaysia	33.9
36	Malaysia	39.4	=36	Mexico	85.0	36	Thailand	47.9	36	Russia	36.0	36	South Africa	33.7
37	South Africa	38.8	=36	Thailand	85.0	37	Brazil	47.8	37	Thailand	31.4	37	Argentina	30.9
38	Thailand	37.9	=38	Brazil	80.0	38	Vietnam	43.6	38	Ghana	30.0	38	Thailand	30.6
39	Brazil	35.1	=38	Turkey	80.0	39	Taiwan	42.6	39	Philippines	24.8	39	Brazil	28.9
40	Ghana	34.3	40	Vietnam	70.0	40	Philippines	40.6	40	Brazil	24.7	40	Ghana	28.1
41	Vietnam	31.3	41	Philippines	60.0	41	Malaysia	35.1	41	Turkey	23.9	41	China	27.8
42	China	30.7	42	Indonesia	55.0	42	China	34.8	42	Indonesia	22.7	42	Vietnam	26.8
43	Philippines	30.5	43	South Africa	45.0	43	Turkey	33.5	43	India	19.5	43	Philippines	24.7
44	Indonesia	22.1	44	Ghana	40.0	44	India	21.8	44	Vietnam	19.2	44	Indonesia	24.0
45	India	21.2	45	India	15.0	45	Indonesia	11.5	45	China	19.0	45	India	22.5

Appendix 2 Index methodology

The Starting Well Index assesses the inclusiveness and quality of preschool services across 45 countries: 29 OECD nations and 16 select countries comprising important developed and emerging market economies. The Index scores countries across four categories—Social Context, Availability, Affordability and Quality—comprising 21 indicators. The indicators fall into two broad categories:

- *Quantitative indicators:* 11 of the Index's 21 indicators are based on quantitative data – for example, preschool enrolment ratio and government pre-primary education spending.
- *Qualitative indicators:* 10 of the indicators are qualitative assessment's of a countries' preschool environment, for example, "Subsidies for underprivileged families" which is assessed on a scale of 1-5, where 1=no subsidies and 5=extensive subsidies.

Data sources

The Economist Intelligence Unit's research team collected data for the Index from December 2011 to March 2012. Wherever possible, publicly-available data from official sources are used for the latest available year. The qualitative indicator scores were informed by publicly available information (such as government policies and reviews), and country expert interviews. Qualitative indicators scored by the Economist Intelligence Unit are often presented on an integer scale of 1-5 (where 1=worst, 5=best).

Indicator scores are normalised and then aggregated across categories to enable an overall comparison. To make data comparable, we normalised the data on the basis of:

Normalised x = (x - Min(x)) / (Max(x) - Min(x))

where Min(x) and Max(x) are, respectively, the lowest and highest values in the 45 countries for any given indicator. The normalised value is then transformed into a positive number on a scale of 0-100. This was similarly done for quantitative indicators where a high value indicates greater inclusiveness and quality of preschool services.

Categories and weights

We assessed 21 indicators across four thematic categories: Social Context, Availability, Affordability and Quality. Category and indicator weights were assigned by the EIU research team after consultations with internal analysts and external early childhood education experts.

The Social Context category sets the context for our overall assessment of inclusiveness and quality of preschool services. These variables indicate the broader environment for young children and have a direct impact on early childhood education and development prospects. We assigned a low weight (5%) to the category as it captures the demand-side aspect of preschool education: while these variables influence the availability of preschool services, it is not a direct reflection of the quality and equity of preschool services.

Our three categories—Availability, Affordability and Quality—assess various dimensions of the preschool environment. To assess overall inclusiveness, we studied the availability and affordability of preschool services. The "Availability" category reflects the presence of adequate facilities and preschool programmes to serve the market demand, and the "Affordability" category reflects the ability of the system to ensure equitable services for children from all socio-economic backgrounds. Both categories are

given an equal weight of 25%. Quality of preschool services, captured through the indicators in our "Quality" category, is given the highest weight of 45%. In this category, we look beyond the accessibility of preschool services to analyse the holistic learning experience for children (curriculum, class sizes, the level of training for teachers, and so on).

The following table provides a brief description of indicators, data sources and weights:

Indicator	Unit	Year	Source	Weight	Description
Social context				**5.0%**	
Malnutrition prevalence	EIU rating	2005—2009	WHO, World Bank, EIU analysis	20.0%	Percentage of children under age five whose weight for age is more than two standard deviations below the median for the international reference population ages 0-59 months. 5=less than 5%; 1=more than 30%
Under-5 mortality rate	EIU rating	2008—2009	World Bank, National statistical agencies, EIU analysis	20.0%	Under-five mortality rate is the probability per 1,000 that a newborn baby will die before reaching age five, if subject to current age-specific mortality rates. 5=under 10; 1=Above 40
Immunisation rate, DPT	EIU rating	2009—2010	WHO, National statistical agencies, EIU analysis	20.0%	Child immunisation measures the percentage of children ages 12-23 months who received vaccinations before 12 months or at any time before the survey. A child is considered adequately immunised against diphtheria, pertussis (or whooping cough), and tetanus (DPT) after receiving three doses of vaccine. 5=Above 90%; 1=less than 60%
Gender Inequality Index	EIU rating	2011	UN Human Development Index, EIU analysis	20.0%	The Gender Inequality Index (GII) reflects women's disadvantage in three dimensions—reproductive health, empowerment and the labour market. The GII shows the loss in human development due to inequality between female and male achievements in these dimensions. It ranges from 0, which indicates that women and men fare equally, to 1, which indicates that women fare as poorly as possible in all measured dimensions. The EIU made assumptions about Hong Kong, which has missing data, and assumed that Singapore's score is the same. 5=below 0.29; 1=Above 0.6
Adult literacy rate	EIU rating	2011	UNDP, UNESCO, CIA Factbook, National statistical agencies, EIU analysis	20.0%	Percentage of the population ages 15 and older who can, with understanding, both read and write a short simple statement on their everyday life. 5=Above 90%; 1=less than 60%
Availability				**25.0%**	
Preschool enrolment ratio, pre-primary age (1 year) at 5 or 6 years	%	2006 – 2011	OECD, National statistical agencies, EIU analysis	20.0%	Total enrolment in pre-primary year, at age 5 or 6, expressed as a percentage of the eligible official school-age population.
Preschool enrolment ratio, relevant age-group	%	2007 – 2009	OECD, UNESCO	20.0%	Enrolment of the official preschool age group (usually 3-5 years old) expressed as a percentage of the corresponding population. For countries where this was not available, gross enrolment rate is taken.
Early childhood development and promotion strategy	EIU rating	2011	EIU analysis	35.0%	Comprehensiveness of government-led strategy in terms of vision, goals and objectives; effectiveness of strategy in terms of implementation mechanisms; presence of specific milestones and provision for regular review and improvement. 5= There is a comprehensive strategy on ECE development and promotion with clear vision, clearly defined targets, action plan and strong mechanisms to achieve targets. In federated-structure countries, there are strong and clearly defined strategies individual states must follow. Mechanisms and milestones are regularly reviewed; 1=There is no national ECE development and promotion strategy.
Legal right to preschool education	EIU rating	2011	EIU analysis	25.0%	The presence and effectiveness of a clear, unambiguous legislation to the right to preschool education for at least one year. 1=Yes, there is such legislation in place and it is adequately enforced; 0.5=Yes, there is such legislation in place but enforcement is weak; 0=No such legislation exists.

Indicator	Unit	Year	Source	Weight	Description
Affordability				**25.0%**	
Cost of a private preschool programme	% of GDP per capita	2011	EIU analysis	15.0%	Average cost of a full-day preschool programme at private school (local school or part of popular local chain) as percentage of GDP per capita (PPP).
Government pre-primary education spending	USD per child	2004 – 2009	EIU analysis	25.0%	Government preschool education spending (PPP) per relevant aged child
Subsidies for underprivileged families	EIU rating	2011	EIU analysis	30.0%	Presence of government subsidies/programmes (demand-side funding) that include underprivileged families (social, or economic). These subsidies are given directly to underprivileged families through monetary means. This indicator assesses the availability of programmes and funds, access to programmes and funds, and effectiveness of programmes in terms of monitoring and outcomes. 5=There is extensive availability of government subsidies/ programmes for underprivileged families; clear qualification criteria and easy/smooth process to access these. Information on these are widely available (eg pamphlets, community centre notices, an online portal, etc). Effectiveness of programmes is routinely and adequately monitored; 1=There are no government subsidies/programmes that target underprivileged families.
Subsidies for preschool providers aimed at including underprivileged children	EIU rating	2011	EIU analysis	30.0%	Presence of government subsidies/programmes (supply-side funding) given through preschool providers to include underprivileged families. These subsidies/incentives are given to private preschool providers, and hence target underprivileged families indirectly. They may also be provided by the state. This indicator assesses the availability of programmes and funds, access to programmes and funds, and effectiveness of programmes in terms of monitoring and outcomes. 5=There is extensive availability of government subsidies/ programmes given to preschool providers to include underprivileged families; clear qualification criteria and easy/ smooth process to access fund; information widely available. Effectiveness of programmes is routinely and adequately monitored; 1=There are no government subsidies/programmes for preschool providers.

Indicator	Unit	Year	Source	Weight	Description
Quality				**45.0%**	
Student-teacher ratio in preschool classrooms	Ratio	2006 – 2011	OECD, UNESCO, EIU analysis	5.0%	Average number of students per teacher in preschool classrooms in a given school year.
Average preschool teacher wages	USD / year	2011	EIU analysis	15.0%	Preschool teacher annual wages in PPP terms. Wages taken as average wage, or wage of preschool teacher early in career.
Curriculum guidelines	EIU rating	2011	EIU analysis	15.0%	Presence, scope and comprehensiveness of curriculum guidelines (basic education and care versus cognitive and intellectual needs); effectiveness of enforcement/monitoring and review mechanisms. 5=There are well-defined guidelines that cover children's basic education, care, cognitive and intellectual needs. There are adequate enforcement/monitoring mechanisms in place. Curriculum guidelines are routinely reviewed., 1=There are no curriculum guidelines for preschool education.
Preschool teacher training	EIU rating	2011	EIU analysis	20.0%	Presence and scope of preschool teacher qualifications (basic, general certifications versus specialised degree programmes); the effectiveness of enforcement/monitoring and review mechanisms. 5= There are well-defined eligibility qualifications for preschool teachers and these are adequately enforced. The qualification requirements are reviewed routinely; 1=There are no formal eligibility qualifications mandated for preschool teachers.
Health and safety guidelines	EIU rating	2011	EIU analysis	10.0%	Presence, scope and comprehensiveness of health and safety guidelines in preschools; the effectiveness of enforcement/ monitoring and review mechanisms; and teacher training on these guidelines 5=There are clear and specific health safety guidelines for preschool providers. There are regular monitoring mechanisms in place to ensure guidelines are met. There is mandated teacher training on health and safety in preschools; 1=There are no health and safety guidelines for preschool providers.
Data collection mechanisms	EIU rating	2011	EIU analysis	10.0%	Presence and coverage of data collection mechanisms related to preschool or early childhood care, regular reviews and dissemination 5=There is a comprehensive and efficient data collection system in place for preschool or early childhood care. Data is regularly collected and updated. Public dissemination of data is good; 1=There are no data collection mechanisms related to early childhood care and education.
Linkages between preschool and primary school	EIU rating	2011	EIU analysis	10.0%	Scope and comprehensiveness of policy initiatives that encourage linkages between preschool and first grade (teacher training, curriculum, structured cooperation, etc) and related implementation mechanisms 5=There are comprehensive initiatives - teacher training (eg, common training module for preschool and primary school teachers), curriculum (eg, preparatory lessons in preschool for primary school) and structured cooperation between pre-primary and primary school (eg, 6-month preparation classes for primary school or integrated system between preschool and primary school) to develop linkages between pre-primary and primary education. Implementation generally good.;1=There are no specific policy initiatives that seek to develop linkages between pre-primary and primary education.
Parental involvement and education programmes	EIU rating	2011	EIU analysis	15.0%	Presence, scope and comprehensiveness of parental education programmes, level of awareness among parents, and effectiveness of programmes 5=There are extensive parental education programmes that promote or complement preschool education. There is good awareness and effectiveness of these programmes are good; 1=There are no parental education programmes that promote or complement preschool education

Notes

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