

## MEDIA RELEASE

### **Singapore Made Significant Progress in Enhancing the Literacy, Numeracy and Problem Solving Skills of our People**

**Singapore, 28 June 2016** – The OECD’s Programme for the International Assessment of Adult Competencies (PIAAC)<sup>1</sup> showed that young adults in Singapore aged 16-34 performed well in terms of problem solving in technology-rich environments, numeracy and literacy skills compared to most OECD countries, while older adults in Singapore aged 55-65 attained literacy and numeracy scores that were considerably below the average of OECD countries. The results appear to reflect the progress Singapore has made in education and skills training over the years. The relatively weak performance of older adults also reflects the fact that the survey was conducted in English, which is not widely used among older Singaporeans.

2. PIAAC assesses the proficiency of adults in three key information processing skills: literacy, numeracy, and problem solving in technology-rich environments. These skills are relevant to adults in many social contexts and work situations, and are often necessary for adults to actively participate in the labour market, education and training, and social and civic life. About 5,400 adults, comprising Singapore Citizens and Permanent Residents aged between 16 and 65, participated in the study which covered 34<sup>2</sup> economies.

#### **Singapore Made the Greatest Gains in Average Scores between Older and Younger Cohorts**

3. According to the PIAAC study, adults in Singapore aged 16 to 34 ranked second in problem solving, fifth in numeracy and ninth in literacy (see [Annex A](#)). However, older adults aged 45 to 65 performed lower than the OECD average in literacy and numeracy. Among the 34 economies participating in PIAAC, Singapore made the greatest gains in average scores between the older and younger cohorts (see [Annex B](#)). The PIAAC assessments were conducted in English in Singapore. The lower levels of English usage and the relatively low levels of educational attainment of older adults contributed to the wide dispersion of proficiency scores in Singapore.

4. More importantly, these differences reflect the improvements made in our education and training system over the past 50 years. These include the rapid expansion of schools, an increase in participation rates in education at all grade levels, enhancements to the education curricula, the introduction of learning support programmes and an expansion in post-secondary educational opportunities. These enabled subsequent generations of

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<sup>1</sup> PIAAC is also known as the OECD Survey of Adult Skills.

<sup>2</sup> The analysis for the United Kingdom (UK) is done separately for England and Northern Ireland, and hence the comparison across 33 countries reflects 34 economies.

younger adults to experience significant progress in skills attainment. The results also reflect the importance of quality education in building skills proficiency, and the need for lifelong learning so our older workers can remain employable and continue to contribute economically and socially.

### **Employers demand and reward proficiency in literacy and numeracy**

5. All participating economies in the PIAAC study exhibited a positive relationship between proficiency in literacy and numeracy and hourly wages. This suggests that literacy and numeracy skills are demanded and rewarded by the labour market.

6. Singapore exhibited one of the strongest relationships between proficiency in literacy/numeracy and wages, ranking third for wage returns to literacy skills<sup>3</sup> (see [Annex C](#)). In Singapore, an increase of approximately 48 points in literacy proficiency score is associated with a 12 per cent increase in hourly wages, which is almost double that of the average among OECD economies covered in the PIAAC study.

7. Singapore ranked 10<sup>th</sup> for participation in structured training (see [Annex D](#)). Employers also recognise the value of continual development of skills, with close to 80% of job-related training being funded by employers.

### **Employers could continue to do more to ensure workers' skills are used effectively**

8. The PIAAC study also found that jobs in Singapore require frequent use of Information and Communications Technology (ICT), numeracy and reading skills. Among the 34 economies surveyed, Singapore ranked first for the use of ICT skills, sixth for numeracy skills and seventh for reading skills (see [Annex E](#)).

9. Many employers offer training and flexible working hours for workers to upskill (see [Annex F](#)). However, employers could make better use of employees' skills and provide them more room to exercise task discretion, self-direction, and cooperative and influencing skills (see [Annex G](#)).

10. As Singapore restructures itself into an innovative and manpower-lean economy, employers must play an important role in their workplace practices in areas such as work organisation, job design and management practices. These factors are likely to influence the extent of skills used in the workplace and work productivity. Employers can continue to tap SkillsFuture and other Government initiatives, and provide training opportunities that will help workers develop relevant skills aligned to current and future workplace needs.

### **SkillsFuture as a critical enabler**

11. Commenting on the findings, Mr Ong Ye Kung, Acting Minister for Education (Higher Education and Skills), said: "The PIAAC study validates the effectiveness and strength of our education and training system in preparing our young for their careers. It also underscores

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<sup>3</sup> Wage returns to literacy skills in PIAAC are measured by the average increase in wages that are associated with an increase in literacy proficiency scores.

the need for lifelong learning, so that older workers can keep their skills up to date and can continue to contribute. We are working hard to integrate education and lifelong learning into a seamless system under SkillsFuture, to better respond to the needs of a small, fast changing economy.”

12. Other than employer-driven up-skilling, individuals can tap on various SkillsFuture initiatives such as the SkillsFuture Earn and Learn Programme, SkillsFuture Mid-Career Enhanced Subsidy, SkillsFuture Study Awards and SkillsFuture Credit to develop and deepen their skills, so that they can stay current, competitive and employable.

13. The PIAAC study was conducted in Singapore from April 2014 to January 2015. The findings were released today by the Institute for Adult Learning (IAL) – which is part of the Singapore Workforce Development Agency (WDA) – as well as the Ministry of Education (MOE) and Ministry of Manpower (MOM).

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## **SINGAPORE WORKFORCE DEVELOPMENT AGENCY**

The Singapore Workforce Development Agency (WDA) enhances the competitiveness of our workforce by encouraging workers to learn for life and advance with skills. In today's economy, most jobs require not just knowledge, but also skills. WDA collaborates with employers, industry associations, unions and training organisations, to develop and strengthen the Continuing Education and Training system that is skills-based, open and accessible, as a mainstream pathway for all workers – young and older, from rank and file to professionals and executives – to upgrade and advance in their careers and lives. For more information, please visit [www.wda.gov.sg](http://www.wda.gov.sg).

## **INSTITUTE FOR ADULT LEARNING**

The Institute for Adult Learning (IAL) is at the forefront of building capabilities and continuing professional development for an effective, innovative and responsive Continuing Education and Training (CET) sector. We work closely and support adult educators, businesses, human resource developers and policy makers through our comprehensive suite of programmes and services on raising capabilities and catalysing innovations in CET. IAL also champions research in the key areas of sustaining economic performance through skills, shaping employment and CET decisions, as well as developing innovations through learning technology and pedagogy for informed policies and practices. For more information, please visit [www.ial.edu.sg](http://www.ial.edu.sg).

## **MINISTRY OF EDUCATION**

The Ministry of Education (MOE) formulates and implements education policies on education structure, curriculum, pedagogy, and assessment. It oversees the management and development of Government-funded schools, and the Institute of Technical Education, polytechnics and universities.

The wealth of a nation lies in its people – their commitment to country and community, their willingness to strive and persevere, their ability to think, achieve and excel. Our future depends on the continuous renewal and regeneration of our leadership and citizenry, building upon the experience of the past, learning from the circumstances of the present, and preparing for the challenges of the future. How we raise our young at home and teach them in school will shape Singapore in the next generation.

The mission of MOE is to mould the future of the nation by moulding the people who will determine the future of the nation. MOE provides our children with a balanced and well-rounded education, to develop them to their full potential and nurture them into good citizens, conscious of their responsibilities to family, community and country.

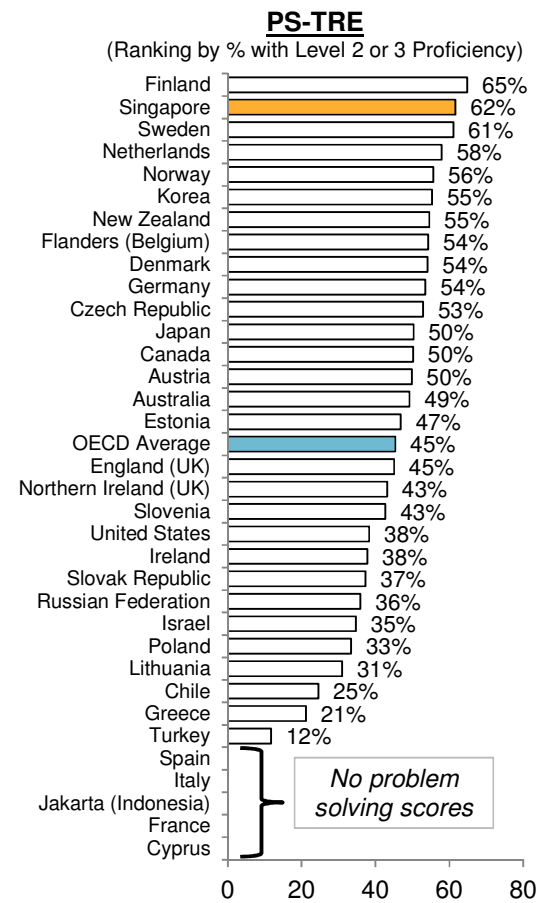
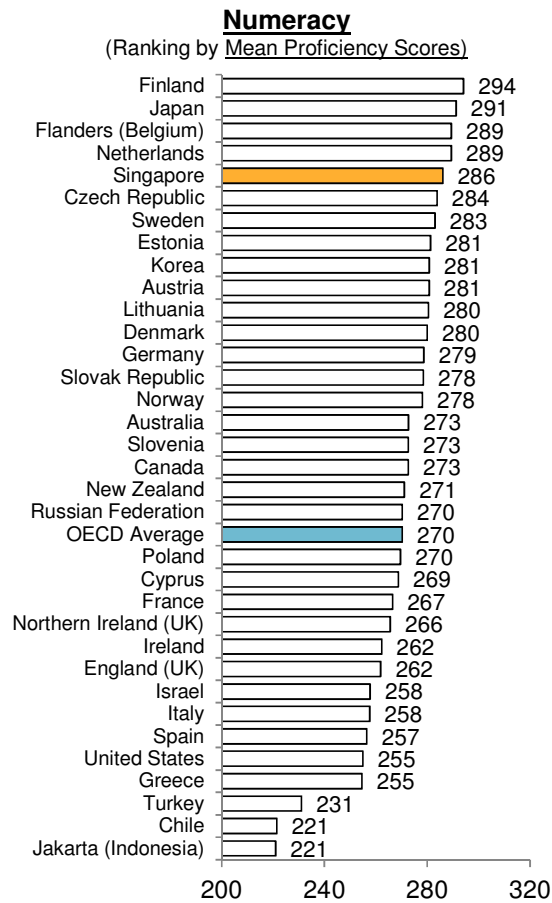
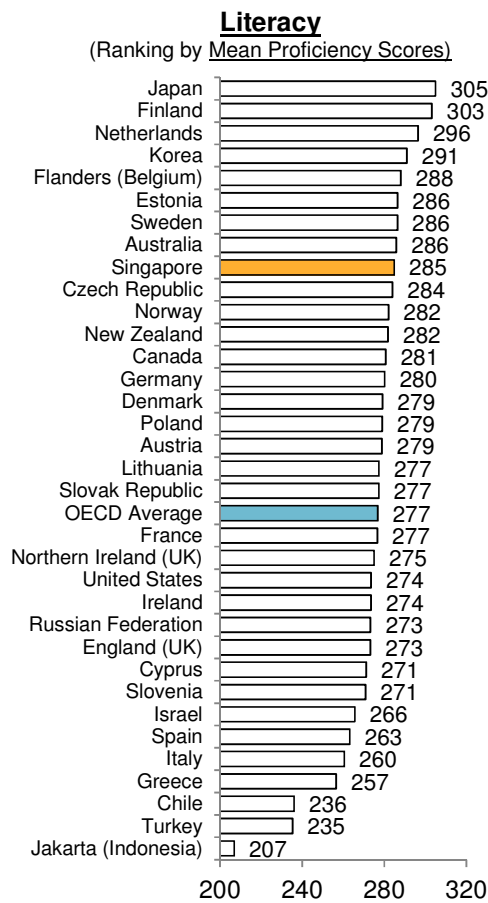
Please visit [www.moe.gov.sg](http://www.moe.gov.sg) for more information.

## **MINISTRY OF MANPOWER**

Our vision is to develop a great workforce where Singaporeans can aspire to higher incomes and fulfilling careers. Complementing this is a great workplace where companies are lauded for having outstanding employment practices and organisational cultures.

To achieve this vision, our mission is to improve the skills and productivity of the Singaporean workforce as the basis for better jobs, higher incomes and a secure retirement. We will judiciously supplement our workforce with foreigners, such that they strengthen the Singaporean core. We will also build progressive workplaces, strengthen tripartite relationships and encourage harmonious work cultures so as to create fair and forward-looking employment practices that provide safe and healthy work environments and enable balanced work-life. Please visit [www.mom.gov.sg](http://www.mom.gov.sg) for more information.

**Rankings in Literacy, Numeracy and Problem Solving in Technology-Rich Environments (PS-TRE) for Younger Adults Aged 16 – 34**

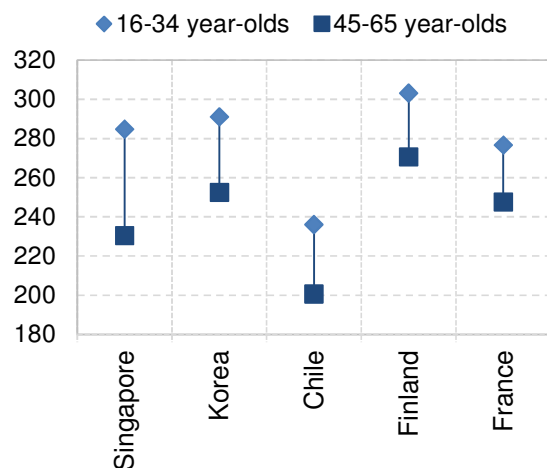


Source: Survey of Adult Skills (PIAAC) (2012, 2015)

**Top 5 Economies based on Gains in Literacy, Numeracy and Problem Solving in Technology-Rich Environments (PS-TRE) between Younger (aged 16-34) and Older Adults (aged 45-65)**

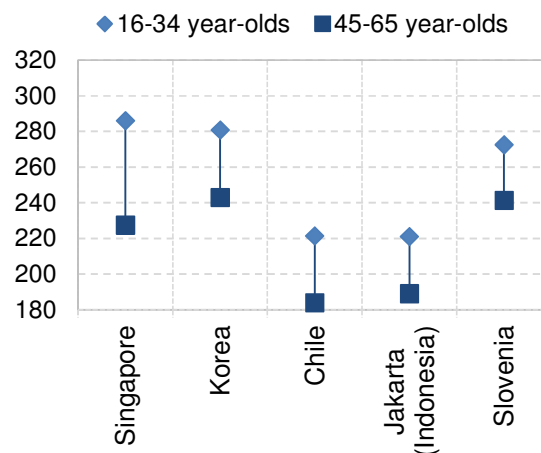
**Literacy**

Ranking by Gains in Mean Proficiency Scores



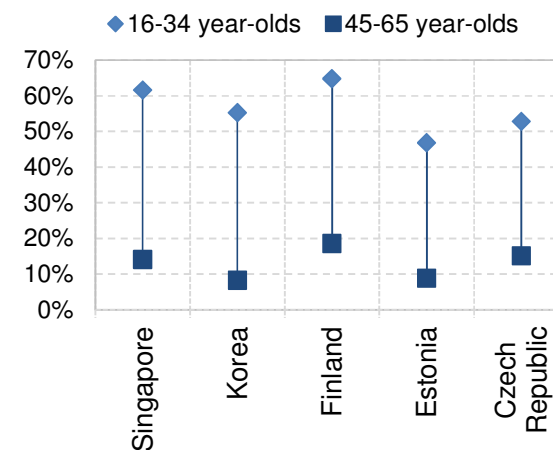
**Numeracy**

Ranking by Gains in Mean Proficiency Scores



**PS-TRE**

Ranking by Gains in % with Level 2 or 3 Proficiency

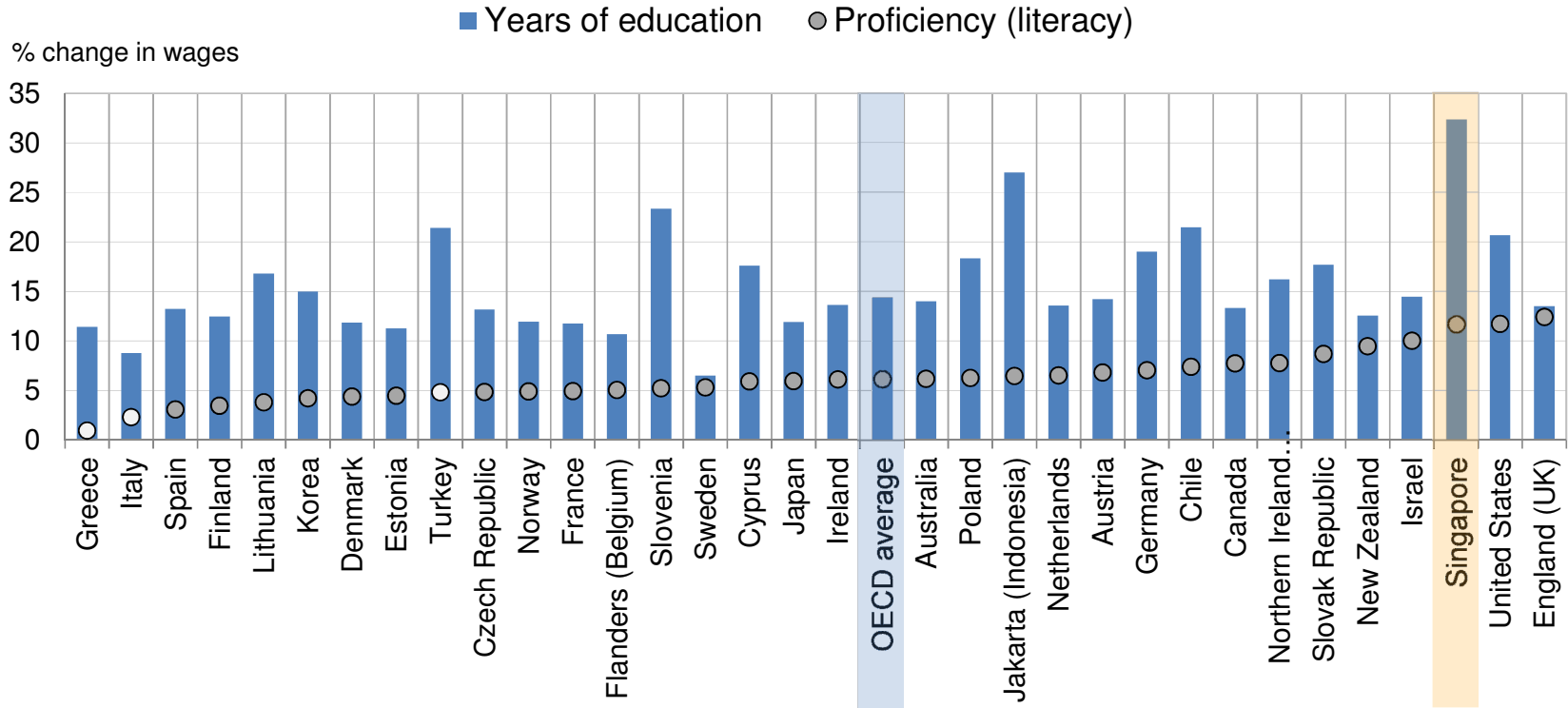


Top 5 ranking	Country	Gains in Literacy	Country	Gains in Numeracy	Country	Gains in PS-TRE
1	Singapore	54	Singapore	59	Singapore	48%
2	Korea	39	Korea	38	Korea	47%
3	Chile	36	Chile	37	Finland	46%
4	Finland	33	Jakarta (Indonesia)	32	Estonia	38%
5	France	29	Slovenia	31	Czech Republic	38%
-	OECD Average	20	OECD Average	17	OECD Average	29%

Source: Survey of Adult Skills (PIAAC) (2012, 2015)

**Wage Returns to Years of Education and Literacy Skills**

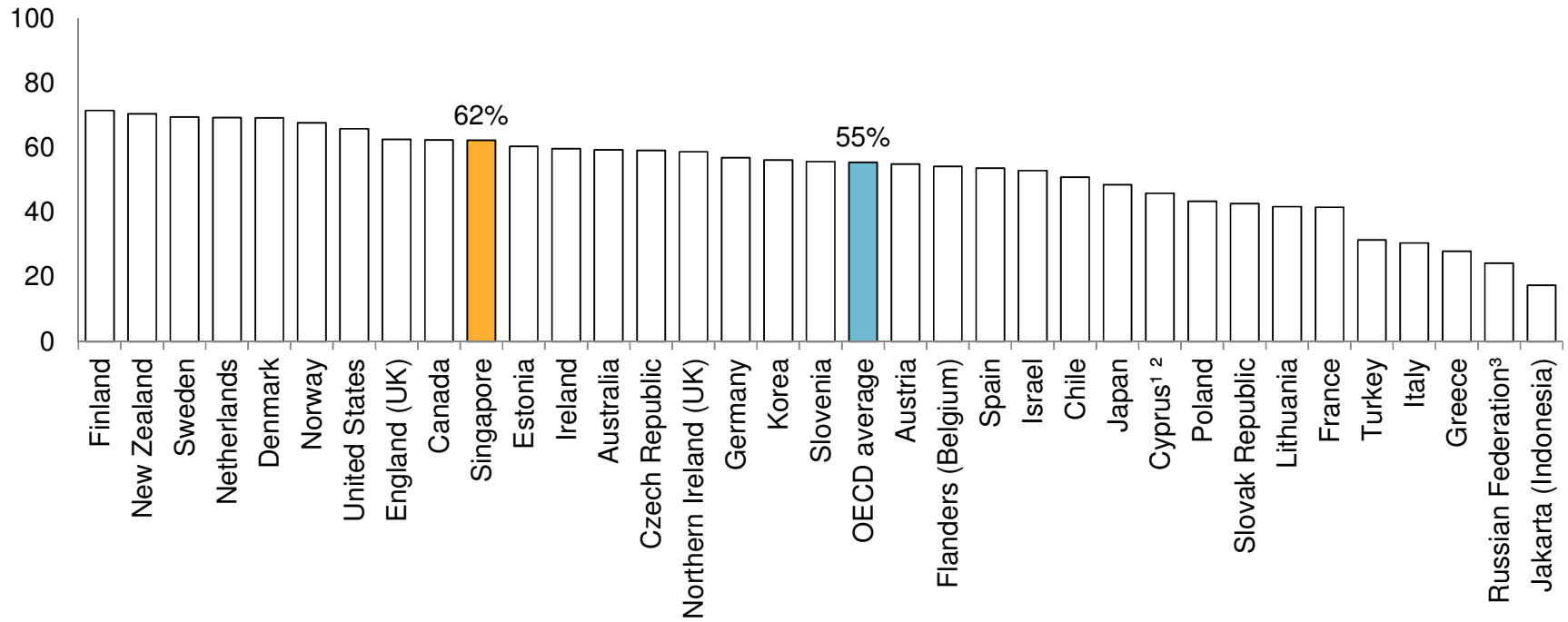
Percentage change in wages associated with a change of one-standard-deviation in years of education (~3.2 years) and proficiency in literacy (~48 points)



Source: Survey of Adult Skills (PIAAC) (2012, 2015) Table A5.4

Notes: Hourly wages, including bonuses, are in PPP-adjusted USD (2012). Coefficients from the OLS regression of log hourly wages on years of education and proficiency are directly interpreted as percentage effects on wages. Coefficients are adjusted for use of reading skills at work, age, gender, foreign-born status and tenure. The wage distribution was trimmed to eliminate the 1st and 99th percentiles. The analysis excludes the Russian Federation because wage data obtained through the survey do not compare well with those available from other sources. Hence further checks are required before wage data for this country can be considered reliable. Statistically significant values (at the 10% level) are shown in a darker tone.

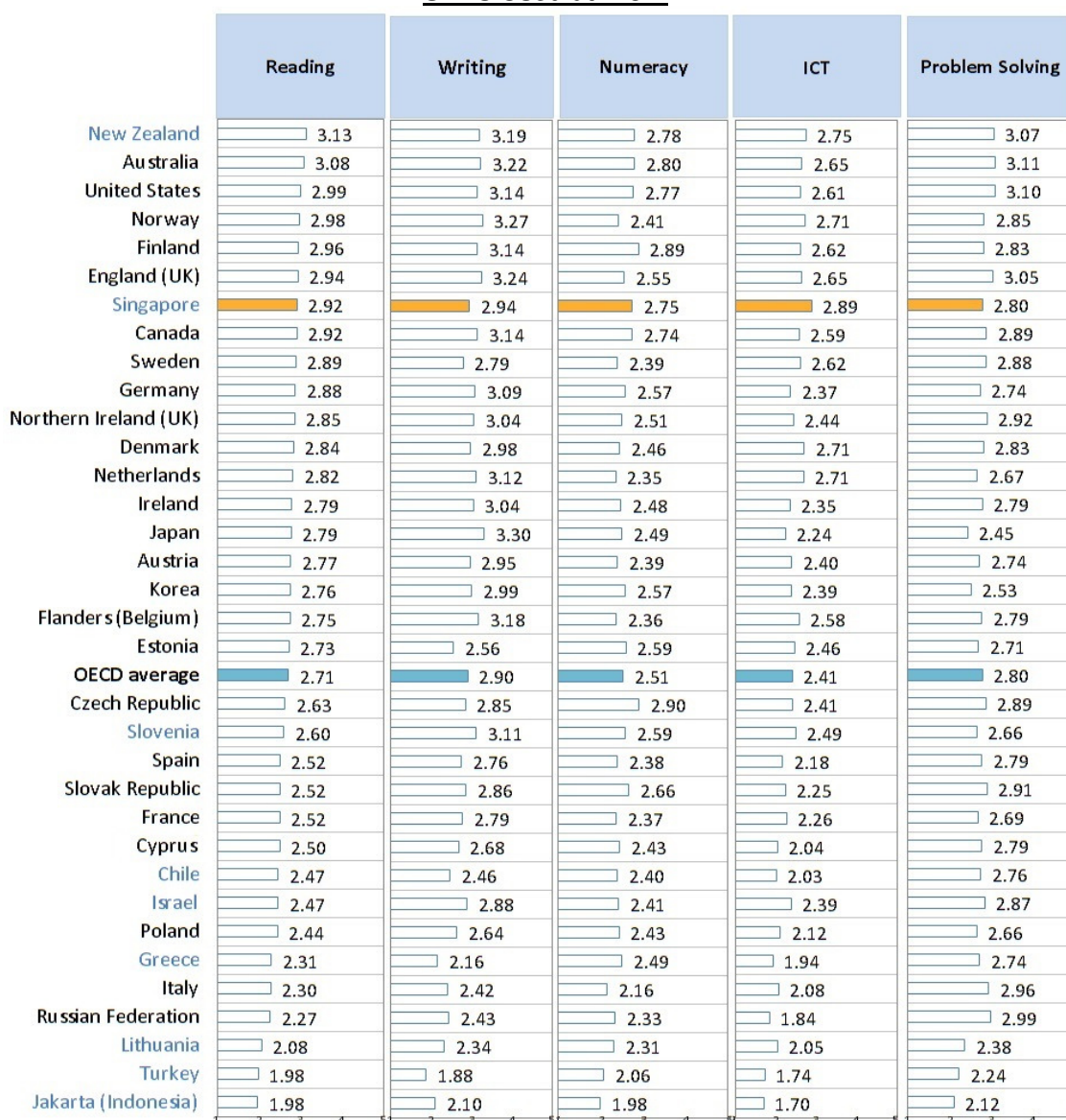
**Participation Rate for Structured Training, by Country**



Source: Survey of Adult Skills (PIAAC) (2012, 2015) OECD (2016a) Table A4.14

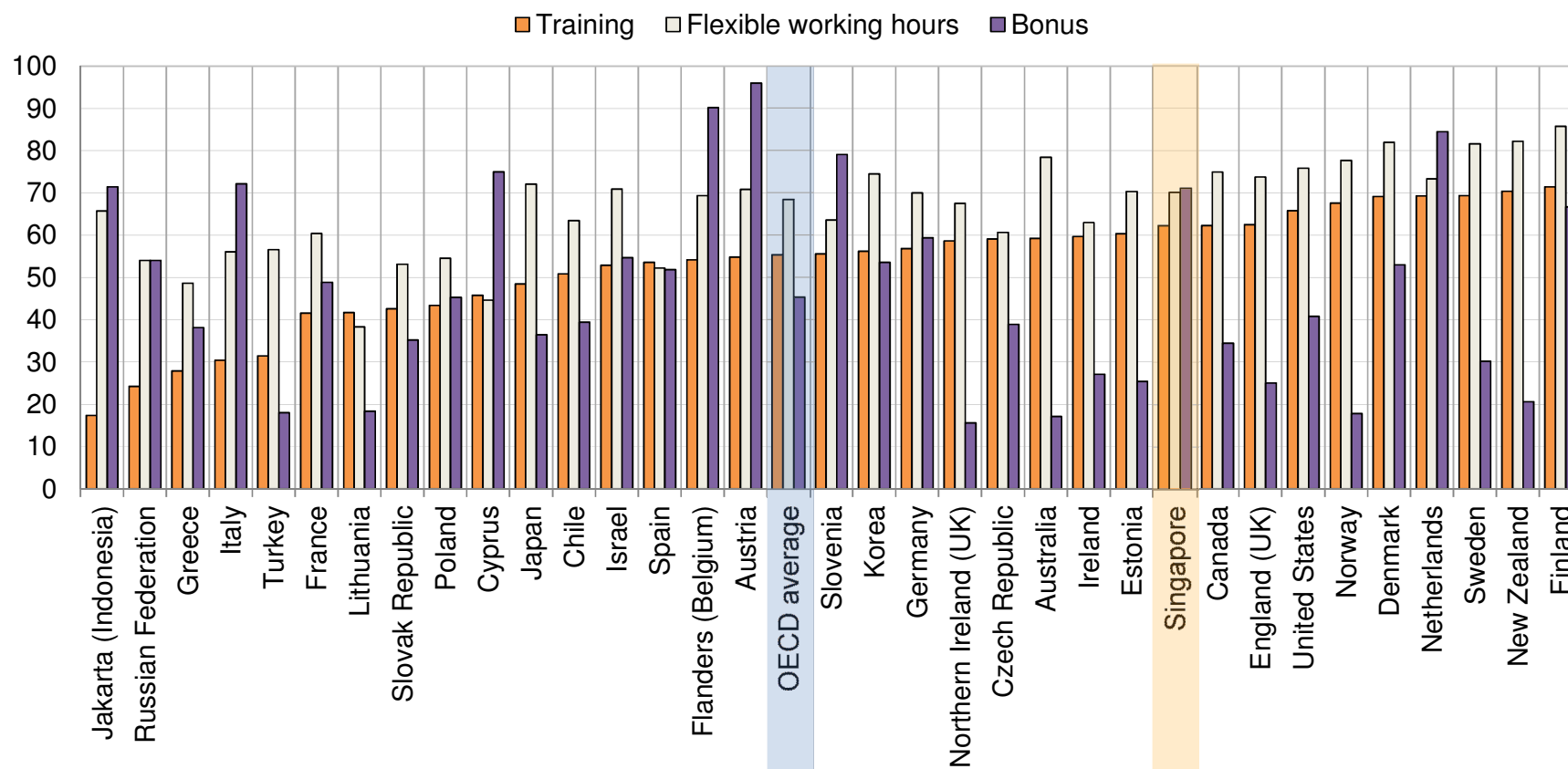


## Skills Used at Work



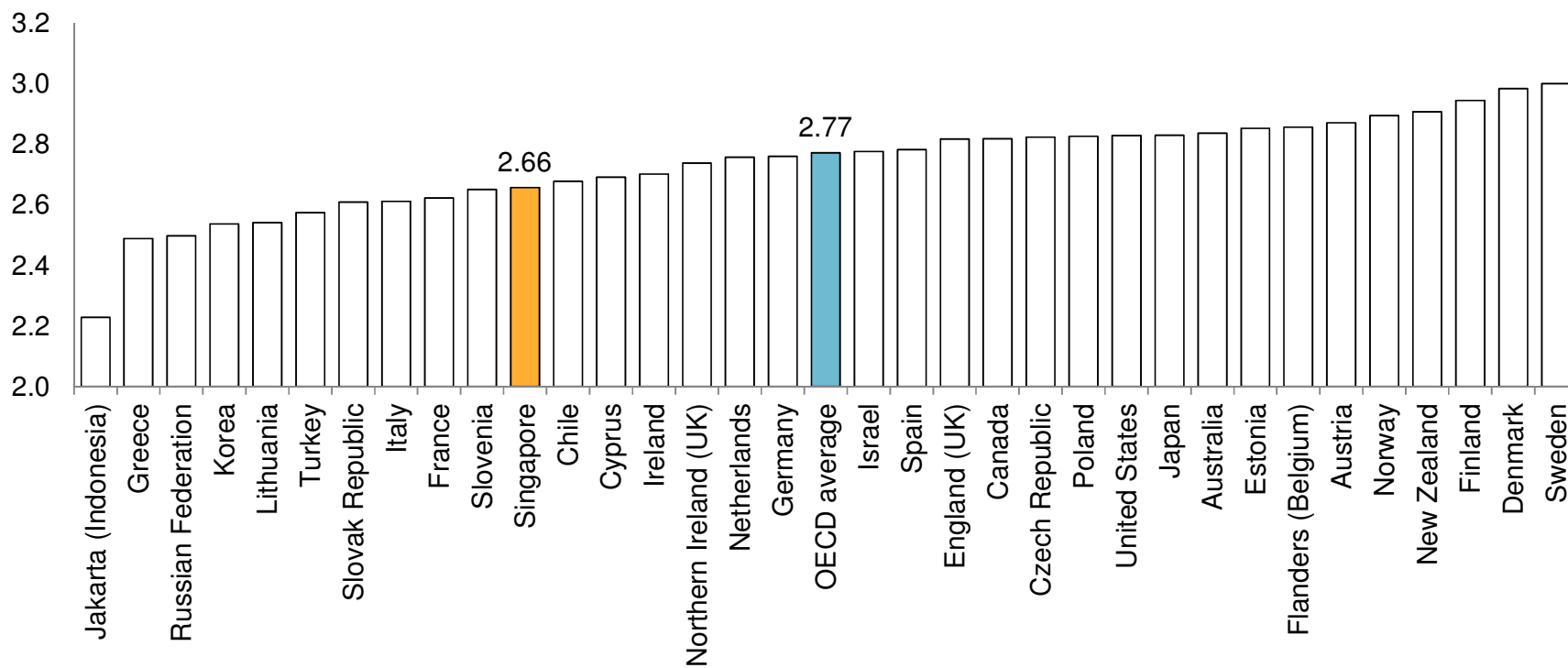
Source: Survey of Adult Skills (PIAAC) (2012, 2015) Table A4.1

### Prevalence of Use of Management Practices Across Jobs, by Country



Source: Survey of Adult Skills (PIAAC) (2012, 2015) OECD (2016a) Table A4.14

**Average Work Organisation Score Across Jobs, by Country**  
 Comprising Task Discretion, Cooperative Skills, Influencing Skills and Self-Direction



Source: Survey of Adult Skills (PIAAC) (2012, 2015) OECD (2016a) Table A4.14