

EMPLOYMENT& EDUCATION

POLICY PAPER 2018

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FOREWORD BY THE TASK FORCE CHAIR MARTIN MIGOYA

We are living amazing times worldwide. Never in history have we seen the several massive and disruptive revolutions happening at the same time. Globalization and breakthroughs in technology are creating a new source of wealth and development accessible to any region, culture or people that have the right skills. On top of that, the digital and cognitive revolutions are affecting how people interact and are opening more opportunities to foster the

growth and development of countries.

In this context, governments have a unique opportunity to promote people's development, so it is imperative to re-think the global approach to education and employment that will enable societies to stay ahead of the ever-changing present. Governments and citizens should make no mistake: the effects of capitalizing on this opportunity could be as profound and as far-reaching as the restructuring of the regions' societies and the democratization of youth participation and leadership in commerce, technology, and industries.

By paying specific attention to promote the right education and employment approach, Governments can prepare their countries for the future. The Employment & Education Task Force focuses on these issues by providing a set of guidelines that could propel countries' growth.

We have to develop citizens that are prepared to continuously adapt. It's key to develop a "learning to learn" model that will help our population stay open to the future. On top of that, new fast-growing sectors, such as the Knowledge-based Services (KBS), are now seeking a huge amount of talent capable of making it grow and scale. Data reveals that the Services Sector has more employment generation potential than many traditional sectors and KBS specifically can profoundly impact a country's economy promoting technology, design and innovation development, thus propelling industries and agriculture as well. Governments need to pay special attention to the development of new education models to prepare people for these new forms of opportunities. In this sense, it's important to focus on training our young people in core competencies such as STEM (Science, Technology, Engineering, and Mathematics) disciplines.

A new education and employment approach will also prepare our societies for an inclusive future of work. It is important for governments to create the necessary conditions that will help bring more job opportunities for everyone, avoiding informality through appropriate legislation, and fostering job positions regardless of gender, race, religion or disabilities. This includes implementing awareness-raising initiatives to challenge gender stereotypes and social norms, which act as a barrier for female employment. Also, to engage with employers and workers to develop targeted initiatives at national and local levels to remove the cultural, economic and social barriers.

But it's not just a matter of working with the business status-quo. It's also about fostering the creation of more job opportunities by opening doors to new players. This is where entrepreneurship plays a key part. Entrepreneurs take risks, create companies that have the potential to produce high impact in employment and in

countries. They invest and distribute opportunities, and by doing so they help to transform countries and train talent in the latest trends. Governments should work together with these new entrepreneurs, facilitating the initial startup conditions to help them set up and grow their businesses.

We are experiencing unique moments in history. It is up to us to make this present become a fantastic future for all. We encourage G20 leaders to share a unified vision of these challenges and to work towards that vision, generating a virtuous circle of education, talent, and development, bringing more economic evolution to our entire world.



Martín Migoya
Chair of the B20 Task Force on
Employment & Education
CEO and co-Founder of Globant

EXECUTIVE SUMMARY

The context of technological revolution stimulates hopes and fears about the future which sometimes risk overshadowing some of the most urgent education-related challenges of today. This is especially true in developing and emerging economies where gaps in basic skills, such as numeracy and literacy remain persistent issues. Worldwide, hundreds of millions of children who end primary school do not master basic competencies. In fact, more than 60 percent of primary school children in developing countries still fail to achieve minimum proficiency thresholds in core competencies. In low-income countries, 14 percent of students reach this minimum level near the end of primary school, and in lower-middle-income countries the figure is 37 percent.¹

Learning shortfalls of basic skills during the school years show up as an impediment for employability in the workforce, and although the skills needed in labour markets are becoming more multidimensional, no student can afford to bypass foundational skills in reading, writing, and mathematics. Also, digital skills are now being considered a foundational skill as their absence can acutely disadvantage a child's life chances. Educational disparities among and within G20 countries pose a major challenge on employability and inclusiveness that needs to be properly addressed, furthering efforts to close the basic education gaps in order to promote a level playing field for all.

Employability has to be a key component of education systems in order to avoid skills mismatches on the labor market. In this sense, close cooperation between businesses and relevant government agencies and institutions is key to ensure that the curricula of training systems are in line with labor market needs. Optimizing the use of and access to labor market information, and harmonizing approaches to labor market data collection and treatment across the G20 is fundamental to track employment and education trends and to set out consistent educational policy plans.

Current labor market trends show that the pace of change is accelerating the demand for knowledge-based, interdisciplinary, project solving and team-based work, which in turn boosts the requirement for continued education. In addition, current skills shortfalls such as content skills, (namely reading comprehension, writing, speaking and active listening) and process skills (i.e. critical thinking and active learning) highlight the necessity of strengthening smart investments in innovative teaching methodologies in order to enhance students' core competencies, particularly in STEM subjects with special focus in gender equality. At the same time, it is vital to foster a culture of integrity by including ethical citizen values and respect for the rule of law in educational curricula.

While technology innovation accelerates and brings along exciting new opportunities, we have to form citizens that are prepared to constantly adapt. To achieve this, it's key to develop a "learning to learn" model that will help our population to stay open to the future.

¹WDR 2018 team, using "A Global Data Set on Education Quality" (2017), made available to the team by Nadir Altinok, Noam Angrist, and Harry Anthony Patrinos. Data at http://bit.do/WDR2018-Fig_O-5.

G20 countries also need to invest in appropriate digital infrastructure to allow broadbased access to digital learning solutions and integrate them into the physical teaching environment. Digitalization is also an opportunity for women to improve their skills and income, and to increase their participation in the labor market. With the right policies in place, the digital economy could boost opportunities and reduce inequalities faced by people with disabilities and other vulnerable groups.

Moreover, persistent high unemployment remains one of the greatest challenges in many countries around the globe. Thus, job creation must remain the number one priority for G20 countries, particularly bringing women, youth and the disabled into the labor market.

Open, dynamic and inclusive labor markets with simple, transparent, flexible and predictable legal employment frameworks allowing for a diversity of work forms continue to be key for inclusiveness. A wealth of data (including WTO and world Bank) shows that overly rigid labour markets, high non-wage labours costs and excessively bureaucratic burden hinder companies the ability of companies to employ people. Countries which do not fully embrace these new realities in their regulatory framework will either lack job creation or will push employment into the informal sector.

Social protection systems must be updated, looking for effective ways to adapt existing support systems to this new and growing workforce. Social protection schemes need to be adequate, comprehensive and portable, while at the same time they need to be financially sustainable. As for female employment, leaders should report the advances made on the implementation of the 2014 Brisbane commitment, especially in national policy plans

In addition, today, 1.3 billion people live in informal employment². Informality exacerbates inequalities and affects the most vulnerable in our societies. Besides, it creates an unfair competitive playing field. Therefore, the B20 calls for a roll back on informality. G20 leaders should reconsider the cost-benefit drivers of informality and encourage formalization through real benefits established in national-tailored policy plans. These may include streamlined business registration, temporary special incentives linked with labor registration and promotion of digitalization of payments, among others.

Entrepreneurship and innovation are also key drivers for job creation and economic growth in the formal economy. Yet, in most countries, the complexity of regulatory procedures remains the main obstacle to entrepreneurial activity. In turn, G20 leaders should promote an enabling environment for start-ups and entrepreneurs, facilitating their access to finance, by simplifying regulatory burden, such as registration processes, and by promoting practical entrepreneurial education in school and in VET institutions. At the same time, it is crucial that G20 leaders incentivize apprentices' programs by implementing past commitments in this regard.

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² ILO January 2017, Enterprise Formalization Brochure

KEY POLICY RECOMMENDATIONS AND ACTION PLAN

TOPIC 1: PROMOTE OPEN, DYNAMIC AND INCLUSIVE LABOUR MAR- KETS

Recommendation 1. Support Entrepreneurship and Innovation

I. Develop and Implement Ambitious Support Strategies for Entrepreneurs

Invest in government-backed entrepreneurship support services, particularly for youth and female entrepreneurs, which start-ups and SME can consult on legal and financial issues. Create specific entrepreneurship laws to encourage entrepreneurial activities. Enable greater access to a variety of funding sources for SMEs and particular female entrepreneurs, such as temporary tax incentives for early stage investors, start-up loans with favourable interest rates and guarantees in order to minimize the default risk for lenders.

II. Promote Enabling Environments for Entrepreneurs.

By effectively and regularly assessing the impact of regulation on businesses and job creation, including easing the burden of registration and compliance for independent contractors and self-employed persons. Ensure enterprise registration requirements do not act as an unnecessary barrier to innovation and employment. Create innovation-friendly framework conditions, in which start-ups can generate new ideas and inventions through sufficient R&D spending.

III. Promote Education for Entrepreneurship.

Promote practical entrepreneurial education in secondary and university education as well as VET that also includes a failure culture, in which entrepreneurs are not shamed for failings. Foster clusters to create synergies between universities, R&D centers, start-ups and public administration. Encourage the involvement of companies in apprenticeships co-planned with universities.

IV. Foster Entrepreneurship at International Level

Annually follow up the G20 Action Entrepreneurship Plan established in 2016. Support actions regarding the G20 SMART Innovation Initiative.

Recommendation 2: Promote Diverse Forms of Work

The B20 reiterates the need for G20 governments to promote flexible labour law and a diversity of forms of employment that are future looking and conducive to robust job creation at every point along the skill curve. G20 governments should make sure social benefits and rights are transferrable and portable across different sectors and jobs, regardless of specific contractual employment relations. These includes the promotion of knowledge-based work that has configured a new breed of service industry.

Recommendation 3: Strengthen Inclusiveness of Labour Markets

I. Strengthen Female Employment

Removing legal restrictions that hinder women from participating in the formal labour market and having formal self-employment opportunities such as proper access to finance for female entrepreneurs. Improve supportive mechanisms such as accessible and affordable child care and elderly care.

Ensuring access for all girls and women from a very early age to compulsory, high-quality education systems with proper acquisition and application of the core competences, particularly in STEM. Address cultural norms that discourage women from acquiring these skills.

II. Develop Targeted Initiatives Aimed at Increasing Youth Participation in the Labour Market

Create attractive regulatory framework conditions which stimulate the establishment of apprenticeships systems. Enhance cooperation between business and VET institutions as well as colleges and universities and public high/secondary school districts.

III. Improve the Labour Market Integration for Persons with Disabilities

Focus on practical measures which contribute to facilitating the employment, job retention and return-to-work opportunities for disabled persons. Support and advice should be provided to business on how to address the barriers that often prevent persons with disabilities from obtaining jobs in the private sector (demand side). Design social protection systems that promote labour market participation of disabled.

Recommendation 4. Address Conditions that Encourage the Informal Sector

Simplifying taxation schemes by reducing the complexity of tax codes and by creating progressive tax structures that encourage small businesses to enter the formal sector. Also, lower entry barriers such as costs and time of bureaucratic procedures.

Recommendation 5. Foster Labour Migration in Line with Labour Market Needs

Adopt migration policies that are timely and flexible to accommodate new and longstanding business models, but also predictable and transparent so that employers can effectively manage compliance. Ensure employers are partners in identifying skills gaps and establishing frameworks for assessing foreign qualifications as well as appropriately engaged in the migration process itself.

TOPIC 2: STRENGTHEN SKILLS DEVELOPMENT AND LIFELONG LEARN-ING FOR SUSTAINABLE GROWTH

Recommendation 6: Close Basic Education Gaps to Promote a Level Playing Field for All Future labour Market Participants.

Governments should focus education investment in early childhood education, especially in low-income countries where preschool attendance is very low. Build implementation and management capacity to better organize education systems and

schools, targeting the quality of education outcomes. Also, revamping teachers' professional development, improving how they are recruited, paid, rewarded, assessed, and trained.

Recommendation 7: Promote and Support Life-Long Learning at Every Age

Formalize the role of "learning to learn" in childhood education systems as a fundamental competence. Prioritize the role of Lifelong Learning in government training and education systems. Collaborate formally with businesses and business organizations in the design of skill-building and re-skilling initiatives to ensure relevance to future workforce needs. Where possible, leverage the opportunities brought by new technologies (such as Extended Reality) to achieve it, engaging in new teaching approaches, which are adapted to adult realities. Use this opportunity to encourage more formal on-the-job training approaches within businesses.

Recommendation 8: Upgrade Education Systems to Align with Tomorrow's Labour Market Needs

Ensure access for all to compulsory, high-quality education systems for all, that deliver proper acquisition and application of a broad range of essential skills, from core competences (particularly literacy, numeracy and science, technology, engineering and mathematics (STEM) subjects) to more complex reasoning, critical thinking, social and behavioural capabilities. Incorporate active learning techniques such as project-based learning and team-based learning activities as a formal part of curricula from an early age. Design targets and metrics that are centred around the learner's acquisition of this range of skills.

Recommendation 9: Embrace New Digital Learning Models and Technologies to Improve Teaching Techniques and Environments

Invest in appropriate digital infrastructure to allow broad-based access to digital learning solutions and enabling the integration of digital learning solutions into the physical teaching environment. Leverage the rapid advances in private sector and not-for-profit Education Technology (Ed Tech) organizations to create partnerships that broaden access to next-generation digital learning solutions.

Recommendation 10: Optimize the Use of and Access to Labour Market Data and Intelligence

Harmonize across the G20, approaches to labor market data collection and treatment, and do so in collaboration with relevant businesses, training institutions and academic experts. Moreover, engage with existing proposals for comprehensive frameworks to improve consistent global skills measurement, such as UNESCO's Global Framework to Measure Digital Literacy. This will enable the generation of necessary skills anticipation plans to predict potential skills gaps and bottlenecks, and thereby guide better-informed investment decisions as well as policies on employment, training and migration.

INTRODUCTION

The future of work is today. Business possibilities, challenges, and needs are evolving faster than ever before. Digital and technological advances alongside rapid social change are evolving how work gets done, who does the work and what work looks like. Nowadays companies are required constantly to change. For business, this is an old wisdom. Companies always needed to change. However, the speed and profoundness of change we see at the moment differs markedly from former experiences.

The jobs of the future are not only shaped by technological advancement. Other driving forces are globalization, climate change, diversity, demographic changes, as well as changing expectations for the nature of careers and for a diversity of forms of work. Informality, persisting high unemployment for people with entry-level skill sets, particularly youth, gender equality, and lack of opportunity for people with disabilities remain challenges which need to be vigorously addressed. Underlying these challenges is a fundamental question: will the future of work be person-centered and person-enabling? Our recommendations reinforce what we believe must be a shared public and private commitment to answering that question with a firm "yes."

As the world of work is changing, so must companies and regulatory frameworks. Countries which do not fully embrace the growing diversity of forms of work in their regulatory framework will either lack job creation or will push employment into the informal sector. Well functioning labour markets are of crucial importance for increasing labour market participation and decent employment. More and new diverse, tailor-made forms of work and formal and non-formal education including more onthe-job training, contribute to better functioning labour markets and economic growth.

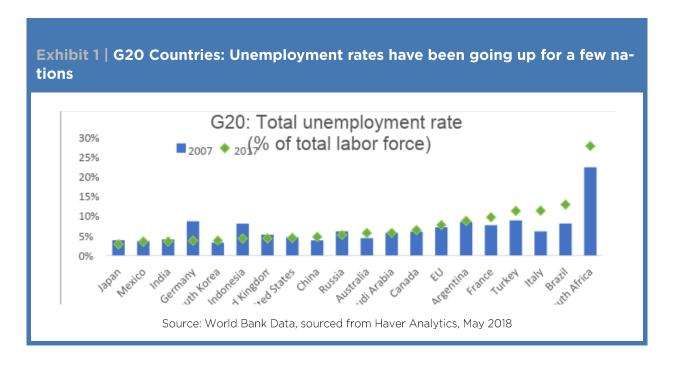
To achieve this, employability has to be a key component of education systems in order to avoid skills mismatches on the labour market. The challenge arises to ensure that people are propelled and empowered and not displaced or marginalized by innovation and technology. The future growth and competitiveness of economies rests in their ability to build the relevant skills among their current and future workforces to prepare for these new realities. This implies significant changes in education systems as well as skill-building mechanisms for workers that need to adapt to fast-approaching realities. The aim of innovative educational plans should first strive to close basic education gaps in order to promote a level playing field for all future labour market participants and in order to reduce the high costs of skills mismatching.

The Argentinean G20 Presidency marks the 10th anniversary of the G20 process in its current form and with it the engagement of the G20 on employment creation, skills development, gender equality, working conditions and entrepreneurship. Although the financial crisis and the subsequent recession, which triggered the development of the G20 process, have been overcome, many of the long-term structural problems and challenges in G20 countries still remain barriers for job creation, growth, prosperity and development.

The last ten years have seen important initiatives and commitments from the G20

Employment Process, such as the 2014 Brisbane commitment to reduce the gap in labour force participation rates between men and women by 25 percent by 2025³, such as the commitment to address structural obstacles to employment creation, the ILO G20 Training Strategy, the G20 Principles for Quality Apprenticeships, the G20 Apprenticeships Initiative or the G20 Entrepreneurship Action Plan and the G20 Policy Priorities on Labour Income Share and Inequalities, between others. However, national implementation, monitoring and full involvement of social partners in this respect have not been sufficient. The establishment of G20 employment plans, although highly welcomed, did not increase accountability for implementation which is highly necessary in order to see the concrete impact in national policies. Ten years after the establishment of the G20, it is necessary to bring fresh impetus into the process, focusing on impact on labour markets and education systems, societies and people. The G20 must finally become an engine for reform, triggering the necessary change at all levels.

G20 countries are highly diverse with regards to their labour markets. However, they all face the challenges described above: The impact of technological change on employment, skill mismatches in the labour market, as well as the increasing difficulty of ensuring job opportunity at every point along the skill curve, and inadequate inclusiveness, particularly with regards to gender equality and youth employment. G20 Countries must follow a coherent reform path to address these issues. In an increasingly quickly changing world, reform laggards will be the losers of tomorrow.



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³ Melbourne LEMM Declaration 2014

TOPIC 1: PROMOTE OPEN, DYNAMIC AND INCLUSIVE LABOUR MAR-KETS

RATIONALE

Persistent high unemployment remains one of the greatest challenges in many countries around the globe. According to the ILO's new estimation the total number of unemployed is expected to remain in 2018 above 192 million. In 2019, the global unemployment rate is expected to remain essentially unchanged, whereas the number of unemployed is projected to grow by 1.3 million. If unemployed people would form a country, it would be the seventh largest country in the world. Thus, job creation must remain the number one top priority for G20 countries, particularly bringing young people and women into the labour market.

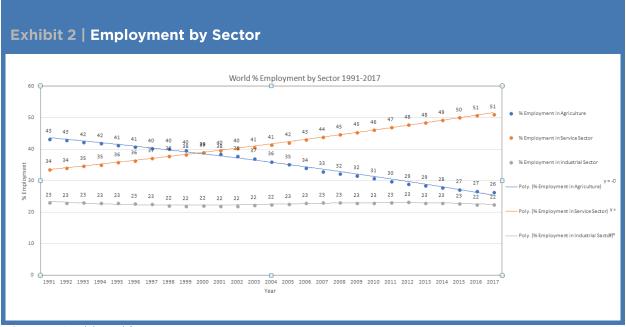
Besides different macroeconomic conditions, levels of debt, stability of financial institutions and access to finance, the functioning of labour markets are key for keeping people in employment and bringing them back into work. A wealth of data, including from the World Bank and the OECD, shows that overly rigid labour markets, high non-wage labour costs, and excessively bureaucratic burden hinder companies to grow and employ people. Open, dynamic and inclusive labour markets, with simple, transparent, flexible and predictable legal employment frameworks which are in line with the ILO 1998 Declaration on fundamental principles and rights at work, efficient, speedy and corruption-free processes to register business and incentives to encourage entrepreneurs to operate in the formal sector are key requirements to encourage companies to hire as many people as possible, to promote formalization and to open up chances for underrepresented groups at the labour market.⁵

Education should track employment trends. It is important that proper emphasis is also put in adequate skills for employment in the service sector, particularly on those knowledge-based services that will likely increase over time.

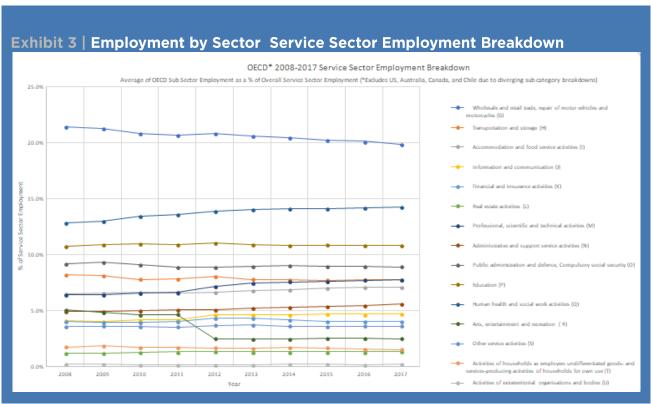
⁵ Deloitte Global Inclusive Growth Survey, The business case for inclusive growth, 2018 https://www2.deloitte.com/global/en/pages/about-deloitte/articles/wef-business-case-inclusive-

growth.html

⁴ ILO, World Employment Social Outlook - Trends 2018, 2018, p. 1



Source: World Bank⁶



Source: OECD7

⁶ World Bank Data: Retrieved from ILOSTAT Database, https://data.worldbank.org/indicator/SL.IND.EMPL.ZS, https://data.worldbank.org/indicator/SL.AGR.EMPL.ZS Employment is defined as persons of working age who were engaged in any activity to produce goods or provide services for pay or profit, whether at work during the reference period or not at work due to temporary absence from a job, or to working-time arrangement. The services sector consists of wholesale and retail trade and restaurants and hotels; transport, storage, and communications; financing, insurance, real estate, and business services; and community, social, and personal services, in accordance with divisions 6-9 (ISIC 2) or categories G-Q (ISIC 3) or categories G-U (ISIC 4).

⁷ OFCD: OFCD.stat. Employment by Activities and Status (ALES), https://stats.gecd.org/lpdev.aspv2DataSot-

OECD: OECD.stat, Employment by Activities and Status (ALFS), https://stats.oecd.org/Index.aspx?DataSet-Code=ALFS_EMP

RECOMMENDATION 1: SUPPORT ENTREPRENEURSHIP AND INNOVA-TION

RATIONALE

It is the private sector which provides the jobs for nine out of ten workers⁸. Thus, the birth of new enterprises plays a crucial role in job creation, making entrepreneurship a key driver for economic growth and inclusion. New firms are agents of change in national economies, as they introduce innovation and new forms of work. They are of tremendous importance to provide employment opportunities particularly for regions in which large cohorts of youth is entering the labour market every month. Start-ups and young entrepreneurs have a key role to play in providing chances at the labour market for these newcomers on the labour markets, as they are not only bringing vibrancy to economies, but they also typically hire other youth.

Moreover, even in regions which an aging population, the future of work will likely involve a higher percentage of start-ups and small businesses. Older people are among the most entrepreneurial of workers across age groups. Between 1996 and 2014, the percentage of older workers (aged 55-64) starting new ventures increased –exceeding (by 68%) the rate of entrepreneurship among millennial entrepreneurs (aged 20-30). Moreover, innovation is making business ownership more democratized and more entrepreneurs embrace it by establishing nimble enterprises. Nimble enterprises are single/partnership-owned businesses with lean operating structures that leverage technology, outsourcing, extensive networks of enterprises and "agile" talents to provide competitive services or products to their clients. Compared to traditional small firms, these nimble enterprises have better brand identity, vision, expertise, international networks and intangible assets.

SMEs and start-ups are especially affected by business environment conditions and structural policies, typically more than larger firms. Their contributions to employment creation and economic growth depend to a great degree on conducive framework conditions. Since SMEs are typically less efficient than large firms in screening the regulatory environment and dealing with the relevant norms, unnecessary regulatory burdens affect them disproportionately. Furthermore, for SMEs that want to participate in global markets, regulatory divergence across countries can impose an additional layer of difficulty.

Recent OECD research finds that in most countries, the complexity of regulatory procedures remains the main obstacle to entrepreneurial activity.¹⁰ This is largely related to tangled license and permit systems, whereas important progress has been made in the communication and simplification of rules and procedures. Other significant challenges remain, including the complexity of regulatory and insolvency procedures, the burden of tax compliance, as well as, in some countries, the time and cost for enforcing contracts.

⁸ World Bank Group (2018) Jobs and Development Overview. Accessed April, 2018. https://www.worldbank.org/en/topic/jobsanddevelopment/overview

Deloitte Insights (2018). Deloitte Global Human Capital Trends. "The rise of the social enterprise", p. 51
 OECD (2017). "Small, Medium, Strong. Trends in SME performance and business condictions", p.44

The G20 agreed under the Chinese G20 Presidency in 2016 on an Entrepreneurship Action Plan. This Action Plan must now be determinedly implemented. The upcoming G20 should put a focus on assessing what has been done to implement the Action Plan, where the gaps are and what needs to be done to fill the gaps.

Exhibit 1 | Case Study

entrePrism, Canada:

Target group: Immigrant entrepreneurs, especially women and young entrepreneurs

Rationale: Immigrants often come from entrepreneurial cultures but face many challenges in their new countries, including language barriers, difficulties understanding culture and operating in a new regulatory environment. The mission of entrePrism is to support budding entrepreneurs, to help them turn their ideas into business projects with the support of established entrepreneurs, professionals and professors. Moreover, it seeks to teach the Quebecois culture and business practices through interaction with native Quebec entrepreneurs at the same entrepreneurial stage.

Description: This programme was created by, HEC Montréal University with the support of the Mirella and Lino Saputo Foundation and the Quebec Ministry of Economy, Science and Innovation (January 2016). It is based on entrepreneurship as a tool for social and economic inclusion for immigrants with the goal of helping them to start up new businesses or to grow existing ones. It is also intended to develop new tools through entrepreneurship research that explores the inclusion and immersion of entrepreneurs from cultural communities in the Quebec business ecosystem. This programme has network of collaborations with countries such as Mexico, France, Germany, Israël, Spain, Australia, South Korea, China, Haïti and and several french-speaking African countries.

The programme covers multiple sectors and is also differentiated from other conventional incubators as it encourages the hybridisation of business models and cultures to create innovative and original projects. To address immigrant entrepreneurs' needs, entrePrism offers personalised support as well as training sessions, seminars, webinars, conferences and one-to-one coaching sessions.

Results achieved: The programme intends to support the creation of 100 companies over a period of 5 years and to generate at least 200 internships and supervised projects. To accomplish this, it plans to involve 50 professors, tutors and mentors as well as 50 industry experts. The incubator also plans to organise 20 major networking events and award up to 100 scholarships.

Between January 2016 and June 2017, entrePrism supported 26 companies and 36 entrepreneurs (founders and co-founders) from France, Morocco, Vietnam, USA, Cameroun, Ivory-Coast, Mexico, Brazil, Syria, Lebanon and Algeria.

TARGET 1.1: DEVELOP AND IMPLEMENT AMBITIOUS SUPPORT STRAT-EGIES FOR ENTREPRENEURS

To be successful, start-ups and young SMEs require more support than an established company would. Governments should foster entrepreneurial activity by developing comprehensive entrepreneurship strategies and providing easy accessible support and advice. Entrepreneurship support infrastructure can be developed in the context of entrepreneurship strategy at the national, regional, or municipal levels. Underrepresented groups, such as women, youth, and disabled persons, need thereby particular attention.

POLICY ACTIONS

- **1.1.1: Invest in government-backed entrepreneurship support services**, particularly for youth and female entrepreneurs, which start-ups and SME can consult on legal and financial issues.
- 1.1.2: Create specific entrepreneurship laws to encourage entrepreneurial activities.
- **1.1.3:** Enable greater access to a variety of funding sources for SMEs and particular female entrepreneurs, such as temporary tax incentives for early stage investors, start-up loans with favourable interest rates and guarantees in order to minimize the default risk for lenders.

Exhibit 2 | Case Studies

Endeavor Foundation:

Established in 1997, Endeavor is leading the global high-impact entrepreneurship movement and promoting economic growth and job creation by selecting, mentoring, and accelerating the best high-impact entrepreneurs around the world. To date, Endeavor has screened more than 55,000 entrepreneurs and selected more than 1,600 individuals leading over 1,000 high-growth companies. With support from Endeavor's worldwide mentor network, these high-impact entrepreneurs:

- · Have created 1.4 million jobs
- Generated \$15 billion in revenues in 2017
- · Inspire future generations to innovate and take risks

Headquartered in New York City, Endeavor currently operates in 32 markets throughout Europe, Latin America, North America, Africa, Asia and the Middle East.

TARGET 1.2: CREATE ENABLING ENVIRONMENTS FOR ENTREPRENEURS

To create sustainable jobs, companies require a stable and attractive business-friendly environment at national and local levels. This means a predictable regulatory framework that encourages long-term investment and innovation, job creation and promotes entrepreneurial behaviour

POLICY ACTIONS

- 1.2.1: Promote enabling environments by effectively and regularly assessing the impact of regulation on businesses and job creation, including easing the burden of registration and compliance for independent contractors and self-employed persons.
- **1.2.2:** Ensure enterprise registration requirements do not act as an unnecessary barrier to innovation and employment. Examples may include online registration procedures that do not take longer than 24 hours.
- **1.2.3:** Create innovation-friendly framework conditions, in which start-ups can generate new ideas and inventions through sufficient R&D spending, as well as investments in post-R&D activities (such as market development).

TARGET 1.3: PROMOTE EDUCATION FOR ENTREPRENEURSHIP

Entrepreneurship education is essential to help students and apprentices understand the full range of opportunities open to them, e.g. that they can start their own companies and create jobs, and not just take a job.

POLICY ACTIONS

- **1.3.1: Promote practical entrepreneurial education in secondary and university education as well as VET** that also includes a failure culture, in which entrepreneurs are not shamed for failings.
- 1.3.2: Foster clusters to create synergies between universities, R&D centers, start-ups and public administration.
- **1.3.3:** Encourage the involvement of companies in apprenticeships co-planned with universities and focused on the training of PhDs for applied research.

TARGET 1.4: FOSTER ENTREPRENEURSHIP AT INTERNATIONAL LEVEL

One significant barrier to a sustainable business is the inability of an entrepreneur to expand across geographical borders. Increased geographic mobility is therefore critical for (young) entrepreneurs to realize their potential and contribute economically

in ways we are all anticipating. As markets becomes more globalized, entrepreneurs need to be able to expand beyond their local market such that they are better able to mitigate the negative impacts of small and over-traded local markets. Increased mobility may also allow (young) entrepreneurs to become more adaptable and resilient to economic shocks. Mobility is also required to establish supply chains, recruit new talent, and cultivate innovative ideas. International collaboration is therefore key to foster entrepreneurship at international level.

POLICY ACTIONS

1.4.1: Support actions regarding the G20 SMART Innovation Initiative, including: a regular convening of the G20 SMART Innovation Forum, the establishment of the G20 SMART industrial park to boost the "G20 Young Entrepreneur Partnership", and the set-up of the G20 SMART Innovation Fund. Furthermore, the G20 countries should follow up their Action Entrepreneurship Plan established in 2016 annually.

1.4.2: Create a G20 multilateral start-up visa to improve the ability of entrepreneurs to travel and conduct business internationally. Ensure migration policies facilitate the hiring of overseas skilled labour by high and sustainable growth SMEs.

RECOMMENDATION 2: PROMOTE DIVERSE FORMS OF WORK

As consumers become more demanding and digitalisation allows easy access into new markets, the economy becomes more dynamic and prone to frequent change. A diversity of work contracts allows companies to react adequately to market changes and quickly create jobs. At the same time, it allows everyone to live and work in accordance with their respective personal situation and preferences. A recent survey found that workers who felt that their needs and preferences were met at work exhibit higher levels of performance and put in stronger discretionary effort".

Diverse forms of work, being fixed-term work, agency work or free-lance, either 'offline' or via an online platform, are a stepping stone to the formal economy, as well as an alternative for those for whom traditional employment is not an option. Each year, around 50 million people access the labour market thanks to an employment agency alone, 81% of them being satisfied with their work. Moreover, diverse forms of work promote a more transitional labour market by enhancing upward and sideward mobility.¹²

Other forms of work are rapidly growing too. Organizations are moving from traditional employees to a multi-channel approach to work with joint ventures, contractors, freelancers and crowds. An entire continuum of options to engage and interact with "talent" is leading to an unleashed workforce. The perception of the workforce is also changing. More than 60% of the millennials for instance thinks that 7 months of tenure means they're loyal¹³. A recent survey found that 43% (2017: 38%) of

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¹¹ Deloitte (2017) Deloitte Review, Beyond office walls and balance sheets: Culture and the alternative workforce,

Issue 21, July 2017. Accessed in April 2018 https://www2.deloitte.com/insights/us/en/deloitte-review/issue-21/workplace-culture-and-alternative-workforce.html#the-four-faces-of-the-alternativ

¹² World Employment Confederation (2017). WEF, Economic Report, 2017, p. 5 13 Deloitte (2017) Future of Work. The People Imperative. Accessed in April, 2018

millennials and 61% of Gen Z globally would leave their current employment for a new organization within two years¹⁴.

There is clearly demand for more independent, flexible work. Diverse forms of work include work at all skills levels and policymakers must work to empower the new generation of workers. Research conducted by McKinsey found that approximately 70 to 75 percent of independent earners are independent as a matter of preference¹⁵. Matthew Taylor's review for the UK government, «Good Work», also highlighted the rising demand for flexible forms of work, noting that «encouraging flexible work is good for everyone and has been show to have a positive impact on productivity, worker retention and quality of work».¹⁶

Democratizing access to genuinely flexible forms of work, without discrimination and with low entry barriers, at all points along the skill curve, would also help the many people for whom traditional full-time and part-time work is ill-suited. It would provide a reliable option for individuals to gain or supplement income, to meet unexpected financial obligations, and to fit work around the growing set of personal commitments arising from demographic change and an ageing population.

Therefore, it is important that we envision a positive way forward and do not regulate against change, because there is a huge potential for job growth, competitiveness and participation in G20 economies. Moreover, the discussion on diverse forms of work needs to mature. Instead of talking and differentiating between standard vs. non-standard anymore, the discussion should focus on the working conditions in the different forms of work itself.

As more and more people will assume greater autonomy and responsibility for their own careers and income security, transitions across and between jobs, and periods in and out of work may increase, impacting individuals' rights and access to social protection schemes. It is important that the welfare of these individuals is given appropriate attention by innovating safety nets that allow the build-up of rights and benefits that transcend a particular job, contractual arrangement or sector.

POLICY ACTIONS

2.1: The B20 reiterates the need for G20 governments to promote flexible labour law and a diversity of forms of employment that are future looking and conducive to robust job creation at every point along the skill curve. This is needed to advance what should be a shared public and private commitment to ensuring that the future of work is person-enabling and technology-enabled.

2.2: G20 governments should create access to skilling and other forms of (social) benefits by making sure benefits and rights are transferrable and portable **across**

 $https://www2. deloitte.com/content/dam/Deloitte/il/Documents/human-capital/HR_and_Business_Perspectives_on_The \%20 Future_of_Work.pdf$

¹⁴ Deloitte (2018). The Deloitte Millennial Survey 2018. Millennials' confidence in business, loyalty to employers deteriorate, https://www2.deloitte.com/content/dam/Deloitte/global/Documents/About-Deloitte/gx-2018-millennial-survey-report.pdf

¹⁵ McKinsey Global Institute (2016). Choice, Necessity and the Gig Economy, Executive Summary, Oct. 2016 16 Matthew Taylor (2017). Good Work: The Taylor Review of Modern Working Practices, 2017, p14

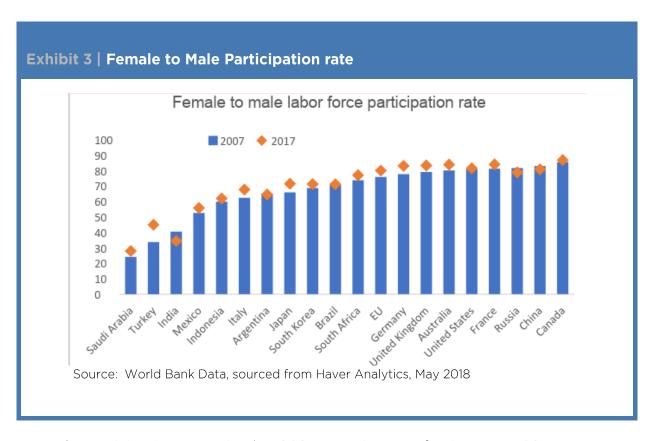
different sectors, jobs and regardless of specific contractual employment relations.

2.3: Knowledge based work configured a new breed of service industry, that **must be considered and fostered.** It should be promoted as it could impact the growth and employment particularly in the case of developing countries.

RECOMMENDATION 3: STRENGTHEN INCLUSIVENESS OF LABOUR MARKETS

All persons who desire to work should have equal and unfettered access to the labor market. It is important to recognize, however, that long-standing social, cultural and legal norms have inhibited the inclusion of some groups in the workplace. The unique and particular barriers to inclusion of all groups must be addressed by each state. Nonetheless, labor force participation of women, youth and the disabled is of relevance across the G20.

Although female and youth employment has been in the focus of policies makers for quite some time, the labour force participation rates among women and youth in the G2O countries are considerable lower than the average participation rates. Progress has been too slow in tackling the issue effectively.



Female participation rates in the G20 countries are, for instance, 26 percentage points lower than their male counterparts. Recent World Bank research shows the challenge many women face in the quest for economic opportunity. 104 economies still prevent women from working in certain jobs, simply because they are women.

In 59 economies there are no laws on sexual harassment in the workplace. And in 18 economies, husbands can legally prevent their wives from working.¹⁷

Overall, women continue to suffer from higher rates of unemployment, are less likely to participate in the labour force and face higher risks of vulnerable employment. One underlying cause for the vulnerable position of women in the labour market is education. In the most recent years for which data are available, young women accounted for 59 per cent of the total illiterate youth population globally. Moreover, even though women are over-represented among tertiary graduates in OECD countries (57 percent of first-time graduates), they remain under-represented in certain fields of study, such as science and engineering. Insights indicate that those who lack a comfort with these skills are more likely to find limited career options¹⁸.

Research for LATAM has shown that one of the underlying causes for the lack of representation of women in STEM related fields is the perpetuation of gender stere-otypes in school and home environments. Although there have been positive changes, parents continue to be more prone to picturing their sons as more able or likely to pursue careers in science, math and engineering. This impacts not only on the numbers of female representation in STEM, but also their opportunity to develop stem related skills such as creativity, innovation, logical thinking, and problem solving.

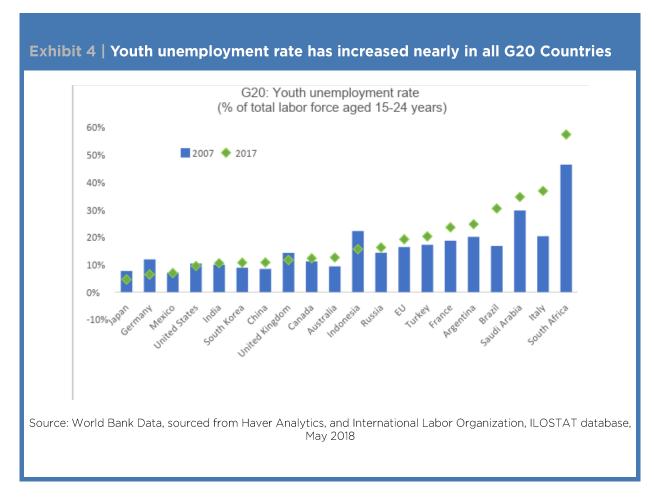
Youth in G20 were 3 times more likely to be unemployed than their adult counterparts in 2016, although there are huge regional differences. The OECD stresses that unemployment spells early in the working life can have important scarring effects, resulting in more frequent unemployment spells and weak labour market attachment, with long-lasting consequences for life-time earnings. Analysis finds that youth who experience an enduring period of unemployment early on in their careers toward a lower income trajectory, as compared to their peers who did not experience substantial breaks in employment¹⁹.

¹⁸ Deloitte University Press (2017). Catch the wave: The 21st-century career, Deloitte Review, Issue 21, July 2017 https://www2.deloitte.com/insights/us/en/deloitte-review/issue-21/changing-nature-of-careers-in-21st-century html

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 $^{^{\}rm 17}\,\rm World$ Bank, Woman, Business and the Law 2018, Foreword

¹⁹ Deloitte (2015). Issues by the Numbers, An unbalanced age: Effects of youth unemployment on an aging society https://www2.deloitte.com/insights/us/en/economy/issues-by-the-numbers/effects-of-youth-unemployment-us.html



Moreover, under the Argentinean G20 Presidency, the focus is also on people with disabilities. Here are the data even more grave. In the EU, for instance, the employment rate of people with basic activity difficulties in 2011 was 47.3 %, almost 20 percentage points below that of people without such difficulties.²⁰ Similarly, in Australia people aged between 15 and 64 years with disability have both lower participation (53%) and higher unemployment rates (9.4%) than people without disability (83% and 4.9% respectively). Australia's employment rate for people with disability (46.6% in 2015) is thereby on par with developed countries. In developing countries, 80% to 90% of people with disability of working age are unemployed, whereas in industrialised countries the figure is between 50% and 70%.²¹

TARGET 3.1: STRENGTHEN FEMALE EMPLOYMENT

The G20 Labour Ministers committed, in September 2014 to a range of measures for boosting female participation, quality of employment and gender equity and agreed to reduce the gender participation gap across G20 countries by 25 percent by 2025. The IOE, BIAC and Deloitte monitoring of the implementation of G20 commitments

 $^{20}\,\textsc{Eurostat:}\,\textsc{http://ec.europa.eu/eurostat/statistics-explained/index.php/Disability_statistics_-_labour_market_access#Main_statistical_findings$

²¹ 'Employment of persons with disabilities' 2007, United Nations Department of Public Information, viewed 24 February 2017.

at national level suggests, that some degree of implementation of the G20 commitments at the national level take place, but that often the implemented policies do not seem to meet the intended targets.

POLICY ACTIONS

- 3.1.1: Remove legal restrictions that hinder women from participating in the formal labour market and having formal self-employment opportunities.
- **3.1.2:** Ensure access for all girls and women from a very early age to compulsory, high-quality education systems with proper acquisition and application of the core competences, particularly literacy, numeracy and technical (STEM) subjects and promote accessibility and exposure to both the internet and technology as well as address cultural norms that might discourage women from acquiring these skills
- 3.1.3: Improve supportive mechanisms such as accessible and affordable child care and elderly care.
- **3.1.4:** Support female entrepreneurship by ensuring proper access to finance and other services, business and entrepreneurship **education** as well as the inclusion of women-owned businesses in global value chains.
- 3.1.5: Develop targeted initiatives at national and subnational level to remove the cultural, economic and social barriers hindering women's active participation in the labour market and address cultural norms that may discourage women from acquiring technical (STEM) skills.

Exhibit 5 | Supporting Research

Research shows that proportion of women in the US computing workforce will decrease

Accenture's research found that the proportion of women in the US computing workforce (already only 24%) will actually decrease to 22% over the next decade in the absence of proactive interventions. The research highlights critical factors to transform this scenario, including: 1. increasing the exposure of girls in primary school to digital formats, including games; 2. teachers that encourage high-school girls to get involved in computing; and 3. looking beyond strictly computer-science graduates when searching for women to fill computing-related roles.

Deloitte/IOE/BIAC Monitoring Report "Youth. Women. Entrepreneurship

The Deloitte/IOE/BIAC Monitoring Report "Youth. Women. Entrepreneurship. Understanding labour market policies across the G20" from July 2017 has found that

most countries have programs in place to strengthening female employment, but that a lot more needs to be done.

- The majority of countries (72 percent) have a documented strategy as well as programs specifically targeting women. However, gender targets against programs were reported in very few cases (13 percent).
- Accessibility remains a challenge and based on the survey findings, it is likely
 to remain so. Affordability of childcare is one of the biggest barriers to women
 entering the workforce. When asked if affordability is being addressed (e.g.
 through caps to percentage of income) only 27 percent of countries said it
 was, while 60 percent said it was not.
- In an effort to support self-employment and female entrepreneurs, a small majority of respondent countries (67 percent) have government-led financial literacy programs available to both men and women, with 40 percent having government-led programs specifically for women. 73 percent reported having skills development programs available to women, and tailored labour market (53 percent) and employment services (73 percent) for women. These programs can help women access and remain in the labour market.

TARGET 3.2: DEVELOP TARGETED INITIATIVES AIMED AT INCREASING YOUTH PARTICIPATION IN THE LABOUR MARKET

The issue of youth employment has been a focus of the G20 since the beginning of the G20 employment process. The focus has been thereby particularly on establishing and improving education and training systems and improving the transition from school to work. In 2015, the G20 set the target to reduce the share of young people who are most at risk of being left permanently behind in the labour market by 15% by 2025. Continuing in the direction of 2013 B20 and L20 Joint Understanding on Key Elements of Quality Apprenticeships, we call G20 leaders to build on these commitments with national implementation.

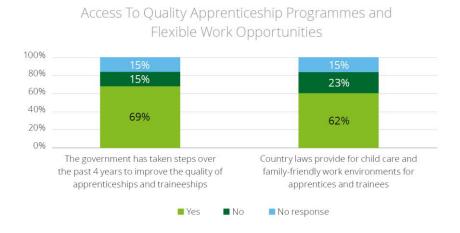
POLICY ACTIONS

- **3.2.1: Create attractive regulatory framework conditions which stimulate the establishment of apprenticeships systems**, mindful that apprenticeships provide workers with knowledge, skills and qualifications needed in a changing work environment while helping employers raise the level of the workforce skills according to the particular needs of companies.
- 3.2.2: Ensure that apprenticeships systems are responding to the development of new professions and have the latest technology in learning tools at their disposal.
- **3.2.3:** Enhance cooperation between business and VET institutions as well as colleges and universities and even public high/secondary school districts. Develop curricula and supporting frameworks in education systems that ensure better alignment and skills match with labour market needs.

Exhibit 6 | Supporting Research

Deloitte/IOE/BIAC Monitoring Report "Youth. Women. Entrepreneurship

Many countries have updated their National Employment Plans (NEPs) to increase the focus on youth employment. The Deloitte/IOE/BIAC Monitoring Report "Youth. Women. Entrepreneurship. Understanding labour market policies across the G20" from July 2017 shows that the National Employment Plan had specific recommendations on apprenticeships and traineeships, education and training and incentives for hiring youth and encouraging entrepreneurship. The overview of actions taken by G20 Governments to improve apprenticeships is shown in the following graph:



Source: Deloitte/IOE/BIAC Monitoring Report "Youth. Women. Entrepreneurship. Understanding labour market policies across the G20" from July 2017

Exhibit 7 | Case Study

The Global Apprenticeship Network (GAN)

The GAN is an employer-driven public-private partnership, linking business initiatives on skills and employment opportunities for youth. As a coalition, collectively it has:

- 216 companies, which includes the following global members: the Adecco group, ABB, Accenture, Fundación Telefonica, Hilton, IBM, JP Morgan Chase & Co, Microsoft, UBS, Astra international, JobzMall, Nestlé, Randstad, and international organizations, BIAC, ILO, IOE
- 11 established national networks across for continents (i.e. Spain, Turkey, Indonesia, Argentina, Colombia, Costa Rica, Mexico, France, Tanzania, Malawi, Namibia)
- 9,382,712 committed opportunities for youth by global companies

Although apprenticeships and work-readiness programs are powerful solutions to reduce youth unemployment and the skills mismatch, they are still associated with low social status. To change this, the GAN advocates for these models to a wide-

range of stakeholder, including high-level government officials, companies, parents, youth, HR Directors, etc

GAN Member Companies and Partners are leading the change to actively overcome barriers to youth employment, such as the social stigma, the skills gap and challenges linked to the future of work. In 2016, GAN members met at the White House and collectively pledged over 9 million opportunities for youth, sparking the Global Apprenticeship Movement. By 2017, the GAN Board launched the 20 x 20 x 20 GAN Challenge, to further impact 20 million youth through the engagement of 20 GAN Board Members and establish a global footprint in 20 countries by 2020.

TARGET 3.3: IMPROVE THE LABOUR MARKET INTEGRATION FOR PERSONS WITH DISABILITIES

Persons with disabilities face major challenges entering the labour market. The full inclusion of people with disabilities in the labour market is thereby an important societal and labour market policy concern. The aim must be to open up opportunities so that also people with disability achieve their full potential to participate and contribute in the world of work at all levels. The B20 supports the new G20 focus on equality of opportunity and the promotion of employment of disabled persons.

POLICY ACTIONS

- **3.3.1:** Governments should focus on practical measures which contribute to facilitating the employment, job retention and return-to-work opportunities for disabled persons. Support and advice should be provided to business on how to address the barriers that often prevent persons with disabilities from obtaining jobs in the private sector (demand side).
- **3.3.2:** Measures should be introduced to **foster the integration of persons with disabilities into mainstream work-related and educational programmes and services.** Depending on national circumstances, the development of services for those in rural areas and remote communities is of particular importance.
- 3.3.3: Social protection systems should be designed in ways that they promote labour market participation of persons with disabilities.

RECOMMENDATION 4: ADDRESS CONDITIONS THAT ENCOURAGE THE INFORMAL SECTOR

Informal sector employment remains a substantial portion of total workforce participation in many of the developing/emerging²² G20 economies. Although developed economies are not immune from informal sector participation, the size and general low-productivity of the informal sector in many developing countries is a cause for

²² International Monetary Fund (2018) World Economic Outlook Database. April 17, 2018 https://www.imf.org/external/pubs/ft/weo/data/changes.htm

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concern. Lost tax revenue, poor workers, and unenforceable consumer protections may inhibit efficient economic development.

Although difficult to define, the International Labor Organization adopted a definition developed at the 15th International Conference of Labor Statisticians, which reads:

"The informal sector [consists] of units engaged in the production of goods or services with the primary objective of generating employment and incomes to the persons concerned. These units typically operate at a low level of organization, with little or no division between labour and capital as factors of production and on a small scale. Labour relations – where they exist – are based mostly on casual employment, kinship or personal and social relations rather than contractual arrangements with formal guarantees."²³

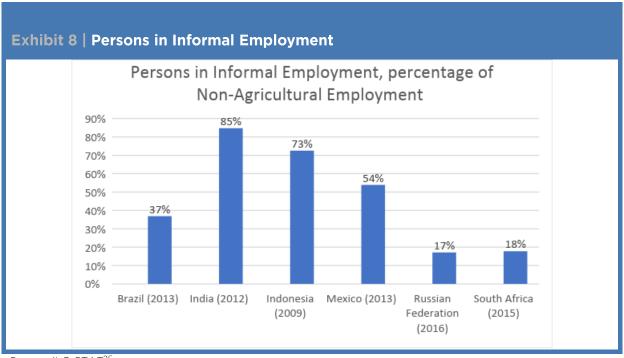
The lack of a universally recognized definition of the informal economy makes international comparisons difficult. G20 countries should consider to provide data based on the ILO definition to ensure comparability.

The informal economy is estimated to represent approximately 20% of the output of OECD-EU nations, and almost 29% of global economic output. The informal economies of Latin America and Sub-Saharan Africa both represent approximately 43% of gross output, while the informal economy in Asia is estimated to represent around 38% of economic output (All figures are GDP-weighted).²⁴ These figures are not aberrations among the G20 nations where recent data are available:

²⁴ Elgin, Oztunali et al. (2012) Shadow Economies around the World: Model Based Estimates. http://www.econ.boun.edu.tr/public_html/RePEc/pdf/201205.pdf

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²³ ILO (2013). Measuring Informality. Accessed in May, 2018 http://www.ilo.org/global/publications/ilo-bookstore/order-online/books/WCMS_222979/lang-en/index.htm)



Source: ILO STAT²⁵

While informal employment is pervasive in the non-agricultural sectors of developing/emerging G20 economies, due to customary and traditional conventions regarding rural resource management, including the agricultural sector in informal employment projections would likely worsen the picture substantially.²⁶

Among G20 nations, India's informal sector is the largest both as a percentage of total workforce, and as an absolute figure. With a total workforce of 494.8 million people, approximately 202 million Indian workers are members of the non-agricultural informal economy.^{27,28} An informal sector of this size severely constricts India's ability to generate needed revenues through taxation.

While productivity and tax revenue loss due to informal sector activity are major negative factors in many developing economies, social inequities reflected in informal sector composition extend beyond financial disparities. Informal economies are disproportionately comprised of rural, poorly-educated, and female workers. Globally, 93.6% of agricultural workers operate within the informal sector, far exceeding the 57.2% of industrial workers, and 47.2% of service workers.²⁹ This drives a ruralurban informal sector participation disparity of 43.7% to 80% respectively.³⁰ Education also plays a critical role in informal sector composition. Although the exact correlation between education and informal sector participation propensity is

 $^{{}^{25}\,\}text{ILOSTAT}\,(\text{retrieved 5/21/2018}): \text{http://www.ilo.org/ilostat/faces/oracle/webcenter/portalapp/pagehierar-lineary}). \\$

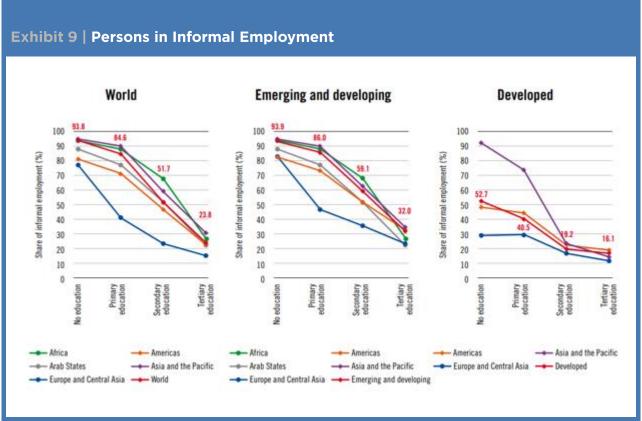
chy/Page3,jspx?MBl_ID=524&_afrLoop=315581178844129&_afrWindowMode=0&_afrWindowMode=0&_afrWindowId=42thtl6d5_1#!%40%40%3F_afrWindowId%3D42thtl6d5_1%26_afr-Loop%3D315581178844129%26MBl_ID%3D524%26_afrWindowMode%3D0%26_adf.ctrl-state%3D42thtl6d5_45_26_International Institute for Environment and Development (2015) Accessed April, 2018 http://pubs.iied.org/pdfs/16590IIED.pdf

²⁷ The World Bank Group. Jobs Data (2018) Accessed April, 2018 http://datatopics.worldbank.org/jobs/coun-

²⁸ G20 Toronto: http://www.g20.utoronto.ca/2014/ILO-informality.pdf (2014)

²⁹ International Labour Organization (2018) "Women and Men in the Informal Economy: A Statistical Picture, Third Edition' ³⁰ Ibid

contingent on how developed a nation is, overall those with less education are far more likely to work in the informal sector.

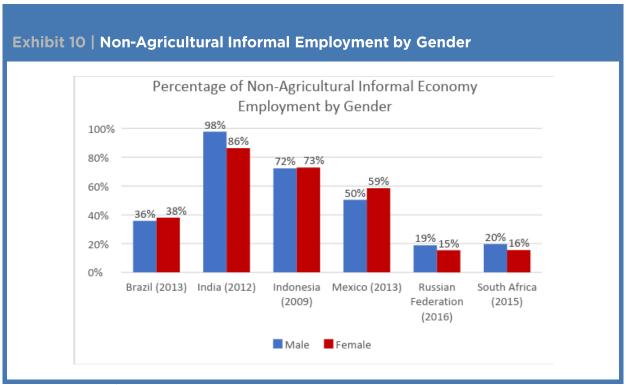


Source: International Labour Organization: Women and Men in the Informal Economy: A Statistical Picture, Third Edition³¹

The gender divide within the informal sector also disproportionately captures women. Although this is not universally the case among G20 nations, the trend holds true generally.

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³¹ ILO (2018). "Women and Men in the Informal Economy: A statistical Picture" Third Edition: http://www.ilo.org/wcmsp5/groups/public/---dgreports/---dcomm/documents/publication/wcms_626831.pdf

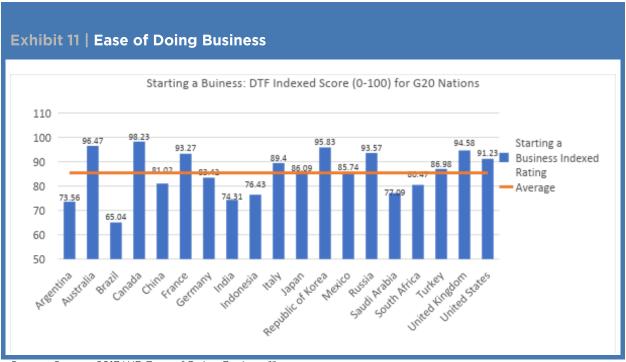


Source: ILOSTAT32

To successfully minimize the size of the informal sector, countries have adopted policies that simultaneously encourage formal sector participation and increase penalties for those that remain in the informal sector. The World Bank Ease of Doing Business Index has created an indice for the ease creating a new business. The inclusion of this index reflects the importance of reducing barriers to doing business such as costs, time, and procedures for business formalization, construction permitting, and other licensing. Below are the 2017 ratings of G20 member nations (excluding the EU, as it does not have a centralized figure):

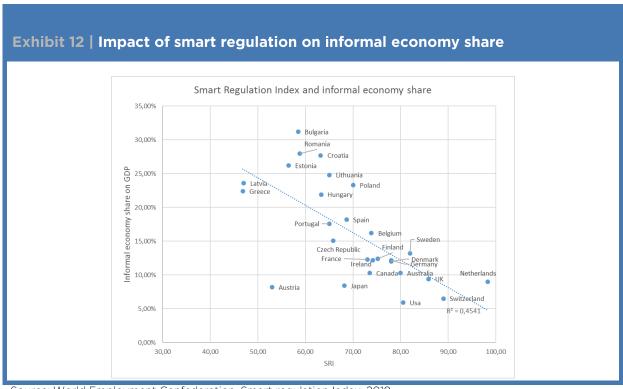
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JLO (2018) ILOStat Daba Base: Informal Employment. Accessed in April, 2018.http://www.ilo.org/ilostat/faces/oracle/webcenter/portalapp/pagehierarchy/Page3.jspx?MBI_ID=524&_afrLoop=315581178844129&_afrWindowId=42thtl6d5_1#!%40%40%3F_afrWindowId%3D42thtl6d5_1%26_afr-Loop%3D315581178844129%26MBI_ID%3D524%26_afrWindowMode%3D0%26_adf.ctrl-state%3D42thtl6d5_45



Source: Source: 2017 WB Ease of Doing Business³³

Moreover, there is a clear relationship between the flexibility of a labour market and the availability of diverse forms of work on the one hand and levels of informality on the other, as research of the World Employment Confederation has shown for a wider group of countries.



Source: World Employment Confederation, Smart regulation Index, 2018

³³ World Bank (2017) Doing Business Data. Accessed April, 2018. http://www.doingbusiness.org/data

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In many countries with a notably large informal sector, regulations regarding property rights, company law, labour law, tax law, and social security are particularly complex and restrictive thereby creating a high barrier for people to participate in the formal economy, be it as an entrepreneur, a self-employed or as a worker.³⁴

The G20 countries should review their legislative and administrative frameworks to reduce these barriers and facilitate participation in the formal economy in order to create better working conditions and to provide people with better access to the financial markets, justice, and the judiciary system. 35 Access to property rights is a particularly important element for reducing barriers to formality. As Hernando de Soto pointed out in "The Other Path" in 1989, people who struggle to acquire private property often consider working in the informal sector the only way to assure a livelihood.³⁶ There is evidence on the fact that people who legally own property have better chances of getting credit and are more likely to invest.³⁷

In order to entice informal sector individuals and entities into the formal sector, countries have utilized several strategic policies. These policies include better enforcement measures, reduced tax burden on the individual or entity, and lower barriers to entry into the formal sector.

POLICY ACTIONS

- 4.1: Simplifying taxation schemes by reducing the complexity of the tax code and by creating progressive tax structures that encourage small businesses to enter the formal sector though reduced tax burden.
- 4.2: Reducing barriers to entry such as costs, time, and procedures.
- 4.3: Promote access to the formal economy by allowing and incentivizing diverse forms of employment and entrepreneurship in line with individual situations and preferences.
- 4.4: Strengthening enforcement and raising penalties.

³⁴ World Bank (2016). Accessed May, 2018. http://www.worldbank.org/en/news/feature/2016/07/20/new-studyreveals-the-complexity-of-the-informal-sector

³⁵ Monami Dasgupta (2016) Moving from informal to formal sector and what it means for policymakers. World Bank Publication. September, 2016 http://blogs.worldbank.org/jobs/moving-informal-formal-sector-and-what-it-means-

policymakers

36 De Soto, Hernando (1989): The Other Path, Harper & Row Publishers, New York.

³⁷World Bank (2017) Doing Business Data. Accessed April, 2018. http://www.doingbusiness.org/reports/global-reports/-/media/WBG/DoingBusiness/Documents/Annual-Reports/English/DB18-print-report.pdf, p. 27.

Exhibit 13 | Supporting Research

ILO Transition from the Informal to the Formal Economy Recommendation

In 2015, the International Labour Conference adopted a recommendation on the Transition from the Informal to the Formal Economy Recommendation (ILO recommendation No. 204).

With respect to the formalization of micro and small economic units, the ILO R. 204 calls on members to:

- a) undertake business entry reforms by reducing registration costs and the length of the procedure, and by improving access to services, for example, through information and communication technologies;
- b) reduce compliance costs by introducing simplified tax and contributions assessment and payment regimes;
- c) promote access to public procurement, consistent with national legislation, including labour legislation, through measures such as adapting procurement procedures and volumes, providing training and advice on participating in public tenders, and reserving quotas for these economic units;
- d) improve access to inclusive financial services, such as credit and equity, payment and insurance services, savings, and guarantee schemes, tailored to the size and needs of these economic units;
- e) improve access to entrepreneurship training, skills development and tailored business development services; and
- f) improve access to social security coverage.

RECOMMENDATION 5: FOSTER LABOUR MIGRATION IN LINE WITH LABOUR MARKET NEEDS

Global skills mobility - the international movement of workers at all skill-levels for employment - is integral to business and economic growth. A well-designed migration system should be predictable, reliable, efficient, transparent and encompass a range of mechanisms to meet labour needs at all skill levels. Migrants bring skills that mitigate gaps in native workforces, as well as introduce new ideas and perspectives. They help business compete, innovate, and expand. Facilitating labour mobility can advance opportunity for both the host and sending country, but proper migration policies will enhance its returns. Key actions are:

POLICY ACTIONS

- **5.1: Adopt migration policies that are timely and flexible** to accommodate new and longstanding business models, but also **predictable and transparent** so that employers can effectively manage compliance.
- **5.2:** Ensure employers are partners in identifying skills gaps and establishing frameworks for assessing foreign qualifications as well as appropriately engaged in the migration process itself. Policies should avoid narrow qualification requirements and skills definitions, trusting employers to identify the most-qualified candidate.
- **5.3: Promote Fair Recruitment Practices** by ensuring that no workers have to pay for their job, that there is no retention of passports and workers have the freedom to leave the country.

TOPIC 2: STRENGTHEN SKILLS DEVELOPMENT AND LIFELONG LEARNING FOR SUSTAINABLE GROWTH

RATIONALE

The G20 Training Strategy was presented during the 2010 Canadian Presidency. Since then, there has been no shortage of comprehensive reports analyzing global skills gaps and their detrimental impact on economic and social progress. Despite this, the gap between the skills demanded by employers and the skills available in the labour market appears to be growing. Manpower Group's latest global survey of more than 42,000 employers found that 40 percent are experiencing difficulties filling roles, the most acute talent shortage since 2007. A recent Accenture survey with more than 1,200 business leaders around the world placed the growing skills gap as the number one trend influencing workforce strategies. Moreover, skill demand is evolving at ever-faster rates. The World Economic Forum finds that approximately 35 percent of the skills demanded today will change by 2020. The targets are moving, and moving fast; and so therefore, must education and training systems.

The most significant shift over the past year is the seriousness with which G20 governments have been treating the rapid advance of intelligent systems and technologies. There is now consensus across business and government that this new technological revolution will transform the future of work, and with it, the landscape of skill demand. The track record for adapting national education and training systems to the demands of new technological eras gives justifiable cause for concern. Many of today's skills gaps still relate to the advent of the "knowledge economy" that came

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³⁸ ManpowerGroup (2018). 2018 Talent Shortage Survey. Solving the Talent Shortage Build, Buy, Borrow and Bridge. https://go.manpowergroup.com/talent-shortage-2018

³⁹ Accenture, Future Workforce Survey, 2017.

⁴⁰ World Economic Forum (2017) Accelerating Workforce Reskilling for the Fourth Industrial Revolution. An Agenda for Leaders to Shape the Future of Education, Gender and Work. WEF Publishing Geneva, Switzerland. July 2017. http://www3.weforum.org/docs/WEF_EGW_White_Paper_Reskilling.pdf

with the Internet, (e.g. technical skills, digital literacy and science, technology, engineering and mathematics (STEM) skills).

For this next technological revolution, we have the chance to plan the adaptation of our skill-building institutions and systems in advance. We have the responsibility to craft a transition to the next era that keeps up with the pace of technology in a way that is inclusive and accelerates our social and economic growth. The stakes are high: The right decisions can unleash tremendous economic and social value, and transform our boundaries for innovation and productivity. The wrong decisions, or insufficient action, can jeopardize competitiveness and growth, exacerbate inequalities and risk social unrest.

RECOMMENDATION 6: CLOSE BASIC EDUCATION GAPS TO PROMOTE A LEVEL PLAYING FIELD FOR ALL FUTURE LABOR MARKET PARTICIPANTS

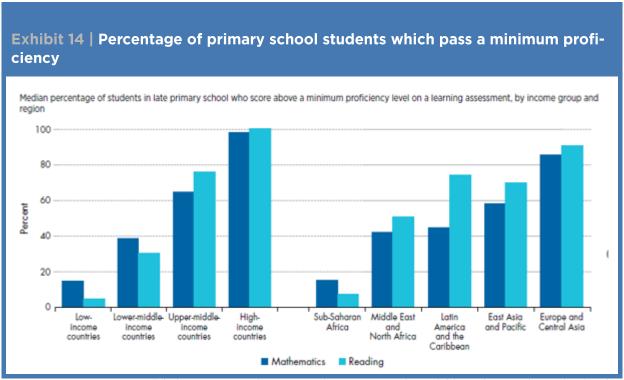
The context of technological revolution stimulates hopes and fears about the future which sometimes risk overshadowing some of the most urgent education-related challenges of today. This is especially true in developing and emerging economies where gaps in basic skills, such as numeracy and literacy remain persistent issues.

The case for investment in education systems, whether in terms of income, health, equality and overall socio-economic progress is clear and simple. And in fact, developing countries have made great progress in increasing school attendance over recent years, with the majority of children worldwide now attending primary school. This improvement outpaced the equivalent progress that today's industrialized economies went through during their historic phases of education growth. By 2008 the average low-income country was enrolling students in primary school at nearly the same rate as the average high-income country⁴¹.

Today's challenge is shifting the emphasis of education from quantity to quality. Improving quality is a more complex and costly challenge, but no less urgent. Worldwide, hundreds of millions of children who end primary school do not master basic competencies. According to an assessment carried out by the World Bank, more than 60 percent of primary school children in developing countries still fail to achieve minimum proficiency thresholds in core competencies. In low-income countries, 14 percent of students reach this minimum level near the end of primary school, and in lower-middle-income countries the figure is 37 percent⁴², see chart below.

⁴² WDR (2017) using "A Global Data Set on Education Quality", made available to the team by Nadir Altinok, Noam Angrist, and Harry Anthony Patrinos. Data at http://bit.do/WDR2018-Fig_O-5.

⁴The World Development Report (2018) (WDR 2018)—LEARNING to Realize Education's Promise http://www.worldbank.org/en/publication/wdr2018



WDR 2018 team, using "A Global Data Set on Education Quality" (2017), made available to the team by Nadir Altinok, Noam Angrist, and Harry Anthony Patrinos. Data at http://bit.do/WDR2018-Fig_O-5

The discrepancies are made clearer when considered at the level of the individual. According to leading international assessments of literacy and numeracy - Progress in International Reading Literacy Study (PIRLS) and Trends in International Mathematics and Science Study (TIMSS) - the average student in low-income countries performs worse than 95 percent of the students in high-income countries. By implication, that "average student" would be singled out for remedial attention in a high-income country. And many high-performing students in middle-income countries who have risen to the top quartile of their cohorts, would rank in the bottom quartile in a wealthier country⁴³. Accenture's analysis of the latest results of the OECD's Programme for International Student Assessment (PISA) tests reinforce these disparities across wealthier and poorer regions, see charts below.

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⁴³ World Bank based on data from RTI International



Learning shortfalls during the school years eventually show up as weak skills in the workforce. Because education systems have not prepared workers adequately, many enter the labour force with inadequate skills, reducing job quality, earnings, and the opportunity for labour mobility. And although the skills needed in labour

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 $^{^{44}}$ OECD (2016), PISA 2015 Results (Volume I): Excellence and Equity in Education, PISA, OECD Publishing, Paris, https://doi.org/10.1787/9789264266490-en.

markets are multidimensional, no student can afford to bypass foundational skills in reading, writing, and mathematics. And increasingly, digital skills are considered a foundational skill as their absence can acutely disadvantage a child's life chances. Moreover, the need to improve basic digital skills is not restricted to developing countries; a recent study by the European Commission found that 44 percent of EU citizens do not possess basic digital skills. As we consider the definition of these foundational skills, the interpretation of written texts must now incorporate a variety of formats and media, mathematics must now be applied to new real-world situations, and these skills must be taught through techniques that demand problem solving, reasoning and creativity.

Finally, despite the improvements in general access to basic education, much work remains to be done to include more vulnerable sections of society, such as children living in fragile and conflict-affected areas, refugees, children with disabilities, and groups that are discriminated against or marginalized.

G20 countries should follow the guidelines of the World Bank towards an integrated framework that seeks "learning for all" including:

POLICY ACTIONS

- **6.1: Investing in early childhood education**, especially in low-income countries where preschool attendance is very low, despite evidence highlighting its importance for later life.
- 6.2: Integrating curriculum, instruction and learning assessments by simultaneously tackling what competences and knowledge should be taught, how teachers can effectively teach them, and measuring what students learn.
- **6.3:** Revamping teachers' professional development, improving how teachers are recruited, paid, rewarded, incentivized, assessed, and trained. This includes targeted professional development for teachers.
- **6.4:** Building implementation and management capacity to better organize education systems and schools, targeting the quality of education outcomes.
- 6.5: Facilitating the use of metrics to guide improvements in education system performance.

RECOMMENDATION 7: PROMOTE AND SUPPORT LIFE-LONG LEARN-ING AT EVERY AGE

In view of the diminishing 'half-life of knowledge', lifelong learning has assumed central importance. Yet, workers are increasingly questioning their capacity to build and

⁴⁶ World Bank Group (2018) Understanding Poverty Platform. Education Overview. Accessed April, 2018. http://www.worldbank.org/en/topic/education/overview#2

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⁴⁵ European Commission (2017). The Digital Skills Gap in Europe 2017. accessed April 12, 2018, https://ec.europa.eu/digital-single-market/en/news/digital-skills-gap-europe

continually refresh the skills they will need throughout their lifetimes. An OECD survey found that over one in four adults report a mismatch between their current skills and the qualifications required for their jobs.⁴⁷ This apparent increasing mismatch between the supply and demand for skills and the shortening shelf life of certain skills explain the heightened attention to lifelong skill building. On-the-job training needs to play an increasingly important role in the overall mix of workforce training. Personal success will largely depend on accelerating learning throughout one's lifetime. The urgency to build "lifelong learners" from an early age will intensify as individuals find themselves more personally responsible for their ongoing professional training development and learning.

The amount of knowledge an employee or prospective employee retains is becoming less important, while their ability and preparedness to quickly learn something new is becoming indispensable. Instilling the intuitive capacity to learn from an early age will be crucial for successful life outcomes. Since 2010, demand for candidates who take initiative has increased 300 percent in job postings. Accenture's survey of global HR leaders reveals that adaptability will be the top skill in the workforce in 10 years⁴⁸. Research also supports the importance of building, from a young age, the capacity to take lessons from one situation and apply them to new situations. The relevance is clear for transferability of knowledge and skills in an increasingly fluid work environment. Time and again, employers and HR executives underline that a thirst for learning—and the agility that it brings—is vital in the modern workplace; but research implies that it's more than just a desire, it's a muscle that can be trained and developed from an early age.

Approaches to learning must adapt significantly along the lifetime of an individual. As employees age, the brain's ability to absorb and retain new information reduces. Adult brains learn best in immersive environments, through practice and experience, rather than through reading or listening. On-the-job training is a highly effective approach that addresses this, including opportunities for micro-credentialing of employees as they up-skill and re-skill. As well as learning styles, formats must also adapt to adults. A recent Accenture survey with more than 14,000 workers around the world found that the biggest barrier preventing the development of new skills is the challenge of finding time to undertake training⁴⁹. This highlights the importance of delivering training in shorter packages of time, through modular approaches, allowing more flexibility.

Targeted intervention is necessary to protect specific vulnerable groups. Lifelong learning takes place with greater frequency among educated adults, with higher incomes and access to digital skills and tools. The OECD finds that poorer, less educated and less digitally-literate adults face significant shortfalls.⁵⁰ The European Commission notes that only 4.4 percent of the 66 million adults with at-best lower secondary education attainment participated in adult learning in 2015.⁵¹ A Pew study

⁵¹ European commission (2016). Annex to the Commission implementing decision on the adoption of multi-annual

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 $^{^{47}}$ McGowan, Müge Adalet and Dan Andrews (2015). Skill Mismatch and Public Policy in OECD Countries (Economic Working Paper nos. 1210), OECD, 2015

⁴⁸ Accenture (2017). New Skills Now. Inclusion in the digital economy. https://www.accenture.com/_acnme-dia/PDF-63/Accenture-New-Skills-Now-Inclusion-in-the-digital.pdf

Accenture, Future Workforce Survey, 2017.
 OECD Education Working Paper No. 166 (2018). Skills for the 21st century: findings and policy lessons from the OCED survey of adult skills. http://www.oecd.org/officialdocuments/publicdisplaydocumentpdf/?cote=EDU/WKP(2018)2&docLanguage=En

in the US reinforces this further: 57 percent of adults with secondary schooling or less identified themselves as lifelong learners, compared with 81 percent who had completed tertiary education.⁵² It is clear that intervention is required to ensure that the lifelong learning revolution that we hope for does not result in the deepening of economic and social inequalities. Businesses can make progress toward inclusive growth and help address social mobility through targeted interventions in this area.

The learning and dynamism of employment in the public sector is needed to address informality, and the private sector's role is to help public sector employment benefit from lifelong learning. We need increased use of micro credentials in the public sector, too, not just the private sector. For example, there is work being done on a professional certificate in public sector best practices for issuing of permits and licenses.

Another group that warrants targeted intervention is the older workforce. Older workers tend to participate in less training, due to a mixture of their own reticence and a bias by firms to invest more in youth training. With aging populations around the world, there will be an increasing imperative to ensure that this growing cohort is equipped with the relevant skills to remain productive. Moreover, older workers are often more loyal to the company than younger ones because stability was a virtue. In that sense, it is sometimes a better investment to train an older worker who will most likely stay on the job rather than many youngsters that will look for other opportunities elsewhere.

Workers in Small and Medium Sized Enterprises (SMEs) are also constrained in their access to training. The OECD finds that workers in SMEs engage in half the amount of training activities compared to workers in larger firms⁵³.

Close cooperation between business and relevant government agencies and institutions is key to ensuring that curricula of training systems are in line with labour market needs and that they open new pathways and tangible opportunities in the labour market.

Cross-sector cooperation will also be important to design appropriate incentives and to support and encourage adult re-skilling across the workforce. The implicit contract between employers and employees is evolving, with employees taking more personal responsibility for their own training and development. Appropriate incentives, guidance and support from government agencies can ensure that the training choices of individuals are well-informed and relevant to market realities.

⁵³ OECD (2013). Skills Development and Training in SMEs, Local Economic and Employment Development (LEED). http://www3.weforum.org/docs/WEF_EGW_White_Paper_Reskilling.pdf

work programmes. https://ec.europa.eu/jrc/sites/jrcsh/files/mawp-2016-2017-key-orientations_en.pdf
⁵² Pew Research Center (2016). Lifelong Learning and Technology https://assets.pewresearch.org/wp-content/up-loads/sites/14/2016/03/PI_2016.03.22_Educational-Ecosystems_FINAL.pdf

POLICY ACTIONS

- 7.1: Formalize the role of "learning to learn" in childhood education systems as a fundamental competence. School systems should be designed to develop Lifelong Learners, as opposed to carriers of knowledge that will quickly be out-of-date.
- **7.2**: **Prioritize the role of Lifelong Learning in government training and education systems**, giving special emphasis to support SMEs, older workers and poorer, less educated communities against whom existing systems are inherently biased.
- **7.3:** Make sure individuals build up training resources over the course of their working life regardless of the jobs, sectors or contractual relations they work in.
- **7.4:** Collaborate formally with businesses and business organizations in the design of skill-building and re-skilling initiatives to ensure relevance to future workforce needs. Where possible, leverage the opportunities brought by new technologies (such as Extended Reality) to achieve this more effectively and engage in new teaching approaches, which are adopted to adult realities. Use this opportunity to encourage more formal on-the-job training approaches within businesses.
- **7.5:** Identify specific regions and sectors that are vulnerable to automation and design initiatives to support those workers with retraining for the jobs of the future. Collaborate and coordinate across sectors and G20 members to share successful practices and approaches in these efforts.

Exhibit 16 | Supporting Research

OECD findings on Automation, skills use and training

About 14% of jobs in OECD countries participating in PIAAC are highly automatable (i.e., probability of automation of over 70%). This is equivalent to over 66 million workers in the 32 countries. In addition, another 32% of jobs have a risk of between 50 and 70% pointing to the possibility of significant change in the way these jobs are carried out as a result of automation – i.e. a significant share of tasks, but not all, could be automated, changing the skill requirements for these jobs.⁵⁴

The risk of automation is not distributed equally among workers. Automation is found to mainly affect jobs in the manufacturing industry and agriculture, although a number of service sectors, such as postal and courier services, land transport and food services are also found to be highly automatable. The occupations with the highest estimated automatability typically only require basic to low level of education. At the other end of the spectrum, the least automatable occupations almost all require professional training and/or tertiary education. ⁵⁵

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 $^{^{54}}$ Ljubica Nedelkoska and Glenda Quintini. (2018). Automation, skills use and training. OECD Publishing p.7 55 lbid., p. 8

RECOMMENDATION 8: UPGRADE EDUCATION SYSTEMS TO ALIGN WITH TOMORROW'S LABOUR MARKET NEEDS

Education systems do not sufficiently match the needs of labour markets. Businesses in G20 countries are struggling to find skills relevant to today's digital economy, let alone preparing for the technological changes ahead. In 2015, for instance, there were 500,000 new computing jobs to be filled in the US, but fewer than 40,000 new computer science graduates. Similarly, according to the UK Commission for Employment & Skills, 43 percent of STEM vacancies are hard to fill. This is mainly down to a shortage of applicants with the required skills and experience. Even in India, the country with the highest number of STEM graduates, the shortage of skilled talent in the STEM sector has increased from 6 percent in January 2014 to 12 percent in January 2018. This shortage of STEM graduates is a fundamental challenge for G20 economies.

Skills-demand trends has been evolving. Skills associated with routine tasks (such as factory work or repetitive technical or administrative tasks) have been decreasing in importance whilst social, interpersonal and creative skills have been increasing in importance. This is not only the impact of automation. Broader transformations that prioritize social skills include the infiltration of services across industries and the increasingly collaborative and communicative nature of work. Each worker is now expected to be proficient at a greater range of skills, which has placed particular emphasis on social and behavioural skills. Yet the biggest shift has yet to come, brought about by the introduction of intelligent systems into the workplace. As smart machines and systems increasingly take on repetitive and routine tasks, a far greater emphasis will be placed on workers to excel at those skills that indisputably set humans apart from machines. These include creativity, empathy, flexibility and judgement. Capabilities that combine skills, such as leadership, judgement and agile thinking will increase in importance.

Education systems must be adapted to place greater emphasis on purposefully equipping children with these social and behavioural skills. The historic lack of emphasis on teaching these skills means that there is a scarcity of teachers able to do so, as well as a lack of familiarity with appropriate approaches, and even terminology. These issues must be addressed to ensure that schools prepare their students with future-relevant skills. For example, learning through longer-term projects rather than lectures and tests of memorized facts builds the complex reasoning, interpersonal and intrapersonal skills that are critical to learning to learn. "Learning by doing" projects teach initiative, responsibility, problem solving, self-management and build confidence. They provide a safe place to fail and improve; a highly effective way to learn.

Some of the most impressive recent advances in upgrading learning approaches have been in the digital realm. A new generation of digital learning pioneers are

⁵⁶ Accenture (2016) Cracking the Gender Code. https://www.accenture.com/t20180524T074231Z_w__/se-en/_acnmedia/Accenture/next-gen-3/girls-who-code/Accenture-Cracking-The-Gender-Code-Report.pdfla=en ⁵⁷ United Kingdom Commission for Employment & Skills (2015) Reviewing the requirement for high level STEM skills https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attach-

https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attach-ment_data/file/444048/High_level_STEM_skills_requirements_in_the_UK_labour_market_FINAL.pdf

58 Indeed Data (2018). Accessed April, 2018 https://economictimes.indiatimes.com/jobs/indias-stem-talent-sees-shortage-despite-maximum-graduates/articleshow/63109240.cms?utm_source=contentofinterest&utm_medium=text&utm_campaign=cppst

combining up-to-date content with the latest pedagogic techniques and flexible digital platforms and tools to transform digital learning. These companies focus on skills-based approaches, with modular learning packages, all centered around the learner. This flexibility and personalization is highly appropriate for the lifelong learning imperatives of today's job market, as well as delivering personalized, guided learning to children. These organizations are innovating approaches that all education and training organizations can leverage, engage with and learn from.

POLICY ACTIONS

- **8.1:** Ensure access for all to compulsory, high-quality education systems for all, that deliver proper acquisition and application of a broad range of essential skills, from core competences (particularly literacy, numeracy and science, technology, engineering and mathematics (STEM) subjects) to more complex reasoning, critical thinking, social and behavioural capabilities. **Design targets and metrics that are centred around the learner's acquisition of this range of skills.**
- **8.2:** Incorporate active learning techniques such as project-based learning and team-based learning activities as a formal part of curricula from an early age, to nurture socio-emotional, interpersonal and creative skills.
- 8.3: Leverage the rapid advances in private sector and not-for-profit Education Technology (Ed Tech) organizations to create partnerships that broaden access to next-generation digital learning solutions.

RECOMMENDATION 9: EMBRACE NEW DIGITAL LEARNING MODELS AND TECHNOLOGIES TO IMPROVE TEACHING TECHNIQUES AND ENVIRONMENTS

Digital learning tools such as e-learning and MOOCs have been available for some time. The promise of large-scale, low-cost, easily-replicable digital solutions to teach traditional as well as complex technical skills is still tantalizing, but the current generation of digital learning tools have not quite made the widespread impact that was initially hoped. This is changing.

Advances in digital infrastructure, processing power, platform technologies and a variety of new techniques (including machine learning), are opening new opportunities. Traditional classroom techniques are increasingly complemented by peer-to-peer learning, virtual teamwork and interactive exercises. These modes of instruction, known collectively as "active" learning, encourage student engagement, in stark contrast to passive listening in lectures.

A new generation of digital learning pioneers are combining up-to-date content with the latest pedagogic techniques and flexible digital platforms and tools to transform digital learning. These companies focus on skills-based approaches, with modular learning packages, all centered around the learner. This flexibility and personalization is highly appropriate for the lifelong learning imperatives of today's job market, as well as delivering personalized, guided learning to children. These organizations are innovating approaches that all education and training organizations can leverage and learn from.

In the meantime, the digital revolution is expanding to yet new frontiers. Immersive technologies, such as Virtual Reality are already being used to build skills by simulating real-life experiences. This kind of experiential learning is well suited to acquire increasingly important social and behavioural skills that are developed through practice rather than through instruction. Some companies are combining their understanding of neuroscience with technology to craft tailored learning experiences that could well become commonplace in the future. These immersive techniques are especially well suited to the learning style of adult brains. Virtual Reality has proven especially useful to build social skills, and is utilized to help children with learning disabilities as well as adults preparing for stressful work environments.

Other promising new technologies for learning include Augmented Reality (to support learning experiences with complementary information and guidance), Artificial Intelligence (to generate more personalized and tailored learning journeys), and Blockchain (to develop trustworthy systems for financing education or records of learning credentials). Governments should be partnering with the innovators driving these initiatives and investing in high-potential pilots that could fundamentally transform learning systems and outcomes.

All of these opportunities to accelerate skill-building at scale are dependent on appropriate digital infrastructure. Countries whose digital infrastructure allows these new digital solutions to be implemented are already seeing a dramatic increase in their popularity. In the meantime, it is critical to continue to develop broadband technologies, especially as education content is most likely to be used on mobile devices. Learners in countries with deficient digital infrastructures risk being left behind, exacerbating global divides in skills, and ultimately in economic opportunity.

POLICY ACTIONS

- **9.1**: Invest in appropriate digital infrastructure to allow broad-based access to digital learning solutions. Digital opportunities must not disadvantage genders, age groups, regions or socio-economic classes.
- 9.2: Ensure that digital learning solutions are always implemented with relevant expertise to guarantee an appropriate combination of technology, content and pedagogic techniques. All are essential.
- 9.3: Leverage the rapid advances in private sector and not-for-profit Education Technology (Ed Tech) organizations to create partnerships that broaden access to next-generation digital learning solutions.
- **9.4: Integrate digital learning solutions into the physical teaching environment**, to optimize the blend of formats, benefitting from the advantages of each. For

example, peer-to-peer, collaborative and gamification techniques can help to build motivation and engagement with teaching content.

9.5: Expand awareness and training to educators, parents and students about how to appropriately utilize digital learning solutions.

RECOMMENDATION 10: OPTIMIZE THE USE OF AND ACCESS TO LABOR MARKET DATA AND INTELLIGENCE

The dynamics of labor market supply and demand are rapidly evolving. It is therefore imperative to access accurate, up-to-date and trustworthy data on the needs and fluctuations of these markets.

The past decade has seen a transformation in our measurement tools and in our ability to translate measurements into insights, and ultimately into action. Easy access to vast quantities of data, processed near-instantly, stored and distributed in real-time, and at low cost, has unleashed a revolution in big data and analytics. Advances in the Internet of Things promise to multiply these data flows yet further. But at present, few countries or institutions invest significantly in collecting and collating detailed labor market data, let alone doing so in standardized formats that are shared across countries and made available for use by academics or other experts to generate further insights. Improved data collection and analysis holds the potential for step-change improvements in strategic planning and policy formulation. The more open and accessible these data sets are to people outside government institutions, the greater the value and innovation potential.

A tremendous number of business initiatives, products and services regularly assess the trends and dynamics of labor markets and skills, especially through real-time digital channels. When these datasets are combined with country-level labor market data, valuable new insights can be generated to support the development of national skills scenarios and drive strategies for the future. Allowing academics, experts and policymakers to combine and process these datasets in innovative ways can unlock yet further insights and targeted techniques to anticipate and prepare for trends in skills and jobs. Having more harmonized labor market intelligence does not only create better insights on the national level, it will also make it easier to compare and compile insights across G20 regions, industries and other desirable categorizations in order to analyze and craft effective employment policies.

Skill-specific or sector-specific initiatives can provide deeper detail, which in turn, can be combined to improve the overall robustness of strategic planning efforts. For example, our Taskforce supports the recommendation of the B20 Taskforce on the Digital Economy and Industry 4.0 in recommending comprehensive frameworks such as UNESCO's Global Framework to Measure Digital Literacy as a basis for national policymaking in this area.

Exhibit 17 | Supporting Research

Investing in tomorrow's skills dynamics

The persistence of skills gaps around the world is evidence of our inability to efficiently allocate investments in learning systems. In order to make informed investment decisions, we need a far greater understanding of the dynamics behind the evolution of skill demand. The starting point is challenging. It is rare to find comprehensive and consistent data sources on skills around the world. Where data are available and reliable, they can offer a powerful source of insights to underpin investment decisions.

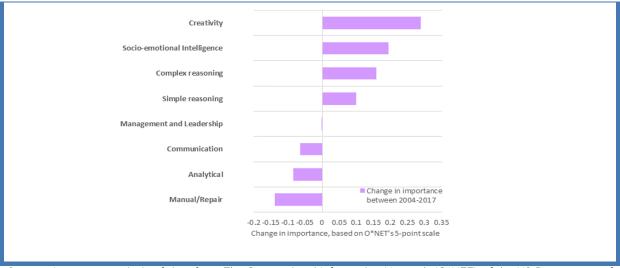
Accenture's analysis of data on US workers between 2004 and 2017 finds that the skills composition demanded by different roles has changed substantially over this period. Critically, the research found that workers are required to utilise a broader range of skills in their work now, compared to 2004. For example, workers in analytical roles (see chart below) are now expected to possess more social and creative skills. Rather than crunching numbers alone, these workers are now also typically expected to present and explain their analysis to different audiences. Similarly, creative roles now require a degree of analytical aptitude, such as interpreting data, that was not expected before.

The implication is that our future workers need to be trained to possess more diverse groups of skills.

Current skilling targets usually relate to the output of teaching institutions, in terms of people certified with specific skills or knowledge, (eg. we need X million Engineers, or a Y% increase in Arts graduates). Instead, our planning can centre on the desired skills make-up of the learner, targeting the skills clusters that are most relevant and valuable to different roles or jobs. This research opens the door to data analysis that can help policymakers, businesses and educators understand the groupings of skills that will be most relevant to different types of jobs, allowing us to gear training investments accordingly across relevant sectors and regions.

There is urgency here. Experience tells us that education and training systems are slow to change: many of today's skills gaps still relate to the "knowledge economy" that came with the Internet, (eg. technical skills and STEM skills). With the advent of intelligent systems, a further transformation in mass skill-demand dynamics is around the corner, as workers will be interacting more frequently and intimately with smart machines. Now is the time to invest in the toolkit that helps us plan effectively for that transformation. The starting point is clear. More and better data. We can't improve what we don't measure.

WORKERS IN ANALYTICAL ROLES HAVE SEEN AN INCREASING IMPORTANCE IN THEIR CREATIVE & SOCIAL SKILLS



Source: Accenture analysis of data from The Occupational Information Network (O*NET) of the US Department of Labor

To optimize labour market intelligence and prepare workers, businesses and policy-makers for changing skills needs, the G20 should:

POLICY ACTIONS

- **10.1**: Harmonize, across the G20, approaches to labor market data collection and treatment, and do so in collaboration with relevant businesses, training institutions and academic experts.
- 10.2: Engage with existing proposals for comprehensive frameworks to improve consistent global skills measurement, such as UNESCO's Global Framework to Measure Digital Literacy.
- **10.3: Utilize trusted private-sector data sources** (eg. from the recruitment and employment sector) **to complement national data sources** and generate new insights based on granular, global and frequently updated data supplements.
- **10.4: Generate skills anticipation plans to predict potential skills gaps** and bottlenecks, and thereby guide better-informed investment decisions as well as policies on employment, training and migration.

ANNEX

SCHEDULE OF TASK FORCE EXCHANGES

#	Date	Location 1	Гһете
1	February 27 th , 2018	Teleconference	Task Force Kick-Off: topic selection based on survey results
2	March 14 th , 2018	Geneva, Swit- zerland	1st in person meeting: discuss Policy Framework
3	April 23 rd , 2018	Teleconference	2nd call: review 1st iteration cycle and 1st draft
4	May 28 th , 2018	Paris, Fracne	Joint Task Force Meeting: discuss 2nd draft
5	July 5 th , 2018	Teleconference	3 rd call: review 3rd draft
6	August 9 th , 2018	Teleconference	4 th call: close final draft
7	September 6 th , 2018	Mendoza, Ar- gentina	Global Employers' Forum: 1st advocacy meeting
8	October, 5 th 2018	Buenos Aires, Argentina	B20 Summit: 2 nd advocacy meeting

Name	Company/Organization	Country	Donutu	
Name	Company/Organization	Country	Deputy	
COORDINATION GROUP				
Chair				
Martín Migoya	GLOBANT	ARGENTINA	Martín Umaran	
Co-Chairs				
Gerhard F. Braun	CONFERDERATION OF GERMAN EM- PLOYERS' ASSOCIATION (BDA) - SCYZORYK GRIMBE	GERMANY	Paul Noll	
Linda Rottenberg	ENDEAVOR	UNITED STATES	David Kagulu- Kalema	
Dario Werthein	GRUPO WERTHEIN	ARGENTINA	Javier Mutal	
Erol Kiresepi	INTERNATIONAL ORGANISATION OF EMPLOYERS	SWITZERLAND		
Nate Davis	K12, INC	UNITED STATES	Mike Kraft	
Diego Bekerman	MICROSOFT	UNITED STATES	Alejandro Anderlic	
David lakobachvili	ORION HERITAGE CO, LTD	RUSSIAN FED- ERATION	Mikhail lakobachvili	
Annemarie Muntz	RANDSTAD	NETHERLANDS	Sonja Van Lieshout	
Peter M. Robinson	UNITED STATES COUNCIL FOR IN-	UNITED	Gabriella Rigg Her-	
Christian Gomez	TERNATIONAL BUSINESS WALMART	STATES UNITED STATES	zog Welby Leaman	
B20 Sherpa				
BZO Sileipa				
Fernando Landa	BUSINESS 20	INTERNA- TIONAL	Pilar Toyos	
Knowledge Partners				
Armen Ovanessoff	ACCENTURE	IRELAND	Armen Ovanessoff	
Camila Aisenberg	ACCENTURE	ARGENTINA	Camila Aisenberg	
Kyra Kaszynski	DELOITTE	UNITED STATES	Kyra Kaszynski	
Soledad Ruilopez	DELOITTE	UNITED STATES	Soledad Ruilopez	
Julia Stiller	DELOITTE	UNITED STATES	Julia Stiller	
Network Partners				
Nicole Primmer	BUISINESS AT THE OECD	INTERNA- TIONAL	Nicole Primmer	
Matthias Thorns	INTERNATIONAL ORGANISATION OF EMPLOYERS (IOE)	INTERNA- TIONAL	Matthias Thorns	
Maria Paz Anzorreguy	INTERNATIONAL ORGANISATION OF EMPLOYERS (IOE)	INTERNA- TIONAL	Maria Paz Anzorreguy	
Linda Kromjong	INTERNATIONAL ORGANISATION OF EMPLOYERS (IOE)	INTERNA- TIONAL	Linda Kromjong	

Members			
Dominik Kummerle	BUSINESS AT THE OECD	INTERNA- TIONAL	
Paul Noll	CONFERDERATION OF GERMAN EM- PLOYERS' ASSOCIATION (BDA)	GERMANY	
Marina Levin	RANDSTAD	NETHERLANDS	
Jorge Figueroa	RANDSTAD ARGENTINA	NETHERLANDS	
Laura Ruth Gimenez	UNIÓN INDUSTRIAL ARGENTINA (UIA)	ARGENTINA	
Ronnie L Goldberg	UNITED STATES COUNCIL FOR IN- TERNATIONAL BUSINESS	UNITED STATES	Gabriella Herzog

Name	Company/Organization	Country	Deputy
TASK FORCE N	1EMBERS		
Mariana Camino	ABECEB	ARGENTINA	
Pablo Gutierrez Oy- hanarte	ADEBA	ARGENTINA	
Francisco Martínez Domene	ADECCO ARGENTINA	SWITZERLAND	Ana Inés Mon- tanari
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Lutz Mühl	BUNDESARBEITGEBERVERBAND CHEMIE (BAVC)	GERMANY	
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Sebastian Ariel Orrego	CAMARA ARGENTINA DE LA CONS- TRUCCIÓN	ARGENTINA	Giuliano Potenza
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1	CENTED FOR ENTREPRENEURS	DLICCIANIEED	1
Igor Egorov	CENTER FOR ENTREPRENEURSHIP LLC/G20 YOUNG ENTREPRENEURS'	RUSSIAN FED- ERATION	
	ALLIANCE	ERATION	
Xiao Sun	CHINA CHAMBER OF INTERNA-	CHINA	Beier Zhang
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Mewes Ricardo	CNC	CHILE	
Jordi Garcia Viña	CONFEDERACIÓN ESPAÑOLA DE	SPAIN	
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	(CEOE)		
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fredo	BUSINESSES AND INDUSTRIES CONFEDERATION OF EMPLOYERS	CDAIN	
José María Lacasa	AND INDUSTRIES OF SPAIN AND	SPAIN	
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Neha Gupta	CONFEDERATION OF INDIAN INDUS-	INDIA	
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	- CONFINDUSTRIA		
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Juan Jose Etala	ESTUDIO SALVAT, ETALA & SARAVI	ARGENTINA	
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·	WORK (GAN)	TIONAL	
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