B20 EMPLOYMENT TASKFORCE POLICY PAPER

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Taskforce constitution and working process

The Chinese government appointed the China Council for the Promotion of International Trade (CCPIT) to guide the work of B20 China in 2016. B20 China was led by B20 Chair Mr. Jiang Zengwei, Chairman of the CCPIT, and B20 Sherpa Mr. Yu Ping, Vice-Chairman of the CCPIT. B20 China continued to work on the six priority areas pursued under the previous Turkish presidency. Five taskforces were formed to focus on Trade, Infrastructure & Investment, Financing Growth, SMEs, and Employment respectively, and a forum was held to discuss Anti-Corruption. This reflected the focus of the Chinese G20 presidency on boosting innovative development, building an open world economy, and enhancing global economic governance.

Leadership

The Employment Taskforce was established under the leadership of Chair Li Yanhong, Chairman and CEO of Baidu. The chair was supported by five co-chairs: Liang Xinjun, Vice-Chairman and CEO of Fosun Group, Daniel Funes de Rioja, President of the International Organization of Employers (IOE), Gary Burnison, CEO of Korn Ferry International, Yogendra Kr. Modi, Executive Chairman of Great Eastern Energy Corporation Ltd and Zhang Lei, Founder & Chairman of Hillhouse Capital Group.

Membership

Membership of the Employment Taskforce consisted of over 90 senior executives from the private sector, business associations, and non-profit organizations and was broadly representative of G20 countries. Having members from a diverse range of backgrounds and expertise allowed the taskforce to approach the issues surrounding employment from a broad and exhaustive range of perspectives. The taskforce received strong support from A.T. Kearney, the taskforce's knowledge partner, CCPIT, the B20 secretariat, and IOE, the business network partner. Please see the appendix for the complete list of members in the 2016 B20 Employment Taskforce.

Working process

The policy development process began with a scoping exercise to develop themes for investigation based on the recommendations of B20 Turkey. Each theme was then deeply researched and debated within the taskforce to generate draft recommendations. The Employment Taskforce initially derived three potential policy themes and nine sub-themes for the 2016 kickoff meeting in Beijing. These themes were based on identified macro trends and their labor market implications, and were formally proposed in the 2016 Induction Document. Through an iterative process, the themes and sub-themes were discussed and high-impact, consistent, and actionable recommendations were then proposed, debated and refined during meetings in Beijing, Washington DC, and Paris. Contributions from the taskforce members were then coordinated and turned into a policy report by the taskforce working group that included chairs' deputies and representatives from the knowledge partner, B20 secretariat, and business network partner.

Summary of recommendations

Context & challenges

Context

G20 leaders have recognized that more must be done to address unemployment, raise labor force participation and create quality jobs to ensure the G20's goal of sustainable economic and financial development. In 2014 and 2015, the G20 acted on this recognition by pledging to reach two concrete goals proposed by G20 engagement groups. In 2014, the G20 pledged to reduce the gap in labor participation rates between men and women by 25% by 2025, and in 2015, the G20 agreed to the goal of reducing the share of young people who are most at risk of being permanently left behind in the labor market by 15% by 2025.[1,2] The B20 Employment Taskforce urges G20 leaders to continue to work towards these goals and tackle unemployment, raise labor force participation and create quality jobs through effective policy implementation.

In 2015, the number of globally unemployed people reached 197.1 million people, an increase of 1 million from 2014, and 27 million above the pre-global financial crisis level.[3] The current rate of youth neither in education, nor in employment, or training (NEET) ranges from 10% to well over 30% in G20 countries, and has been in rising in several G20 countries for the past few years.[4] The global female labor force participation rate in 2014 was 50% compared to 82% for males.[5] These data illustrate the employment challenges currently facing G20 countries, and the trend is not expected to improve for the next few years. Global unemployment is expected to rise by 2.3 million in 2016, and another 1.1 million in 2017.[3]

In order to effectively tackle the issues surrounding employment, G20 governments need to acknowledge and understand three global trends currently affecting labor markets. Firstly, traditional jobs are changing due to globalization, automation, and digitalization. Governments need to adapt regulation to promote a flexible and competitive environment in order for businesses to succeed and employment to grow in this new era of technology and global markets. Secondly, countries around the world are underutilizing females and young people in the labor force. Governments should work to include these demographics in the labor force and take advantage of their talents. Thirdly, technological disruption in the workplace has led to a mismatch in skills and resources required by business and the skills and resources currently available in the labor market. Governments need to undertake a thorough assessment of the skills gap and implement programs to reduce these mismatches and promote skill development.

G20 governments need to fundamentally change their approach to tackling employment issues to reflect these changes in the global environment. The B20 Employment Taskforce advocates collaboration between business and policy leaders to adapt to these global

[1] G20 (2014). G20 Leaders' Communiqué: Brisbane Summit, 15-16 November 2014.

[2] G20 (2015). G20 Leaders' Communiqué: Antalya Summit, 15-16 November 2015.

[3] ILO (2016). World Employment and Social Outlook: Trends in 2016.

[4] OECD (2015). Youth not in employment, education or training (NEET) (Indicator). Last accessed on 14 March 2016.

[5] World Bank (2014). Female labor force participation rate (indicator). Last accessed on Feb 29 2016.

trends, tackle the issues associated with them, and take advantage of the opportunities provided by them to provide meaningful employment opportunities for all. While the issues and policy recommendations discussed in this document are pertinent to all G20 countries, unique geographic, macroeconomic, and institutional environments in each G20 country require tailored implementation of the policy recommendations for maximum effectiveness.

Challenges

1. Structural challenges

Inefficient and ambiguous regulatory structures governing labor, business, and migration are the greatest barrier to efficient employment. Restrictive labor, business, and migration laws make it difficult for firms to hire employees and expand their businesses. In the modern era of globalization and technological penetration, regulation needs to be structured to allow goods, services, people, and innovative ideas to be used where they can have the maximum economic and societal benefit. Reducing inefficient and excessive regulation will promote innovation and entrepreneurship and provide increased employment opportunities, especially for youth.

2. Cultural challenges

Cultural barriers remain a challenge to ensuring inclusive employment. Social norms governing gender roles in education, family life, and the workplace continue to have an impact on the labor force participation rate for women. A lack of representation and mentors in certain industries and at higher levels also present a challenge for career advancement for women. Tackling these cultural norms and promoting the benefits of women's employment will help promote entrepreneurship and innovation and increase the labor force participation rate of women.

3. Career transition challenges

Due to the dynamic changes in the modern business environment from technological disruption and globalization, the need for workers to take time off work to change career paths, move location, re-train for new skills, or start a new business is growing. However, financial considerations prevent many workers from making these critical transitions. Providing a suitable social support system that enables workers to make these critical transitions to adapt and take advantage of the increasingly dynamic business environment will allow workers to start new businesses and gain new skills needed for the modern business environment.

4. Speed and unpredictability of technological disruption

With the advent of technological disruption, there is tremendous opportunity for entrepreneurs and society to innovate, start new businesses, and improve people's lives. However, the nature and scope of technological disruption mean that this disruption will be unpredictable and in many cases, penetrate labor markets very quickly. As a result, government and business will not always have the time and capacity to prepare for these disruptions. Jobs could become obsolete quickly, and education could have trouble adapting curricula to prepare graduates with the necessary skillsets needed by business. Governments should prepare for technological disruption by comprehensively assessing and vigilantly monitoring its full impact on labor markets, and ensuring that education and vocational training adapt to changing skill needs. This will minimize skill mismatches and reduce the challenges associated with the speed and unpredictability of technological disruption.

Recommendations

Implement programs and reforms to encourage entrepreneurship and innovation:

- G20 members should establish a G20 SMART innovation initiative to promote technological innovation.
- G20 countries should implement structural reforms to reduce costs, bureaucracy, and business disruption to promote entrepreneurship.
- G20 countries should provide coordinated support and finance mechanisms to enable the transition of entrepreneurial stage businesses to SMEs.
- G20 countries should take action to promote innovation such as national or global sponsorship of innovation challenges, R&D investment in priority sectors, ecosystem enablement, and business-connected education curricula.

Remove structural barriers and enact support mechanisms to increase youth employment participation:

- G20 countries should reduce red tape and restrictions on diverse forms of contractual arrangements, such as part-time, flexible hour, and temporary contracts to create incentives for business to hire youth and transition from informal to formal employment.
- G20 countries should align vocational and trade school curricula with the business environment and establish apprenticeships, internships, and work-integrated learning programs in cooperation with business and the education system.
- G20 countries should establish investment zones within low income areas with prerequisites for skill capability building and local employment.
- G20 countries should establish transparent reporting mechanisms on youth employment participation.

Implement and encourage initiatives to increase the female labor force participation rate:

- G20 countries should promote mechanisms to increase employment access, remove bias, and ensure equal pay for females in the labor force.
- G20 countries should encourage an increase in female entrepreneurs by providing incentives and measurement for funding female-run start-ups.
- G20 countries should encourage the advancement and mentorship of women into senior leadership roles in the private sector.
- G20 member countries should reconcile work and family life by providing or encouraging support mechanisms for family care, flexible roles in the workplace, and career transitions to retain female labor in the work force.
- G20 member countries should establish transparent reporting mechanisms on female labor force participation.

Enact policies to assess and reduce the skill mismatch and workforce capability gap:

- G20 countries should assess the full impact of workforce changes occurring due to technological innovation including participation rate impact, underemployed workers, skill gaps, sector obsolescence and sector growth.
- G20 countries should assist displaced workers by providing targeted social support and retraining under certified programs.
- G20 countries should ensure that education systems and vocational training programs focus on skill development required in the modern business environment.
- G20 countries should increase mobility and flow of talent to facilitate business needs.

Recommendation 1. Implement programs and reforms to encourage entrepreneurship and innovation

Summary

Recommendation	Encourage entrepreneurship and innovation
Owner	G20 countries
Timing	Provide a status update by 2017 G20 leaders meeting in Germany
Value	Increase net job growth, develop an entrepreneurial ecosystem, and promote a new technology enabled, capability driven job creation model in G20 countries
KPI	% new jobs provided by SMEs – 76% (2010)[6] % self-employed workforce – 18% (2014)[7] Global Innovation Index
Target	Improved Global Innovation Index Ranking (World Intellectual Property Organization)

Context

Governments can promote entrepreneurship and innovation by establishing a G20 SMART initiative, reforming labor, business, and mobility laws, and providing national-level support mechanisms. Automation, digitalization, and globalization continue to disrupt the workplace which has created an abundance of digital tools and opportunities for entrepreneurs and businesses to innovate and grow. However, inefficient regulation that increases costs, bureaucracy, and business disruption continues to hinder entrepreneurial businesses across the globe. The B20 Employment Taskforce urges G20 leaders to work together to collectively remove these structural barriers that discourage entrepreneurship and innovation. Additionally, the B20 Employment Taskforce encourages individual member countries to implement support mechanisms at a national level to assist entrepreneurs to innovate, grow businesses, and promote job growth. Reforming inefficient regulation and implementing support mechanisms to promote entrepreneurship and innovation will allow a new technology-enabled, capability driven job creation model to flourish.

A G20-wide commitment to establish a G20 SMART initiative, reform inefficient regulation, support entrepreneurial businesses and promote innovation-friendly policies will show resolve to tackle these issues at a global level. This show of commitment would reinforce

[6] Ayyagari, M., Demirguc-Kunt, A. & Maksimovic, V. (2011). Small vs. Young Firms across the World: Contribution to Employment, Job Creation, and Growth. World Bank. (Global figure used from surveys taken in 2006-10).

[7] OECD. (2016). Self-employment rate (indicator). Last accessed on 03 May 2016. (Selected G20 countries from 2013-14 data).

the importance of undertaking such structural reforms, and assist member countries to overcome local political resistance to any of the proposed policies.

Actions

Ref	Action
1.1	G20 members should establish a G20 SMART innovation initiative to promote technological innovation.
1.2	G20 countries should implement structural reforms to reduce costs, bureaucracy, and business disruption to promote entrepreneurship.
1.3	G20 countries should provide coordinated support and finance mechanisms to enable the transition of entrepreneurial stage businesses to SMEs.
1.4	G20 countries should take action to promote innovation such as national or global sponsorship of innovation challenges, R&D investment in priority sectors, ecosystem enablement, and business-connected education curricula.

1.1 G20 members should establish a G20 SMART innovation initiative to promote technological innovation.

The B20 Employment Taskforce proposes the establishment of the G20 SMART innovation initiative to facilitate governments, the private sector, universities, and research institutes with a platform to share resources, knowledge, and achievements with the goal of promoting technological innovation to accelerate global economic development and employment. The G20 SMART innovation initiative would be established with five guiding principles in mind:

- S (Sustainable): Sustainable innovation. Build a G20 innovation system by gathering the resources of business, governments, scientific research institutions, universities, and financial institutions. Enterprises should be the main driving force in establishing a sustainable innovation ecosystem.
- M (Massive): Create a Massive public service platform suitable for innovation. Provide technological innovation support covering all 20 countries, including a public service platform shared among countries, an international talent exchange platform, and a scientific and technological achievements transfer and trading center.
- A (Accessible): Accessible innovation network. Encourage openness and sharing, in order to make all kinds of open resources available for entrepreneurs to use for incubation and re-innovation.
- R (Revolutionary): Reform and rebuild existing institutions that are unsuitable for innovation. As technology penetrates an increasing number of professional fields, new technology will challenge old organizational modes and institutional systems. This will encourage innovative development.
- T (Technological): Revolutionary technology drives productivity. Use the state's power to support significant technological innovation and enhance the innovative level of

technology and its applications. This will make technology become the new source of economic growth.

The SMART initiative would establish five initiatives through a technology platform to facilitate innovation and entrepreneurship:

- Strengthen cultural, educational and innovative exchanges among G20 countries. Develop more G20 programs, like youth cultural communication, to allow youth to travel and study in G20 countries for better understanding of each other's cultures and to promote cooperation and innovation.
- Establish the G20 Innovation Visa Scheme (GIVS) to provide multilateral long-term visa and fast-track clearance for innovative individuals and entrepreneurs within G20 countries. Promote free flow of innovative talent to effectively enhance scientific and technological innovation capacity.
- G20 countries should set up innovation funds. Promote technological innovation by setting up scientific and technological innovation funds in cooperation with G20 governments and businesses. These funds would support scientific research and development, commercial transformation of scientific achievements, and rapid growth of innovative enterprises.
- Build a G20 innovative technology sharing economy platform in cooperation with business. The platform will draw lessons from the sharing economy and realize dynamic matches and free trade in scientific research equipment, computing storage, data resources, and achievements in innovative subjects across G20 countries. This innovative technology sharing platform would improve innovation efficiency, reduce innovation costs, and accelerate innovative transformation.
- Build a G20 Brain Platform. In this age of artificial intelligence, we suggest that governments cooperate with business to build an open platform for all G20 countries to collaborate on artificial intelligence. This platform will facilitate efficient exchange of intelligence, data, technologies, and computing resources in innovative subjects, and allow G20 countries to innovate collaboratively to solve major issues facing the globe.

The establishment of a G20 SMART initiative would provide an unprecedented opportunity for public institutions and private enterprises to collaborate and share knowledge, resources, and technological breakthroughs that would stimulate innovation and thus accelerate economic and employment growth.

Proposal: G20 Innovation Visa Scheme (GIVS)[8]

Background

Increasing the cross-border mobility of entrepreneurs and innovative talent will maximize the potential for innovation and entrepreneurial success, which will in turn, drive economic and job growth. However, complex visa and immigration regulations prohibit such movement for many entrepreneurs. To tackle this issue, the B20 Employment Taskforce recommends the

[8] G20 Innovation Visa Scheme proposed with support from G20 Young Entrepreneurs' Alliance (G20 YEA).

establishment of a G20 Innovation Visa Scheme (GIVS) to facilitate the movement of innovative talent and entrepreneurs. The GIVS would offer strong administrative simplification on topics relevant to entrepreneurs and be based on successful mechanisms such as the APEC business travel card, working holiday visa, and start-up visa programs currently available in many G20 countries.

Mission

To realize efficient movement of innovative talent and entrepreneurs in order to promote sustainable economic growth and employment.

Actions

1. Create a GIVS working group under the G20 framework to carry out feasibility studies, set criteria for applicants, plan the execution of the scheme, and implement program evaluation processes. G20 members will join the GIVS on a voluntary basis.
2. G20 Members to evaluate and approve GIVS applications through a simplified administrative process with the objective of a fast cycle time from application to visa issuance.
3. G20 Members to waive or discount visa fees for successful GIVS applicants.
4. G20 Members to provide 3-year multiple entry visas for successful GIVS applicants to stay up to 3 months perentry. Length of the entry stay and visa length can be adjusted upon further evaluation.
5. G20 Members to provide successful GIVS applicants with a point of contact to the entrepreneurship ecosystem of the hosting country. GIVS entrepreneurs should be provided access to mentorship programs to assist entrepreneurs through the business lifecycle, obtain financing, test feasibility, structure their business, enhance local marketing skills, commercialize technology and gain other experience needed for entrepreneurs to successfully grow their business in hosting countries.
6. G20 Members to provide a priority immigration lane for successful GIVS applicants.

1.2 G20 countries should implement structural reforms to reduce costs, bureaucracy, and business disruption to promote entrepreneurship.

Best Practice: Business registration in a day - New Zealand[9,10]

New Zealand was ranked as the country with the easiest process to start a business in the Doing Business report by the World Bank Group. Registering a business in New Zealand only involves one online procedure and can be fully completed in under a day. The application cost is $10 NZD, and incorporation of the company costs $150 NZD. Below is the procedure:

Entrepreneurs can reserve a company name, register their business, and pay their registration fee all online. When the application is processed, the entrepreneur will receive a notification by email along with the appropriate director and shareholder consent forms, which are generated by the Companies Office. The certificate of incorporation will be issued via email in a few minutes when the last consent form is accepted. Entrepreneurs can also register online for both a company Inland Revenue Department number and for the Good and Service Tax.

The list of the information needed when applying is as follows:

- Contact details
- The date the company will begin employing
- The number of employees and contractors
- IRD number & GST number

Bureaucracy, excess costs, and business disruption continue to inhibit entrepreneurs. Regulatory obstacles such as business permits or licenses, non-wage labor costs (especially payroll taxes), inefficient border control and customs, and ambiguities in legal codes related to the advent of the sharing economy deter entrepreneurs from starting businesses. Excessive or opaque regulation prevent entrepreneurial businesses from expanding because of increased costs, decreased flexibility, and a lack of clarity on the legal environment. [11]

Reducing regulatory and administrative burdens to allow entrepreneurs to set-up and register companies quickly and cheaply will reduce bureaucracy. Reducing non-wage labor costs (especially payroll taxes) will reduce costs for business and encourage hiring. On the employer side, a 10 percent increase in labor costs is shown to decrease the number of employees by 3 percent in the short run and 10 percent in the long run.[11] Reducing the regulatory burden associated with cross-border trade can be done through efficient border control and the retraction of protectionist policies and bureaucratic red tape. Lastly, implementing legal reform to close the large number of ambiguities in many countries' legal codes related to the advent of the sharing economy will reduce business disruption for entrepreneurs. Companies such as Uber and AirBnB have risen in use and influence in society with their popularity driven by the convenience, efficiency, and transparency they offer consumers and producers alike. However, regulatory reform has not kept pace with technological change, and there is a great need to close regulatory

[9] World Bank. (2015). Starting a business (indicator). Last accessed 29 April 2016.

[10] Government of New Zealand (2016). Companies' office. Last accessed on May 12 2016.

[11] Hamermesh, D. (2014). Do labor costs affect companies' demand for labor? IZA World of Labor.

ambiguities that have caused disruption. The European Parliament Think Tank estimates that structural and legal barriers could reduce the potential value of the sharing economy by up to 134 billion euros.[12] Moving forward, G20 governments should conduct regular assessments of the effects of innovative technologies and business models on current regulation to reduce business disruption and ensure that regulation is flexible enough to adapt and remain efficient in the rapidly changing business environment.

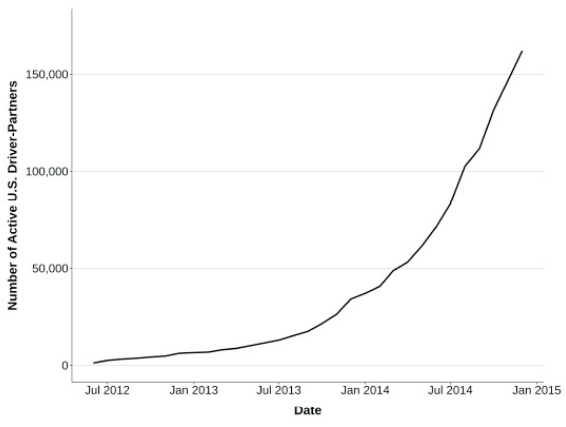
In order to reduce bureaucracy, excess costs, and business disruption, G20 countries should implement structural reforms to business, labor, and mobility regulation. Successfully implementing these structural reforms will promote entrepreneurship and stimulate job growth.

Case Study: The growth of ridesharing and the need for regulatory reform[13]

New digital technologies and business models have combined in recent years to enable the rapid rise of the sharing economy. Innovative app-based ridesharing has been one of the most successful industries in the sharing economy by providing smartphone-based software application services that connect riders with independent drivers. Technology removes the information asymmetries and solves the coordination problems that characterize the traditional taxi industry.

Uber, a ride sharing company, now operates in more than 400 cities and 70 countries, including all G20 countries. In the United States alone, the number of drivers active on Uber's platform grew exponentially from near zero in mid-2012 to over 160,000 by the end of 2014. Growth has been equally fast outside the United States, with the number of active drivers on Uber's platform in China, for example, increasing dramatically from year to year. Ridesharing is an attractive work opportunity for so many drivers because the business model allows each driver complete flexibility in setting his or her work schedule.

Figure 1: Number of Active Driver-Partners in United States Each Month



[12]EPRS (2016). The cost of non-Europe in the sharing economy. European Parliament.

[13]Hall, J. & Krueger, A. (2015). An Analysis of the Labor Market for Uber's Driver-Partners in the United States. Working Papers, Princeton University. Industrial Relations Section, No 587.

As a result of the increased awareness of ridesharing's potential as a major driver of employment and entrepreneurship, a growing number of governments are passing new laws and regulation that explicitly embrace the model, as has already happened in Australia, Brazil, Canada, India, Mexico, the Philippines, and the United States. In many countries, however, ridesharing companies have been unable to replicate this scale of job creation. Rather than update regulation to take account of new technologies, some governments either prohibit ridesharing outright or erect major barriers to entry.

1.3 G20 countries should provide coordinated support and finance mechanisms to enable the transition of entrepreneurial stage businesses to SMEs.

One of the biggest challenges facing entrepreneurs is transitioning their business from an entrepreneurial stage business to a fully functioning SME. Failure rates are high within the first five years of a business, with typically around 40-50% of all new business failing due to lack of capital, lack of customers, and regulatory burdens. [14]

Over one quarter of all business discontinuance in Africa and Southeast Asia is due to a lack of finance.[15] An early stage finance mechanism that provides the sufficient funding for new companies with innovative ideas and growth potential, but an unproven track record, will help entrepreneurial businesses access capital. Meanwhile, ensuring sufficient social support will allow entrepreneurs to endure tough times during this transition as they adjust to operating a small business. Facilitating entrepreneurs with access to entrepreneurial ecosystems will allow them to access knowledge and resources needed to overcome this transition. Forming a cooperative allows costs and risks to be mutualized across all stakeholders providing the ability for innovators and entrepreneurs to scale quickly and overcome the burdens associated with the transition to an SME.[16] Digital tools should be fully utilized, whenever available, to best enable these transitions from entrepreneurial businesses to SMEs.

Governments should address these high failure rates by providing access to support and finance mechanisms – such as early stage finance, access to social support, access to knowledge and resources, and encouraging entrepreneurs to start cooperative enterprises and utilize digital tools. Implementing these coordinated support and finance mechanisms will increase the successful transition of entrepreneurial businesses to SMEs.

[14]Kritikos, AS. (2014). Entrepreneurs and their impact on jobs and economic growth. IZA World of Labor.

[15]Kelley, D., Singer, S. & Herrington, M. (2016). Global Report 15/16: Global Entrepreneurship Monitor.

[16]Göler von Ravensburg, N. (2011). Economic and other benefits of the entrepreneurs' cooperative as a specific form of enterprise cluster. ILO.

Leading Practice: Fundación Repsol Entrepreneurs Fund - Spain[17]

The Fundación Repsol Entrepreneurs Fund is aimed at entrepreneurs with innovative technological projects in the field of energy and energy efficiency who have set up or intend to set up a company. The Fund's objective is to support them in taking their solutions to the market as quickly as possible. It offers support for the selected projects through technological, business and legal guidance coordinated by a team of mentors, as well as grants ranging from €6,000 to €12,000 per month for up to a maximum of 24 months.

The Entrepreneurs Fund was launched in 2011, becoming the first Spanish private fund on energy efficiency in Spain. Since the fund's creation, it has:

- Received a total of 2080 proposals
- Established a business ecosystem in the energy field and incubated 32 startups
- Provided nearly 3 million euros per year in endowments
- Supported the incubated companies to develop 22 patents, carry out over 30 validation pilot tests, and record sales of over 2 million euros

1.4 G20 countries should take action to promote innovation through national or global innovation challenges, R&D investment in priority sectors, ecosystem enablement, and business-connected education curricula.

Best Practice: The Digital Media Zone (DMZ) Incubator at Ryerson University - Canada[18]

The DMZ at Ryerson University is a non-profit business incubator for emerging tech startups in Canada and is the top-ranked university incubator in North America. The DMZ helps startups succeed through on-site advice from faculty, industry experts and entrepreneurs, and connecting them with customers, advisors, influencers and other entrepreneurs. Startups must fit the following criteria to be eligible for incubation at the DMZ: be addressing an important economic or social problem, make innovative use of technology, and have a prototype (at minimum) that is already in the market or is ready to launch. At that stage, the DMZ can help fast-track their growth through connections and programming.

The DMZ is based at Ryerson University in Toronto, but is not exclusively available for students; the incubator is home to entrepreneurs and innovators of all ages from across Canada and the world. Since its launch five years ago, 243 startups have incubated at the DMZ and have created more than 2,189 jobs, won awards, grown their teams, and developed innovative products and solutions that are positively changing lives and businesses.

[17] Fundacion Repsol (2016). Fondo de Emprededores. Repsol. Last accessed on May 12 2016.

[18] DMZ (2016). Our Model. Ryerson University.

G20 member countries are strongly encouraged to enact policies and reforms at the national level to promote innovation. As each G20 country has different political and structural realities, we urge each country to enact policies and reforms based on these suggestions to best support innovation in their country.

National or global innovation challenges and forums would be an effective way to bring together the top minds in entrepreneurship, industry, academics, and government together to drive innovation. These challenges or forums could focus on specific sectors with the highest innovative potential and benefits such as robotics, auto-drive cars, new materials, 3D printing, and innovative digital tools. In order to strengthen innovative exchange and interaction among G20 members, the B20 Employment Taskforce recommends that the G20 organize a series of G20 Innovation Forums to stimulate dialogues among governments, businesses and other stakeholders, including universities, research institutes and non-governmental organizations to discuss topics related to innovation and foster public-private partnership. B20 China will take initiative to co-organize the first G20 Innovation Forum with the Chinese government in 2016 and will invite representatives of innovative institutions and enterprises to discuss trending innovative issues such as industrial design, artificial intelligence, life science, digital technology, and smart factories. The forum will aim to create new opportunities for substantial cooperation under the G20 framework.

R&D investment in priority sectors will also drive innovation. Various studies suggest that investment in R&D leads to a higher probability of innovation and is associated with higher rates of return.[19,20] Governments can stimulate innovation by directly funding research & development or providing incentives to academia and the private sector to invest in high potential areas.

Enabling ecosystems to share knowledge, resources, and talent between entrepreneurs, business, government, and academia will drive innovation. An interconnected ecosystem involving incubator support, public-private partnerships, and alignment between education, government, and business will assist entrepreneurs to communicate, collaborate, and gain knowledge and resources to help their businesses grow. Benefits of working in an entrepreneurial ecosystem include networking, access to an information rich environment, collaboration, higher speed to market, and access to funding as the top benefits of an entrepreneurial ecosystem.[21] It is increasingly important that research and development ecosystems communicate and collaborate across borders to maximize access and sharing of talent and resources. Historically, developed countries were the drivers of innovation, however there has been a sustained shift in technological innovation to emerging markets due to greater local growth opportunities, and an increasing availability of technology-skilled workers. China and India produced a combined estimate of 950,000 engineering undergraduates in 2004, compared to just 70,000 in the USA.[22] Asia is now the major origin of international patent applications accounting for around 40% of the total, against 30% for North America and 27% for Europe.[23] North America and

[19] Harris, H. & Moffat, J. (2011). R&D, Innovation and Exporting. Special Economics Research Centre.

[20] OECD (2007). Innovation and Growth: Rationale for an innovation strategy.

[21] Mason, C. & Brown, R. (2013). Entrepreneurial Ecosystems and Growth Oriented Entrepreneurship. OECD.

[22] Gereffi, G. et al. (2008). Getting the Numbers Right: International Engineering Education in the United States, China, and India. Journal of Engineering Education.

[23] WIPO (2015). Patent Cooperation Treaty. World Intellectual Property Organization.

Europe were dominant players (around 88% of the total) 20 years ago. [24]

Teaching students the skills necessary to become innovators and entrepreneurs, and preparing young graduates for the modern economy should be priorities for governments. Modern education should encourage entrepreneurial ideas and culture in students, align skill development with business needs, and emphasize STEM subjects. In many developed economies the number of STEM jobs is expected to grow over the next decade faster than any other jobs, so a continuous flow of highly-skilled STEM graduates is necessary for science and technology based innovation to thrive. [25]

By taking action to promote innovation through sponsoring national or global innovation challenges, conducting R&D in priority sectors, enabling cross-border ecosystems, and ensuring business-connected education curricula in schools, G20 countries can successfully promote innovation.

Proposal: G20 Maker Network

B20 China encourages the G20 to support a private sector-led initiative to create a G20 Maker Network. The G20 Maker Network will bring together key stakeholders including governments, businesses and research institutions to coordinate innovation policies and facilitate various innovation programs based off the "Maker movement". The maker movement is a worldwide technology-based movement that revels in the creation of innovative devices and products such as 3-D printing and robotics through a networked, peer-led and shared learning culture. In order to amplify the impact of the maker movement to create unique combinations of solutions to tackle technological, societal and other challenges, the G20 Maker Network will allow innovative talent and ideas from all G20 countries to collaborate on the creation of innovative products and ideas.

The Network will operate on an informal and voluntary basis and is open to all interested G20 countries. B20 China will volunteer to establish a first G20 Maker Center in Beijing to provide secretarial support to the Network. B20 China is also working with the business communities of Canada, Republic of Korea and Germany on potential partnerships in the development of the network.

Objectives:

1. To develop an online portal for information sharing and exchange;
2. To explore policy options for the facilitation of the mobility of innovative talents;
3. To provide a platform for the implementation of various innovation exchange and cooperation projects.

[24] WIPO (1995). Patent Cooperation Treaty. World Intellectual Property Organization.

[25] Atkinson, RD & Mayo, MJ. (2010). Refueling the US Innovation Economy: Fresh approaches to STEM education. Social Science Research Network.

Recommendation 2. Remove structural barriers and enact support mechanisms to increase youth employment participation

Summary

Recommendation	Increase youth employment participation rate
Owner	G20 countries
Timing	Provide a status update by 2017 G20 leaders meeting in Germany
Value	Decrease in unemployment, increase in economic growth, promotes social and economic stability
KPI	% Youth unemployment – 13% (2015)[26] % of youth neither in employment nor in education or training (NEET) – 16% (2014)[27]
Target	15% decrease in % of youth neither in employment nor in education or training (NEET) – 14% (2025)

Context

Youth unemployment across much of the world is very high with the current global youth unemployment rate stabilizing at around 13%. This is still much higher than the pre-crisis rate of 11.7% in 2007, and much higher than the 2015 general global unemployment rate of 5.8%.[26] Another study estimates that 42.6% of global youth are either unemployed, or working, yet living in poverty.[27] This high rate of youth unemployment increases the risk of social and economic instability, reduces unemployed youths' lifetime earnings and increases negative psychological and health effects.[28] However, it is important to note that certain countries such as Japan, Germany, and Switzerland have significantly lower youth unemployment rates than average.[29] Policies in these countries should be used as a source of insight for countries facing high youth unemployment.

Overall, G20 governments should increase youth employment participation by reducing structural barriers, incentivizing formal hiring of youth, increasing skill development of youth, supporting low-income areas, and increasing the visibility and awareness of youth unemployment. In 2015, G20 governments pledged to reduce the number of youth neither in employment nor in education or training (NEET) by 15% by 2025. The B20

[26] ILO (2015). Global Employment Trends for Youth 2015.

[27] OECD (2014). Youth not in employment, education or training (NEET) (indicator). Last accessed on 06 May 2016. (11 Selected G20 countries with available data).

[28] Gregg, P. & Tominey, E. (2005). The wage scar from male youth unemployment. Labour Economics.

Employment Taskforce urges the G20 to strive to reach this target and continue undertaking reforms to increase youth employment participation.

Actions

Ref	Action
2.1	G20 countries should reduce red tape and restrictions on diverse forms of contractual arrangements, such as part-time, flexible hour, and temporary contracts to create incentives for business to hire youth and transition from informal to formal employment.
2.2	G20 countries should align vocational and trade school curricula with the business environment and establish apprenticeships, internships, and work-integrated learning programs in cooperation with business and the education system.
2.3	G20 countries should establish investment zones within low income areas with pre-requisites for skill capability building and local employment.
2.4	G20 countries should establish transparent reporting mechanisms on youth employment participation.

2.1 G20 countries should reduce red tape and restrictions on diverse forms of contractual arrangements, such as part-time, flexible hour, and temporary contracts to create incentives for business to hire youth and transition from informal to formal employment.

G20 governments should increase the youth employment participation rate in the formal labor market by allowing diverse forms of contractual labor arrangements and reducing red tape and bureaucratic hurdles facing business. Appropriately designed labor market regulations can partly alleviate market failures while also offering protection to workers without imposing significant costs on firms or the economy.[30] However, current regulatory structures in many G20 countries do impose significant costs on firms by outlawing flexible contracts and centralizing wage-setting. Meanwhile, participation in the informal economy in developing countries is still prevalent due to low institutional quality, excessive regulation in the formal economy, and in some cases, an escape from extortion by corrupt officials.[31] Youth in developing countries are disproportionately likely to work in the informal sector. 9 out of 10 young workers in low-income countries and two thirds of young workers in middle income countries, are employed informally.[32]

[29]OECD (2016). Youth unemployment rate (indicator). Last Accessed on 07 June 2016.

[30]Jahn, EJ, Ripahn, RT, Schabel, C. (2012). Flexible forms of employment: Boon and Bane. The Economic Journal.

[31]Slonminczyk, F. (2014). Informal employment in emerging and transition economies. IZA World of Labor.

[32]ILO (2015). Global Employment Trends for Youth 2015.

Reducing structural barriers in labor market regulations that restrict different forms of work arrangements, such as part-time or temporary jobs, and allowing a flexible switch among these forms of employment would increase employment, especially among youth.[33] Ensuring that labor markets have the wage-setting mechanisms, job tenure, and insurance systems best suited to promote mobility and risk-taking will allow the most productive firms to succeed, boosting economic and job growth.[34] Governments can encourage the transition from informal to formal employment by reducing the cost and time of business registration, spreading information about how to register, and stamping out corruption. Transition to the formal market will help those firms get access to credit, increase production, reduce vulnerable employment, and increase government tax revenues.

2.2 G20 countries should align vocational and trade school curricula with the business environment and establish apprenticeships, internships, and work-integrated learning programs in cooperation with business and the education system.

Case Study: The Global Apprenticeships Network (GAN)[35]

The GAN is a public-private partnership made up of MNCs, employers' federations and international organizations. It is an action-driven initiative to promote skills for business and jobs for youth, notably through apprenticeships which are seen as one of the solutions to the current skills mismatch and youth unemployment crises. As a leading example on what the GAN can accomplish on a national level, the Turkish GAN National Network has made notable progress on changing legislation through multi-stakeholder dialogue with the government. As a result, there was a significant increase of apprenticeship intake by member companies.

On an international level, the GAN facilitates dialogue between major economies, given that many of its members are MNCs. Together, the GAN has accomplished the following:

- Over 100 committed GAN member companies worldwide, including many Global 500 companies
- 6 GNNs spanning four continents with several more in the pipeline
- Over 80 best practices shared
- Increased dialogue on apprenticeships with major economies in the world such as the US, EU and Sw-itzerland

One of the main barriers to youth employment is a lack of skills required for employment. This is due to both poor education quality and misalignment of the skills learned in the education system and skills demanded by business. It has been estimated that improving the academic achievement standards of all EU countries to the standard of the top performer, Finland, would increase GDP by 95 trillion euros by 2090.[36] Increasing the skills of youth can be addressed by improving education content and quality, and ensuring a

[33] Betcherman, G. (2014). Designing labor market regulations in developing countries. IZA World of Labor.

[34] Henrekson, M. (2014). How labor market institutions affect job creation and productivity growth. IZA World of Labor.

[35] Global Apprenticeships Network (2016). Skills for business, jobs for youth. Last accessed May 12 2016.

[36] Hanushek, EA &Woessmann, L. (2012). The Economic Benefit of Educational Reform in the European Union. Oxford Journal.

smoother transition from education to employment through the implementation of apprenticeships, vocational training, internships, and work-integrated learning programs.

Business and education should be actively communicating and cooperating to ensure that skills demanded by business, such as problem solving and soft skills, are being focused on in the education system. This will provide the transparency needed between job providers and job seekers, and ensure that young people are equipped with employable skills after leaving school.

Additionally, training programs such as apprenticeships, vocational training, internship, and work-integrated learning programs should be established to improve the link between education and employment. Training programs that focus on digital and problem-solving skills that will allow youth to find employment in fast-growing technologically-penetrated sectors would be especially useful in boosting youth employment for the long term. These training programs should include on-the-job training and an emphasis on nano-training topics to best allow youth to develop the necessary skills to successfully transition from education to full employment. Switzerland, Germany, Netherlands, and Scandinavian countries all have strong apprenticeship and vocational training programs that should be studied by countries struggling with youth unemployment.

Leading Practice: Vocational Employment Training (VET) system - Switzerland[37,38]

Switzerland has an extensive and efficient VET system that trains two thirds of all youth in Switzerland. The system contributes significantly to both Switzerland's consistent ranking of the most innovative country in Europe and low unemployment rate of 4.8%. Approximately 85% of VET students train as apprentices in companies or public administration for 3-4 years before transitioning to full employment. The key strengths of the system in particular are:

- The system is strongly employer and market driven
- Strong partnership between confederation, canton, and professional organizations
- School and work based learning are well integrated
- VET system is well-resourced with capable trainers and modern equipment

2.3 G20 countries should establish investment zones within low income areas with pre-requisites for skill capability building and local employment.

Low-income youth generally comprise the majority of low-skilled and NEET youths, and thus are at the greatest risk of unemployment.[39] Instituting labor market programs to target these at-risk youths should be a priority for governments. There are generally four types of labor market programs: training programs, private-sector employment incentive programs, public employment, and job-search assistance.[40] One particular private-sector

[37]Swiss Confederation (2013). Best practice in VET: Switzerland. Federal Department of Economic Affairs, Education and Research.

[38]OECD (2009). Vocational education and training in Switzerland: Strengths, challenges and recommendations. Directorate for Education, Education and Training Policy Division.

[39]ILO (2016). World Employment and Social Outlook: Trends in 2016.

[40]Kluve, J. (2014). Youth labor market interventions. IZA World of Labor.

employment program would be to establish investment zones in low income areas through tax and regulatory incentives. Entrepreneurs and businesses would be eligible for these benefits if they undertake skill capability building and provide employment for low income youth in the area. This would be one method to both promote entrepreneurship among youth and provide job opportunities to those youth most at-risk of unemployment.

2.4 G20 countries should establish transparent reporting mechanisms on youth employment participation.

Increasing the visibility and awareness of the current rate of youth unemployment and its impact on society to government, business, and the general public is essential to reducing long term youth unemployment over the medium term.[41] Regular and timely reporting of the youth unemployment rate, and standardizing the definition and measurement of youth should be a priority for all governments. Increasing awareness of this issue among business leaders is especially important in order to effectively combat this issue. While government policy will help, encouraging voluntary pledges from business to hire a certain number of youth annually would be especially effective in reducing youth unemployment. Transparency and reporting on youth employment is the first step in tackling this issue.

[41] ILO (2015). Global Employment Trends for Youth 2015.

Recommendation 3. Implement and encourage initiatives to increase the female labor force participation rate

Summary

Recommendation	Increase female labor force participation rate
Owner	G20 countries
Timing	Provide a status update by 2017 G20 leaders meeting in Germany
Value	Promotes economic growth, equality, and diversity
KPI	World Economic Forum Gender Gap Index % gap between male and female labor force participation rates – 28% (2014)[42,43] % gap between male and female mean years of schooling–5.1% (2014) [44]
Target	Improved Gender Gap Index Ranking (World Economic Forum) 25% decrease in gap between male and female labor force participation rates – 21% (2025)

Context

In 2014, the G20 pledged to reduce the gap in labor participation rates between men and women by 25 per cent by 2025. G20 governments should continue to work towards this goal by enacting structural reform, promoting work flexibility, stimulating female entrepreneurship, establishing career support mechanisms, and ensuring access to equal pay and start-up finance for the female labor force. Women worldwide continue to face a lower labor force participation rate, a higher unemployment rate, and a higher vulnerable employment rate than men. The global female labor force participation rate in 2014 was 55% compared to 82% for males.[42,43] The mean years of schooling for males was 10.7 years compared to 10.2 years for females.[44]

There is still substantial progress needed for the G20 to reach the goal of a 25% reduction in the labor force participation gap. Therefore, it is essential for the G20 to enact reforms to increase female employment access. Additionally, individual countries should also work

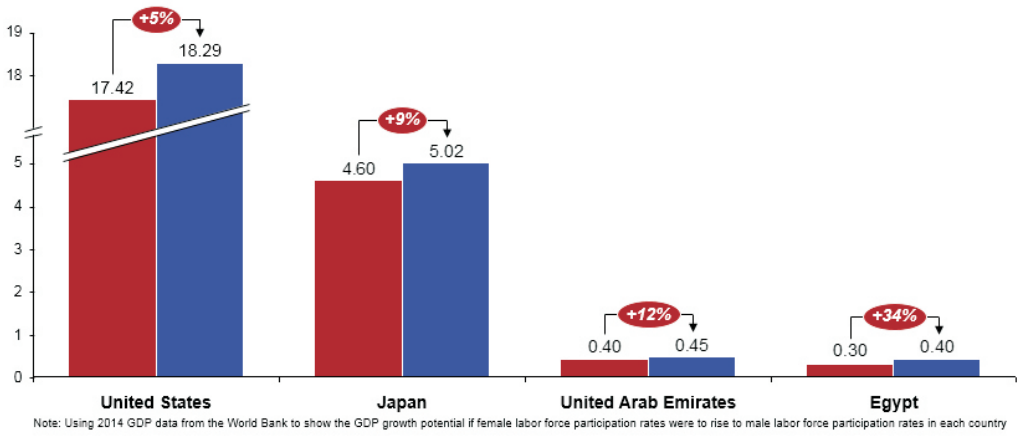
[42]World Bank (2014). Female labor force participation rate (world indicator). Last accessed on Feb 29 2016.

[43]World Bank (2014). Male labor force participation rate (world indicator). Last accessed on Feb 29 2016.

[44]UNESCO Institute for Statistics (2016). Mean years of schooling, population 25+ (indicator). Last accessed on May 6 2016. (G20 countries with data available).

to provide support mechanisms to retain female labor in the workforce, boost female entrepreneurship, encourage the advancement of women into senior leadership roles, provide career coaching, and support a transparent visibility and monitoring system.

Estimated GDP gain from equal labor force participation rates [45]
(USD trillions)



Note: Using 2014 GDP data from the World Bank to show the GDP growth potential if female labor force participation rates were to rise to male labor force participation rates in each country

Actions

Ref	Action
3.1	G20 countries should promote mechanisms to increase employment access, remove bias, and ensure equal pay for females in the labor force.
3.2	G20 countries should encourage an increase in female entrepreneurs by providing incentives and measurement for funding female-run start-ups.
3.3	G20 countries should encourage the advancement and mentorship of women into senior leadership roles in the private sector.
3.4	G20 countries should reconcile work and family life by providing or encouraging support mechanisms for family care, flexible roles in the workplace, and career transitions to retain female labor in the work force.
3.5	G20 countries should establish transparent reporting mechanisms on female labor force participation.

[45] IMF (2013). Women, Work, and the Economy: Macroeconomic gains from gender equity.

3.1 G20 countries should promote mechanisms to increase employment access, remove bias, and ensure equal pay for females in the labor force.

Increasing female education by countering cultural stereotypes on females' role in education and the workplace will increase employment access. On average, female literacy rates are still lower than male rates, while the gender gap in primary and secondary education still persists in many countries around the world.[46] In the United States, the labor force participation rate of women who had attended some college was 71.6% compared to 30.5% for women who had not completed high school.[47] Overall, increasing the educational attainment of women accounted for 50 percent of the economic growth in OECD countries over the past 50 years, and has the potential to increase growth further in G20 countries. [48]

Despite policies introduced in most countries to reduce the gender pay gap, it still exists in countries across the world. In 2010-2012, the gender pay gap in OECD countries varied from 6% in Belgium, Luxembourg, New Zealand, and Norway to 37% in South Korea.[49] There are a variety of factors for this gap including a large degree of occupational segregation by gender, an increased likelihood for women to have interrupted work careers and work part-time, and in some instances, gender bias.[50] As women across the world are reaching higher educational attainment and entering into male-dominated industries, the gender pay gap is decreasing in most countries. Overall, closing the gender gap could add 12 percent to the size of the total economy by 2030, on average, across OECD countries.[47]

Governments should promote mechanisms to increase employment access, remove bias, and ensure equal pay for females in the labor force by increasing access to education, reducing entry barriers to male-dominated fields, and investing in childcare and anti-discrimination policies. G20 governments should also consider providing incentives to encourage female employment and female-owned businesses. Increasing employment access, removing bias, and ensuring equal pay will reduce the female labor force participation gap.

3.2 G20 countries should encourage an increase in female entrepreneurs by providing incentives and measurement for funding female-run start-ups.

Approximately one third of the world's SMEs in the formal sector are women-owned.[51] Women-owned SMEs face a variety of barriers to entry and business growth but access to finance is particularly identified as a key constraint. Up to 70% of formal women-owned SMEs in developing countries are underserved by financial institutions to a gap of around $285 billion. Goldman Sachs estimates that closing the credit gap for women-owned

[46]OECD (2012). Gender equality in education, employment and entrepreneurship. Meeting of the OECD Council at Ministerial Level, Paris.

[47]Institute of Education Sciences (2015). Employment rates and unemployment rates by educational attainment. National Center for Education Statistics.

[48]OECD (2012). Effects of reducing gender gaps in education and labour force participation on economic growth in the OECD.

[49]Kahn, LM. (2015). Wage compression and the gender pay gap. IZA World of Labor.

[50]Polachek, S. (2014). Equal pay legislation and the gender wage gap. IZA World of Labor.

[51]Global Markets Institute (2014). Giving credit where it is due. Goldman Sachs Research.

SMEs across the developing world could boost per capita income growth rates by 1.1% on average.[50] Governments should be encouraged to close this gap by increasing women's access to credit through providing incentives, tackling policy bias, and encouraging women to apply for loans.

Leading Practice: Isivande Women's Fund (IWF) – South Africa[52]

The Isivande Women's Fund was set up in cooperation between the Department of Trade & Industry in South Africa and the International Development Corporation (IDC) with the goal to accelerate women's economic empowerment by providing affordable, usable and responsive finance for female entrepreneurs. The IWF assists with start-up funding, business expansion, business rehabilitation, franchising and bridging finance.
The women-run enterprises have to meet the following criteria to be eligible for funding by the IWF:

- At least 6 months in operation;
- Requires early stage, expansions and growth capital;
- 50% plus one share owned and managed by women;
- Have potential for growth and commercial sustainability; and
- Improved social impact in the form of job creation.

3.3 G20 countries should encourage the advancement and mentorship of women into senior leadership roles in the private sector.

Increasing the representation of women in executive-level positions promotes gender equality in the economy and efficient use of the talent pool. Women are under-represented on corporate boards, with only one in ten board seats of listed companies in the OECD occupied by women. Thus, career support and coaching is helpful to women as they advance through the career ladder in male-dominated sectors. Encouraging the development of women's networks and support groups is essential for women to navigate career challenges and gain advancement in to senior positions. Voluntary initiatives and commitments, suggested targets, and other measures might be brought into play to increase female representation. Studies show significant spill-over effects from increasing female board representation on the wider economy, including achieving a reduction in the gender employment and pay gap, and increasing the return on education. [53]

3.4 G20 countries should reconcile work and family life by providing or encouraging support mechanisms for family care, flexible roles in the workplace, and career transitions to retain female labor in the work force.

[52]Department of Trade & Industry of the Republic of South Africa (2016). Women Economic Empowerment Financial Assistance: Isivande Women's Fund.

[53]European Commission (2012). Impact assessment on costs and benefits of improving the gender balance in the boards of companies listed on stock exchanges.

Leading Practice: OnRamp Fellowship – United States[54]

The OnRamp Fellowship is an American fellowship founded with the goal to assist experienced women who have left the workforce re-enter the workforce through training, mentorship, and job opportunities. The fellowship provides an experiential learning program that matches women with experience in the legal and financial services industry to top businesses for six month and one-year paid positions. This allows women returning to work to demonstrate their value, and re-hone their skills. OnRamp Fellowship also provides career development support through online education, training by specialists, and one-on-one coaching. The fellowship assists women to successfully navigate their return to the workforce, while matching businesses with an untapped pool of experienced talent.

Women leave the workforce at a much higher rate than men to raise family members, with many women not returning to the workforce after their departure. Reconciling work and family life by encouraging support mechanisms for family and day care, providing options for flexible work, and encouraging career transition support to support females who depart and re-enter the workforce is essential to retaining female labor in the workforce.

Childcare subsidies and investment are especially helpful to low-income women who would not be able to afford childcare. By providing subsidized childcare, low-income women would be encouraged into employment, resulting in decreased welfare dependence. Providing low-cost family support mechanisms through tax or cash benefits should be encouraged by governments to increase human capital investment and low-income parent employment. This would also reduce the wage gap and increase the probability of lifetime work, greater human capital investment and long-term economic self-sufficiency.[55] Increasing the availability of flexible work programs such as teleworking or reduced working hours would be effective in allowing women to work part-time and stay in the labor force. In a survey of European women who work part-time, the four countries surveyed with the highest proportion of women working part-time also have among the highest female labor participation rates in the EU, above 71% for each in this case.[56] For women to efficiently re-enter the labor market, implementing programs for them to stay connected to the work environment during their absence to continue their career development and reduce any depreciation of their skills and human capital is essential to being able to successfully return to the workforce. [57]

3.5 G20 countries should establish transparent reporting mechanisms on female labor force participation.

Vigilant reporting and increased visibility and awareness of the current rate of female labor force participation is essential to increasing the female labor force participation rate

[54]OnRamp Fellowship (2016). About the OnRamp Fellowship.

[55]OECD (2012). Gender equality in education, employment and entrepreneurship. Meeting of the OECD Council at Ministerial Level, Paris.

[56]Silim, A & Stirling, A. (2014). Women and flexible working. Institute for Public Policy Research.

[57]Gangl, M & Ziefle, A. (2009). Motherhood, Labor Force Behavior, and Women's Careers: An empirical assessment of the wage penalty for motherhood in Britain, Germany, and the United States. National Institues of Health.

over the medium term.[58] Increasing awareness of this issue among business leaders is especially important in order to effectively combat this issue. G20 governments should do more to encourage voluntary pledges from business to implement women-friendly hiring policies that would be effective in raising female employment. Transparent reporting of the female labor force participation rate is an important step in raising the female labor force participation rate.

[58]ILO (2015). Global Employment Trends for Youth 2015.

Recommendation 4. Enact policies to assess and reduce the skill mismatch and workforce capability gap

Summary

Recommendation	Address skill mismatches and workforce capability gap
Owner	G20 countries
Timing	Provide a status update by 2017 G20 leaders meeting in Germany
Value	Using a strategic approach to combat skills mismatches through well-designed programs leads to higher wages and job satisfaction for the workforce, increased productivity and lower employee turnover for companies and consequently improves structural unemployment and economic growth.
KPI	% of skills mismatch of employed (total share of under/over-skilled) - 33% (2013)[59] % of workforce with high level of proficiency (Level 2 or 3) in problem solving in technology-rich environments – 34% (2013) [60]
Target	Decrease in % of skill mismatch of employed Increase in % of workforce with high level of proficiency in problem solving in technology-rich environments

Context

The B20 Employment Taskforce urges G20 countries to tackle skill mismatches by undertaking a comprehensive assessment of the impact of workforce changes, assisting displaced workers, ensuring the development of skills required in the modern business environment, and increasing the movement and flow of talent to facilitate business needs. According to the OECD, roughly one third of all workers in OECD countries are either under-skilled or over-skilled for their jobs.[59] Automation and digitalization have begun to make once common manufacturing jobs obsolete, reducing medium skill jobs. On the other hand, technological innovation is increasing the need for highly skilled jobs in the fast-growing new-economy sectors. According to a recent survey, 38% of global employers are having difficulty filling jobs, with a lack of technical competency highlighted as a major reason for this difficulty. [61]

[59]OECD (2015). Labour market mismatch and labour productivity.

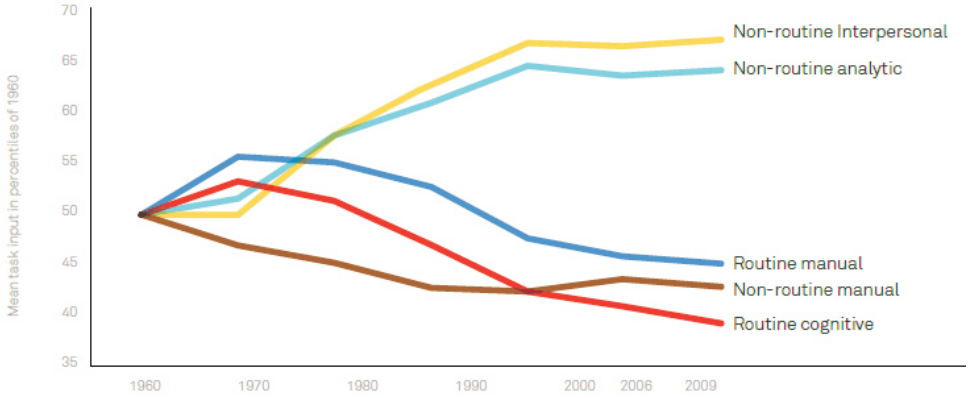
[60]OECD (2013). Skills Outlook 2013: First results from the survey of adult skills. (Average proficiency across 20 countries surveyed).

[61]Manpower Group (2015). Talent Shortage Survey.

Thorough assessments of the impact of workforce changes need to be implemented at national level by G20 countries to fully gauge the scope and scale of current skill mismatches. Furthermore, G20 leaders should take actions to reduce the skills gap by assisting displaced workers re-enter the labor market, ensure that skills learned in the education system and vocational training programs matches the skills needed in the modern business environment, and increasing the mobility and flow of talent to facilitate business needs.

Case study: Rise of non-routine tasks in the United States[62]

Figure 1 **Non-routine Tasks on the Rise in the U.S. Labor Market**



Actions

Ref	Action
4.1	G20 countries should assess the full impact of workforce changes occurring due to technological innovation including participation rate impact, underemployed workers, skill gaps, sector obsolescence and sector growth.
4.2	G20 countries should assist displaced workers by providing targeted social support and re-training under certified programs.
4.3	G20 countries should ensure that education systems and vocational training programs focus on skill development required in the modern business environment.
4.4	G20 countries should increase mobility and flow of talent to facilitate business needs.

[62]Winthrop, R. & McGivney, E. (2016). Skills for a changing world: Advancing quality learning for vibrant societies. The Brookings Institution.

4.1 Assess full impact of workforce changes occurring due to technological innovation including participation rate impact, underemployed workers, skill gaps, sector obsolescence and sector growth.

Skills mismatches can result in lower wages and lower job satisfaction for the workforce, reduced productivity, and increased employee turnover for companies.[63] Under-skilled workers will not reach the productivity required for firms to grow at their potential, restricting growth. Over-skilled workers suffer from lower job satisfaction, and restrict growth if there are more productive firms who could employ over-skilled workers more effectively.[63] A survey of workers in four European countries found that 16% of workers believe their skills have become outdated in the past two years due to new technologies or structural reorganization. As a result, the proportion of overqualified workers is also expected to increase from its recent level of 25.3 percent.[64]

There has also been a growing disparity between productivity growth and wage growth. Productivity (defined as the output of goods and services per hours worked) grew by about 74 percent between 1973 and 2013, yet compensation for workers grew at a much slower rate of only 9 percent during the same time period.[65] This disparity should be keenly assessed. G20 countries should ensure that wages accurately reflect productivity to ensure that talent and skill flow to productive jobs, and reduce skill mismatches in these professions.

As the speed of disruption increases across the global economy, it is necessary for policymakers and business leaders to have a clear understanding of the full impact of the workforce changes occurring. Government, business enterprises, and academic institutions should work together through regular workshops to undertake a full assessment on the impact of workforce changes on the labor force participation rate, unemployment rate, and skill mismatches. This assessment would provide the necessary information for government to implement effective policy choices to minimize unemployment and skill gaps.

4.2 G20 countries should assist displaced workers by providing targeted social support and re-training under certified programs.

Since the global financial crisis, the percentage of annually displaced workers has increased significantly due to weak economic growth, automation, and globalization. In 2010, between 2-7% of all workers in studied OECD countries were laid off.[66] However, many of those workers who are laid off lack the skills necessary to immediately re-enter the workforce. In OECD countries, between 4.9 and 27.7 percent of adults are proficient at only the lowest levels of literacy, while 8.1 to 31.7 percent are proficient at only the lowest levels of numeracy. Furthermore, only between 2.9 and 8.8 percent of the population have the capabilities for the highest level of problem-solving proficiency in technology-rich environments. [67]

[63]WEF (2014). Matching skills and labour market needs. Global Agenda Council on Employment.

[64]ILO (2014). Skills mismatch in Europe.

[65]Economic Policy Institute (2015). The Productivity-Pay Gap.

[66]OECD (2013). Back to Work: Re-employment, earnings, and skill use after job displacement.

[67]OECD (2013). Skills Outlook 2013: First results from the survey of adult skills.

Governments should support displaced workers by implementing well-designed active labor programs that support workers to find new employment through certified re-training programs to develop their skills and providing social benefits to help workers weather this transition. Well-targeted provision of in-work benefits, if combined with other measures, promotes re-employment prospects of jobseekers and attenuates in-work poverty.[68] Policy assessments by the OECD show that intensive assistance to jobseekers combined with policies to incentivize the unemployed to find new jobs allow reasonably generous benefits to be maintained while achieving low unemployment and high labor market participation. Re-training programs can increase the core capabilities of the workforce by focusing on developing transferable skills such as cognitive, numeracy, and literacy skills that have the potential to reduce the negative effects of disruptive innovation.[69]

4.3 G20 countries should ensure that education systems and vocational training programs focus on skill development required in the modern business environment.

Leading Practice: Hangzhou Xizi Mechanic & Electric Technique School - China[70]

Hangzhou Xizi Mechanic & Electric Technique School is a vocational school set up in cooperation with Xizi United Holding Company that specializes in training professional personnel for the machinery manufacturing industry. The school is a designated professional skill training school approved by the local government authorities, and was named as a "Highly Skilled Talent Training Centre of National Mechanical & Electric Projects" by the State Department of Labor and Social Security.

The school has strong partnerships with two of Xizi United's subsidiaries -Xizi Otis Group, the world's biggest escalator manufacturer, and Hangzhou Boiler Group Co., Ltd, the national research, development and manufacturer of waste heat boilers. This partnership ensures that the school's students' are taught the latest theoretical knowledge and operational ability applicable to their industries and increase their skills through practice on modern equipment in a functional training centre, a computer room, and in laboratories with advanced machinery.

Since its opening in 1989, the school has provided and trained many excellent students and technical workers for both Hangzhou Boiler Group Co., Ltd and Xizi Elevator Group, while other graduates have gone on to work for other companies and government organizations. Many of these graduates already form the backbone of both the manufacturing division and management.

As the economy transitions into an era of rapid change in technology, increasing interconnectedness, and new forms employment, the need for a skillset that makes workers competitive in the modern business environment is increasingly important. Today's rapidly-changing world requires a breadth of skills rooted in literacy, numeracy and science, but also in soft skills such as teamwork, critical thinking, communication,

[68]OECD (2006). Boosting jobs and incomes: Policy lessons from reassessing the OECD jobs strategy.

[69]OECD (2015). Skills Outlook 2015: Youth, skills, and employability.

[70]Hangzhou Boiler Group (2015). Subsidiaries: Hangzhou Xizi Mechanic & Electric Technique School.

persistence, and creativity. This mix of skills is essential for young people today, as ultimately they must be agile learners, able to adapt and learn quickly in a fast-changing environment.[71] Focusing on science, technology, engineering, and mathematics (STEM) education and digital era skills could help limit skills mismatches by addressing skills gap in these subjects. STEM occupations in Europe are expected to grow by 14 percent by 2020, compared with 3 percent for other occupations, yet the supply of workers with education qualifications in STEM subjects is projected to fall.[72] Meanwhile, vocational training programs should focus on increasing skills that will be needed in the digital era. Leading vocational training programs through a digital platform that expose apprentices to the skillsets and digital tools needed in the new economy would be one innovative way to approach skills development. Capacity building programs offered by international organizations could be better exploited to promote skills development.

Leading Practice: Silicon Valley Education Foundation – United States[73]

The Silicon Valley Education Foundation (SVEF) is an American non-profit founded with the goal of preparing primary and secondary school students for success in higher education and careers by focusing on science, technology, engineering, and math (STEM). SVEF achieves this through advocacy of best practice education policy and curricula, offering direct programs and scholarships to support educators and students, and placing cutting-edge educational technology in classrooms.

SVEF hopes to leverage partnerships and resources to allow all students to realize their full potential and transform Silicon Valley schools into models for enhancing education.

4.4 G20 countries should increase mobility and flow of talent to facilitate business needs.

In most G20 advanced economies and some large emerging economies, declining labor forces and aging populations suggest that migrant workers will be essential to maintaining labor supply, filling labor shortages and skill gaps, and contributing to social protection funds. Increasing mobility of labor and allowing talent to flow to the most efficient use of resources will maximize potential for innovation and entrepreneurial success, which will in turn, drive job growth. Evidence from the United States suggests that skilled immigrants contribute to boosting innovation and research, resulting in technological progress.[74] Additionally, migration has a positive demographic impact, by both increasing the size of the population and changing the age pyramid of receiving countries. Skilled migrants tend to be younger and economically active compared with the populations of receiving

[71]Winthrop, R. & McGivney, E. (2016). Skills for a changing world: Advancing quality learning for vibrant societies. The Brookings Institution.

[72]Skills Panorama (2015). Analytical highlights. European Commission.

[73]Silicon Valley Education Foundation (2016). About the Silicon Valley Education Foundation. SVEF.

[74]ILO, OECD, World Bank (2015). The contribution of labour mobility to economic growth. Joint paper for the 3rd meeting of G20 Employment Working Group.

countries, therefore reducing dependency ratios.[74] Additionally, academic research indicates that removing partial restrictions on temporary labor migration and immigration (3 percent of the labor force in host countries, translating into an additional total flow of around 16 million people) could boost global GDP by US $156 billion annually.[75] Reducing barriers to the mobility and flow of talent will reduce skill mismatches by maintaining labor supply, filling skill gaps, driving innovation and job growth, and reducing dependency ratios in a globalized world.

[75]Center for Global Development (2006). Let their people come: Breaking the gridlock on international labor mobility.

Taskforce schedule and distribution of members

Schedule of meetings

#	Date	Location	Theme
1	26 Jan 2016	Beijing	Preliminary scoping of employment issues
2	1 & 23 Feb 2016	Teleconference	Recommendation development
3	16-17 Apr 2016	Washington	Refinement of recommendations and actions
4	18 May 2016	Teleconference	Refinement update & discussion
5	31 May 2016	Paris	Prioritization and refinement of 2nd draft
6	23 Jun 2016	Teleconference	Finalization of document
7	3-4 Sep 2016	Hangzhou	B20 Summit

Distribution of members

Country	No.	Country	No.	Country	No.
Argentina	3	Iindia	2	Saudi Arabia	1
Australia	6	Indonesia	1	South Africa	1
Brazil	–	Italy	3	Turkey	6
Canada	3	Japan	1	United Kingdom	4
China	34	Mexico	–	United States	13
France	5	Republic of Korea	1	European Union	5
Germany	4	Russia	4	Other	7

Taskforce members

Title	Family Names	Given Name	Position	Organization
Chair				
Mr	Li	Yanhong	Chairman & CEO	Baidu
Co-Chairs				
Mr	Burnison	Gary	CEO	Korn Ferry International
Mr	Funes de Rioja	Daniel	President	International Organization of Employers
Mr	Liang	Xinjun	Vice Chairman & CEO	Fosun Group
Mr	Modi	Yogendra Kr.	Executive Chairman	Great Eastern Energy Corporation Ltd
Mr	Zhang	Lei	Founder & Chairman	Hillhouse Capital Group
Working Group				
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Ms	Zheng	Yulin	Assistant to Liaison Officer	B20 China
Mr	Ning	Lei	Director of International Government Affairs	Baidu
Mr	Song	Steven	Principal	Korn Ferry International
Mr	Thorns	Matthias	Senior Advisor	International Organization of Employers
Ms	Yuan	Yingwei	Director of Key Project Investment Department	Fosun Group
Mr	Wang	Chen	Branding Manager/ Media Affair Assistant of CEO	Fosun Group
Mr	Starta	Daniel	Managing Partner Greater China	A.T. Kearney
Mr	Wang	Yu	Principal	A.T. Kearney
Mr	Tjia	Dominic	Consultant	A.T. Kearney
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Mr	Li	Xin	PA to President	ASF Group Ltd
Ms	Li	Yan	Executive Director	Hillhouse Capital Group
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Mr	Liu	Mingzhong	Chairman	Xinxing Cathay International Group
Mr	Liu	Xiaoliang	CEO	Lander Sports Development
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Mr	Spitz	Bernard	President	FFSA
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Mr	Wang	Shuifu	Chairman	Xizi United Holding Corporation
Mr	Wang	Xin	Vice-President	Didi-Kuaidi
Mr	Wilkins	Alan	Executive Member	GCEL
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Mr	Zong	Qinghou	Chairman	Wahaha

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