



THE PARLIAMENTARY NETWORK

On The World Bank & International Monetary Fund

THE  
FUTURE  
OF  
WORK  
FOR THE PEOPLE  
WE SERVE

EDITED BY LIAM BYRNE MP





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He has authored over twenty books and pamphlets, covering a wide range of topics from international trade to counter-extremism including *Dragons*, a new economic history of Britain told through the lives of ten of its greatest entrepreneurs. He is a one of Westminster's leading authorities on China, is former member of the Council of Europe and teaches at Oxford University's Saïd Business School.





## THE PARLIAMENTARY NETWORK

On The World Bank & International Monetary Fund

# About

The Parliamentary Network on the World Bank & International Monetary Fund (the Parliamentary Network) provides a platform for parliamentarians from over 140 countries to advocate for increased accountability and transparency in International Financial Institutions and multilateral development financing.

Founded in 2000, the Parliamentary Network seeks to engage law makers from around the globe in the common mission of addressing good governance and poverty challenges in both their home countries and abroad. Directed by a twelve-member Board elected by their peers, the Parliamentary Network is an independent non-governmental organization with a secretariat in Paris.

The organization is open to all elected parliamentarians from World Bank member states who hold a current mandate. Parliamentary Network members represent themselves and their constituents, and not their countries, parliaments or governments.

*Jeremy Lefroy MP,  
Chair of the Board of the Parliamentary Network on the World  
Bank and IMF*



# Contents

About	<b>5</b>
Introduction: The Future of Work for the People We Serve	<b>11</b>
Preface: The Future of Work in the Framework of the G20	<b>19</b>
Automation and the future of work – understanding the numbers	<b>31</b>
Seizing the opportunity to drive inclusive growth	<b>41</b>
Understand your Industries of the Future	<b>47</b>
Helping new businesses capitalise on the future of work	<b>53</b>
How would a Global Campaign for Youth Employment Work?	<b>57</b>
Raising Female Employment Rates: A Case Study from Standout Vietnam	<b>69</b>
Singapore’s Skillsfuture Movement	<b>81</b>
Building a learning and sustainable planet together	<b>87</b>
Good Practice in Adapting to Changing Skill Needs	<b>93</b>

The Future of Social Protection in a New World of Work	<b>99</b>
Refocus Finance on its Purpose	<b>105</b>
New technology: new companies.	<b>113</b>
Cities can help lead the way	<b>119</b>
Time to change the rules	<b>125</b>
Conclusion: Putting it all together	<b>135</b>







# **Introduction: The Future of Work for the People We Serve**

Liam Byrne MP

The future of work for the people we serve is one of the most complex and important challenges for parliamentarians around the world. Automation will change work forever. Old jobs will go. New jobs will come. But jobs will remain the drive-belt connecting the livelihoods of the billions of the citizens who elect us with the rising prosperity of the world economy. If we succeed in stewarding economies that create good sustainable work, we will raise living standards in ways that are faster and fairer, more stable and more sustainable.

There will be both opportunities and challenges. For instance, AI alone may raise global GDP by a massive 14% by 2030 - that is \$15.7 trillion. Quite a treasure trove. But equally, the world economy

may need to create 600 million jobs in the next decade just to keep unemployment where it is today - and a massive 1.4 billion, of the world's 3.2 billion workers are in vulnerable and precarious jobs, susceptible to some level of automation.

The aim of this collection of essays from parliamentarians, politicians and policymakers is to bring together, from around the world, some food for thought. By sharing perspectives, policies, ideas and ambitions, we aim to connect parliamentarians to some of the key themes across this fast-moving agenda. And what emerges from this unique collection of essays are ten key tasks for policymakers everywhere:

# LESSON 1

## **Understand the impact – and opportunity – of automation for your country.**

Good policy rests on facts. We know the impact of automation will be profound. And we know that automation will affect some groups and some industries more than others. Here we present world-leading research from Prof Carl Frey at Oxford University illustrating just how profound the scale of change may prove, to illustrate a simple point: understanding the potential impact of the fourth industrial revolution on citizens is the first task of policymakers everywhere.

# LESSON 2

## **Scope the opportunities of industries of the future.**

History tells us that the advance of technology wipes out old jobs – but creates new jobs in its wake. If policymakers want to ensure that jobs connect citizens to rising global prosperity, then it is wise to think carefully about what governments can do to foster ‘industries of the future’. Here we present perspectives from Nobel laureate Sir Christopher Pissarides and Alec Ross, former advisor on innovation to Secretary Hilary Clinton, on the challenges policymakers need to think through.

# LESSON 3

## **Redouble efforts to unleash the power of enterprise and new firms.**

Advancing technology will create new jobs – but it will need entrepreneurs and small firms to help lead the way, making history by inventing the future. In two of the world’s most important economies – Africa and China – small business growth is now a key plank of economic reform. Our vice chair of the Global Parliamentary Network, Olfa Soukri Cherif MP, presents perspectives from the Arab world for harnessing enterprise to transform its future.

# LESSON 4

## **Work hard to connect young people to jobs.**

World Bank research reveals that automation will hit some groups harder than others – and amongst the hardest hit will be young people. Yet, many countries already suffer youth unemployment rates which are much too high. Here, Yunus Carrim MP, Olfa Soukri Cherif MP, Jeremy Lefroy MP and David Woollcombe set out the case for a global campaign for youth jobs.

# LESSON 5

## **Develop new strategies to raise employment and enterprise rates amongst women.**

Raising the employment rate amongst women is a critical task for policymakers developing plans for the future of work. Boosting the female labour force participation rate raises the economy's growth potential by increasing the pool of workers – and leans against the economic shocks of ageing societies. Here we present recent IMF research on the lessons to be learned from one of Asia's exemplars: Vietnam.

# LESSON 6

## **In the labour market, rebuild systems for social protection and lifelong learning.**

If workers are to keep up to speed with changing technology and adapt skills over a longer working life, then education systems and

lifelong learning systems need to change and so will social protection systems. So we showcase a summary of the research recently presented for creating a learning society to France's President Macron along with Senior Minister Chee Hong Tat's case-study of Singapore's new SkillsFuture Movement, and fresh OECD research on the kind of skills that are likely to be a priority for all countries and the implications for reforming social protection systems.

## LESSON 7

**In capital markets, ensure financial services are a proactive force for creating good new jobs.**

Just as labour markets will need reform, so too will capital markets. Over the last two centuries different economies have evolved diverse traditions of structures and regulations to ensure that financial markets are helping fulfil basic functions like providing access to safe savings – and moving money from savers to investors. But ten years on from the financial crash, it is clear that financial systems need reform. Here, former Chief Secretary to HM Treasury, Liam Byrne MP, and David Pitt-Watson spell out the case for change.

## LESSON 8

**Ensure corporate governance is fit for the future.**

The new firms which are booming around the world on the back of new technology are different to the past. Their founders are often the largest shareholder; creditors are often few, and employees are typically the second-largest shareholder bloc – but without an independent voice. Here, Simeon Djankov, Director of the World

Development Report, explains some of the challenges that will tax corporate regulators in the future, tasked with keeping new firms – and the jobs they create – safe and sustainable for the long term.

# LESSON 9

**Let cities pioneer change in industry and social safety nets.**

Cities were the turbo-chargers of the first industrial revolution - and today, cities are the crucible where new technology, new industry and new jobs are created. Cities, therefore, are often at the cutting edge of rethinking the ways in which safety nets have to be modernised. And so we're delighted to share some thoughts from Park Won Soon, Mayor of Seoul Metropolitan Government, and the first mayor to promise Koreans that 'I will change your life'.

# LESSON 10

**Reflect on how the rules of economic institutions must change to ensure new wealth is wealth that is fairly shared.**

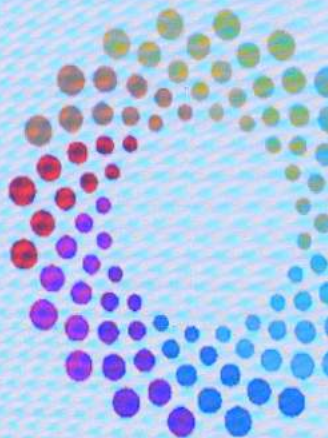
AI alone could raise global GDP by as much as 14% by 2030; but how do we make sure that new jobs are good jobs – the kind of jobs that help ensure that new wealth is shared more fairly? Across the globe, the perspective of trade unions will be a critical part of the debate around new programmes of reform. Philip Jennings, General Secretary of UNI Global Union, the global trade union for the services sector, and ILO Future of Work Commissioner sets out the dimensions of a new social contract.



## **Putting it all together.**

The way in which this agenda for change will come together in individual nations will vary widely. Different ideas will be priorities in different nations at different times. The challenge for politicians everywhere will be to put together inspiring, powerful stories and programmes for change that knit these ideas together – and crucially modernise tax systems to provide the state with the resources to act. So we conclude with an example programme set out by the G20 this year, which under the Argentinian Presidency, has focused on the future of work. We hope that you find the book useful and thought provoking in helping navigate the challenges ahead.

# G20



ARGENTINA 2018



# **Preface: The Future of Work in the Framework of the G20**

Cornelia Schmidt Liermann

Under the current Argentine presidency of the G20, the issue of the future of work has been declared one of the three priority subjects.

The world is going through a period of rapid technological change that is likely to have a major impact on the economy and the labour market. The adoption of new technologies will significantly increase GDP and productivity, but can also generate significant job losses and greater inequality between social groups. For example, in the south of Africa, 51% of the population uses the Internet compared to 80% in high-income countries. If we divide the data by fifths, the richest segment accounts for 85% of internet usage while the poorest reaches only 35%.

According to the World Bank, robotics will impact production

processes exponentially and it is estimated that by 2019 the world will have a population of 2.6 million robots in sectors such as automotive, electronics, metallurgy, chemistry, rubber and plastic.

Undoubtedly, with the advance of technology, we are facing a ‘revolution of civilization’. This is why we should not neglect the values we want to maintain and even strengthen in this new era: fraternity and solidarity. My phrase for this is “add ethics to cybernetics”.

I am convinced that new technologies should serve for greater integration and to strengthen the concept of family, but this needs the consensus of all actors in the employment relationship to make it possible to combine the right to family care with the right to work. This can be achieved through flexible legal frameworks including home office, work interconnection, apps (where job opportunities are shared) and coordinated replacements.

We must recognise the benefits of this process while at the same time quickly overhauling those sectors that are more at risk of disappearing. And that, sadly, impacts on those who have less.

The future of work presents our country – as well as others – with a great number of opportunities and challenges. Our insertion in global value chains is promising, as Argentina is an actor in international trade thanks to its exports of products and technologies linked to agribusiness and the service sector.

Argentina has adapted quickly and to the best of its ability to the new geographical axes of production and innovation, which means that according to recent studies on the subject (an Accenture report on the future of work in Argentina) 37% of total private employment could be automated almost completely in the next 15 years. The occupations with the greatest possibility of automation are those linked to transport and storage, commerce and manufacturing.

This accelerated technification poses a challenge and at the same

time establishes a new reality in our labour market that offers benefits and also generates new problems that must be resolved in a coordinated manner by the actors responsible for ensuring the right to work.

The specific structural factors of each country (such as demography, factor endowment and gender gaps) can cause new technologies to impact in different ways across labour markets. Ideally, the menu of public policy options that the G20 is developing should begin with specific diagnoses for each country, taking into account these structural factors. However, since this may be unattainable in the short term, we recommend starting with the monitoring of trends in technology adoption and skills development in each G20 country. For this, more and better data is needed.

For example, we must move forward so that governments can support the registration of the intellectual property for the creations and technological processes devised by our nationals in the countries where they will be most used, such as the United States and the European community, ensuring that the royalties also benefit the countries that trained said creators. In Argentina we have many bright young people who have developed software processes, but few managed to register their patents due to high costs. Instead, they are sold to companies at low prices, which then launch them worldwide.

It is also necessary to understand that digital competence must be trained from an early age and a new approach to education and learning must be put in place, enabling pre-school and school education to provide the necessary cognitive skills that allow them to model and master digital technologies, adapt to technological change and develop capacities for innovation and problem solving, thus avoiding imbalances in competencies.

For me it is also necessary to highlight the importance of quality

internships. Non-formal learning is emerging throughout the world, aiming to prepare the youth for entering the job market. If these mechanisms continue to expand, the role of the state, other actors and the G20 in education should be re-evaluated. Various aspects such as regional and global coordination, regulation and certification of non-formal education, among others, should be included. Likewise, governments together with universities and companies should focus on supporting innovation and promoting investment and development financing linked to the most dynamic productive sectors.

Our education system should also be oriented to promote creativity and technical analytical skills to mirror a global trend that rewards those countries that prioritise digital development and new technologies.

On the opportunities front, it is necessary to remember that the digital age is a gender equalising force. Compared to men, 16% more women work in jobs that will be in high demand in the digital age. Nonetheless, although the inclusion of women in work has increased significantly, there are still wide gender gaps: women participate less in the labour market, their working conditions are worse, they face barriers and glass ceilings, and are discriminated against by the law. Achieving gender equity is not only a moral imperative, but also key to growth and economic development. The G20 countries committed themselves to reducing the labour participation gap by 25% by 2025, but progress is limited and, therefore, it is necessary to implement innovative solutions.

To conclude, the G20 has the legitimacy and capacity to provide consensus-based opinions based on evidence, foster cooperative solutions and shape the political agenda on the jobs of the future. The challenge is fundamental: the creation of quality jobs for the future so that they become a source of prosperity, and the reduction of inequality between people and countries.



# Contributors



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# LESSON 1

**Understand the impact – and opportunity – of automation  
for your country.**

# Automation and the future of work – understanding the numbers

Dr Carl Frey

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Good policy for the future of work rests on a good grasp on just how automation will accelerate across your economy. But understanding the scope – and speed – of change is challenging. Dr Carl Frey, one of the world's leading experts in the impact of automation, explains.

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In 2013, we published a paper entitled, *The Future of Employment: How Susceptible Are Jobs to Computerisation?*, estimating that 47% of US jobs are at risk of automation.

Since then, numerous studies have emerged, arriving at very different conclusions. In particular, one study published by a group of researchers at the University of Mannheim suggests that only 9% of jobs are exposed to automation. And more recently, a study by the OECD suggests that it is actually 14%, with a further “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.”

Many policymakers naturally find it hard to make sense of these results. Which study is right? And why do they arrive at very different conclusions? In this article, we shall seek to explain why these

estimates diverge.

For all their differences, these studies build on the same intuition. This is that the future of work can be inferred by observing what computers do. And there are good reasons to believe that this view is right. Back in 2003, David Autor, Frank Levy, and Richard Murnane, of the Massachusetts Institute of Technology (MIT), showed that jobs which were intensive in routine tasks had disappeared since 1980. Their findings were entirely predictable.

In his 1960 essay, *The Corporation: Will It Be Managed by Machines?*, Herbert Simon predicted the decline of routine

**"The future of work can be inferred by observing what computers do"**

jobs, arguing that computers hold the comparative advantage in 'routine' rule-based activities which are easy to specify in computer code. Through a series of case studies in 1960, the US Bureau of Labor Statistics (BLS) also arrived at a similar conclusion, suggesting that:

"A little over 80% of the employees affected by the change were in routine jobs involving posting, checking, and maintaining records; filing; computing; or tabulating, keypunch, and related machine operations."

Despite their accurate insights, Simon and the BLS were careful enough not to provide a timeline for how long it would take before routine jobs would disappear in large numbers. And neither did we back in 2013.

Our study wasn't even a prediction. It was an estimate of how exposed existing jobs are to recent developments in artificial intelligence and mobile robotics. It said nothing about the pace at which jobs will be automated away. What it did suggest is that 47% of jobs are automatable from a technological capabilities point of view. As



we pointed out back then.

"We focus on estimating the share of employment that can potentially be substituted by computer capital, from a technological capabilities point of view, over some unspecified number of years. We make no attempt to estimate how many jobs will actually be automated. The actual extent and pace of computerisation will depend on several additional factors which were left unaccounted for."

Our estimates have often been taken to imply an employment apocalypse. Yet that is not what we intended or suggested. All we showed is that the potential scope of automation is vast, just as it was at the eve of the second industrial revolution, before electricity and the internal combustion engine rendered many of the jobs that existed in 1900 redundant. Had our great grandfathers tried to make a similar assessment by the turn of the 20th century, they would probably have arrived at a similar figure. Back in 1900, over 40% of the workforce was employed in agriculture. Now it is less than 2%.

Seen through the lens of the 20th century, our estimate, that 47% of jobs are exposed to future automation, does not seem extraordinarily high. On the contrary, the University of Mannheim and the OECD estimates seem extremely low.

Both of these studies take their starting point from our methodology, so let's begin with a non-technical description of it.

In 2013, we gathered a group of machine learning experts to assess the automatability of 70 occupations using detailed task descriptions. Specifically, we asked the experts to assess whether each task for these occupations was automatable, given the availability of state-of-the-art computer equipment and conditional upon the availability of relevant big data for the algorithm to draw upon. Data was derived from O\*Net which, through surveys of the working population, has collected some 20,000 unique task descriptions

along with data on the skills, knowledge and abilities possessed by different occupations. Such ‘big data’ comes with one non-negligible problem: the human brain struggles to process it. But mercifully we live in the age of AI. And AI performed most of our analysis.

The role of the experts was to provide us with what machine learning researchers call a ‘training dataset’, allowing our algorithm to learn about the features of automatable vs. non-automatable jobs. While the task descriptions provided for each occupation in O\*Net are unique, O\*Net also provides a set of common features for all occupations, which also stems from surveys, during which workers are asked how often they engage in particular activities, such as taking care of customers, negotiating, developing novel ideas and artefacts. These features allowed our algorithm to learn about the characteristics of automatable as well as non-automatable occupations, which in turn allowed us to predict the automatability of another 632 occupations.

Thus, we were able to examine a total of 702 occupations, which in 2013 made up 97% of the US workforce.

Using AI for our analysis had benefits beyond saving time and labour. Among the occupations the experts deemed non-automatable were waiters and waitresses. Our AI algorithm however gave us another answer. By examining the similarities between the tasks performed by waiters and those of other occupations, it suggested that the jobs of waiters are in fact automatable. And it was proven right: in 2016 the completely waiter-less restaurant chain Eatsa opened.

Of course, algorithms are only as good as the data we feed them, and our approach did have one drawback. As we pointed out in the paper, while “our probability estimates describe the likelihood of an occupation being fully automated, we do not capture any within-occupation variation [...]” What we mean by this is that

underlying our analysis was a set of occupation specific features. But every occupation employs thousands of individuals, of which some potentially perform slightly different tasks. This was also the point that the authors of the Mannheim as well as the OECD study picked up on, although within-occupation variation probably plays a minor role: the job of a taxi driver or a cashier, for example, is essentially the same across companies and locations. Still, by using individual instead of occupational level data, allowing them to also capture within-occupation variation, this approach has its merits.

However, we do have a number of other queries regarding these studies.

What all previous studies have in common, including our study, is that they infer the automatability of jobs by analysing their tasks. While the Mannheim study appears to take a task-based approach, a closer look at the variables being used shows that this is not the case.

Instead of relying primarily on tasks, the Mannheim study uses worker and firm characteristics, as well as demographic variables such as sex, education, age, and income. According to this approach, the more an accountant earns, the less automatable his job is. If he or she happens to have a PhD in sociology, the job is safer from automation. Similarly, a female taxi driver with a PhD is less likely to be displaced by a self-driving car than a man who has

**"We were able to examine  
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...97% of the US workforce"**

been driving a taxi for decades. Yet why should automation discriminate on the basis of worker characteristics?

Back in 2013, we observed that workers who were employed in jobs that are exposed to automation tend to have lower levels of education and (typically) lower incomes. And we also noted that a

disproportionate number of women work in occupations that are less exposed to automation relative to men. The Mannheim study, however, uses these outcomes as inputs into their analysis. In fact, jobs are not more or less exposed because of the sex of the worker, though some more male-dominated jobs are more exposed to automation.

The OECD study does not make the same mistake: it does not include demographic variables, which might explain why it finds a larger share of jobs to be exposed to automation. It suggests that between 6% (in Norway) and 33% (in Slovakia) of jobs are automatable across the OECD countries. While their headline figure suggests that only 14% of jobs across these countries are automatable, using our definition, their median automatability estimate is quite high: the median job is estimated to have 48% probability of being automated.

Like the Mannheim study, the OECD uses individual level data from the PIAAC survey, which they argue explains why they find a lower percentage of jobs to be automatable, relative to our estimate. However, they do not provide any evidence to actually show that this is the case. To take the example of the truck driver, our approach treats all truck drivers as equal: when autonomous vehicles arrive, all of them will become exposed to automation. The OECD study argues that their estimates are lower than ours because a large share of drivers will not find themselves exposed but without providing any data to show that this is the case.

We find it hard to believe that the tasks performed by different truck drivers (or workers within any other occupation) vary that greatly. We find it even harder to believe that this would explain a staggering difference between 14% and 47% being exposed to automation. More fundamentally, even if there is variation in the tasks being performed within occupations, would one not expect companies to simplify the tasks in production to be able to take advantage of the

new technology? For example, depending on the soil and weather conditions, farm labourers in 1900 will have performed slightly different tasks. But in the developed world, nearly all of them eventually adopted the tractor after it arrived.

**"A disproportionate number of women work in occupations less exposed to automation"**

Given that the only source data that both studies consider on automatability is our training set, the only reasonable way to check which of their

model and our model is preferable is how well it performs on that training set. A common way of evaluating such performance is 'holding out' (hiding) elements of the training set provided to the model: later, the model's predictions for these unseen occupations can be compared against their actual values. A frequently used metric to assess this is the AUC, which is the only comparable metric computed for both studies. By this measure, the non-linear model in our study is substantively more accurate (in predicting held-out members of the training set) than the linear model used in the OECD study. The bi-modal distribution of automatability scores in our study is the result of the confidence of our model (most occupations are confidently predicted to be either automatable or not): the fact that the model mostly correctly predicts held-out elements of the training set lends weight to this confidence. It is, unfortunately, not clear from the evidence in the OECD study that its model is (nor that the results that follow from it are) more reliable.

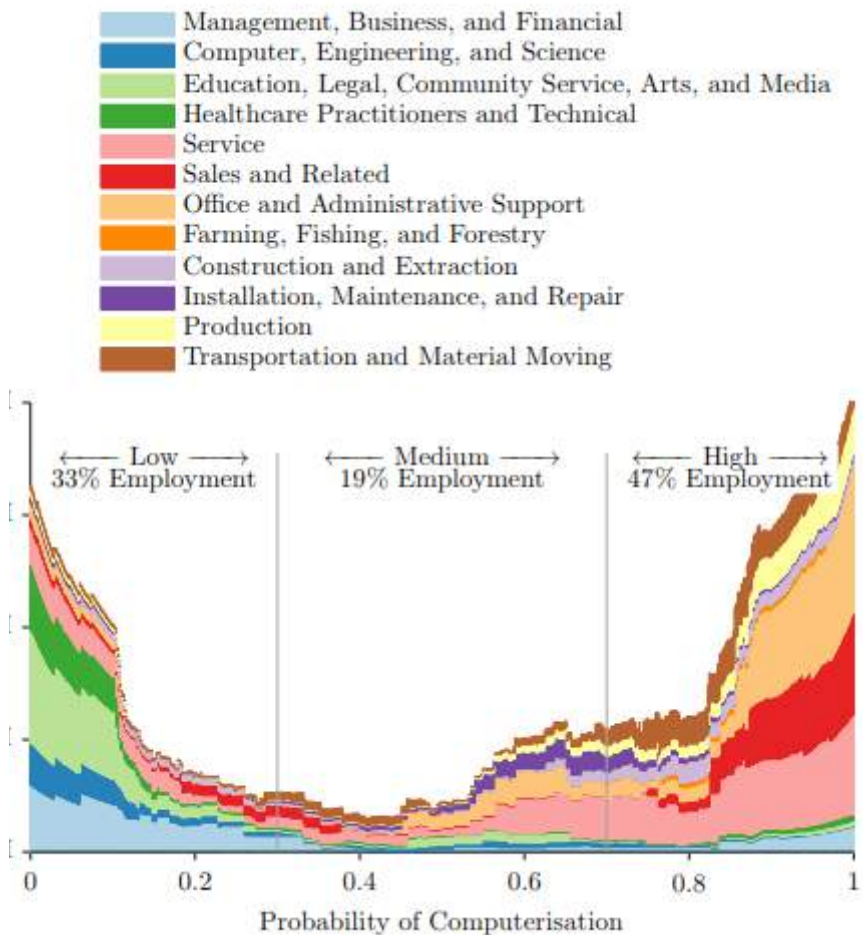
Furthermore, while our analysis examines 702 occupations, the OECD study results are broken down by broad occupational categories. And as the OECD study accurately notes, "valuable information is lost when the risk of automation is calculated based on the skill requirements of broad occupational categories." As the OECD study finds that 14% of jobs are exposed to automation, it is possible

that 2 to 3 occupations drive their results entirely.

We appreciate the attempt of the OECD to add to our work. The reason why we made our data publicly available is to allow others to build upon it. This is also the reason that the OECD and the University of Mannheim were able to adjust our methodology. We would welcome similar transparency from these studies.

Policymakers need to understand the thinking behind the disparate numbers in these studies to draw their own conclusions about the scale of the changes facing us, and so to be able to craft appropriate responses.

The graph below, taken from Frey and Osborne 2013, shows the distribution of occupational employment over the probability of computerisation, along with the share in low, medium and high probability categories. Frey finds that a massive 47% of total US employment is at high risk of computerisation.





# LESSON 2

Scope the opportunities of industries of the future



# Seizing the opportunity to drive inclusive growth

Sir Christopher Pissarides and Anna Thomas

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Seizing the potential of automation could allow countries to shift resources from low productivity to high productivity tasks, increasing the wealth of nations, and widening the scope for more inclusive growth. Creating good strategies for allocative efficiency requires a sharp focus on job creation; labour transition; and the role of the public sector, argue Sir Christopher Pissarides and Anna Thomas.

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Increasing productivity is a means to an end, not an end in itself. Boosting labour and total factor productivity is essential to building an integrated and competitive economy. But our overarching goal – and driver – must be to meet the needs of society, including needs for social and economic inclusion, the opportunity for employment in good quality jobs across regions and the elimination of poverty.

The current structural transformation – what the World Economic Forum describes as the ‘fourth industrial revolution’ – invites reflection on the nature and context for productivity growth, as well as measurements of it. In doing so, we must look towards our ultimate objectives even where they are obscured or conflict, or appear to conflict, with each other.

One way of doing this – and moving towards an alignment of

goals – is to focus in the first instance on allocative efficiency in the context of the economy’s structural transformation: the efficient allocation of productive resources across economic activities, sectors and regions. Allocative efficiency delivers both resilience and a positive response to disruption (‘shock absorption’) across different geographies.

There is increasing consensus that we need to take steps to smooth transition and share benefits – as well as realise the huge potential of the digital transformation, automation and new AI-related technologies – if we are

**"There is increasing consensus that we need to take steps to smooth transition"**

to achieve sustainable and inclusive growth. From economic and societal perspectives, the multi-dimensional policy challenge of achieving allocative efficiency is particularly important at this point of structural transformation, which takes place a time of heightened economic anxiety.

Consensus should therefore lead to renewed attention on allocative efficiency. Resource allocation is discussed in this article by reference to three themes: job creation; labour transition; and the role of the public sector.

First, the reallocation of labour across jobs, occupations and sectors towards either higher productivity employment or to growth areas in high demand by society may be more important than any other single factor. So understanding the sources of good job creation – and societal value for these good future jobs – is key. We must shift the debate about the percentage of people engaged in work that is susceptible to a high degree of automation (plausible estimates have now settled on 10-30 %) to the likely destination of these workers.

The social and economic conditions and policies which enable the creation of good, sustainable jobs for displaced workers include

*Seizing the opportunity to drive inclusive growth*

increasing R&D budgets; offering incentives for the dispersion of new technologies; opening up access to finance; higher levels of collaboration between universities and industry throughout the innovation cycle; and promoting competition. These will be required so that workers can move into jobs that are at least as good – and preferably much better – than those which have been disrupted.

Re-valuing and improving the quality and pay of growing share of jobs involving social intelligence, such as care and hospitality work, and the creative industries, will be just as important as the creation of tech-savvy computer science and engineering jobs. We must think about these troubled growth sectors now, whether or not productivity growth is close to zero, based on existing measurements. This is a good example of a short-term conflict between productivity growth and the demands of an ageing society.

Second, the degree of support for this transition at an individual, firm and national level will determine the speed of reaction, ease of reallocation and resilience to economic shocks, with its attendant social costs.

Policies to facilitate the process of efficient labour reallocation include the following investments in human capital: nurturing transferable skills through and beyond the school curriculum; flexible and accessible life-long learning programmes developed by employers and social partners motivated to work with government in response to changing demands; active labour market policies targeted at retraining those most vulnerable to displacement; and welfare support aimed at the individual rather than the job, reducing the cost to workers in transition and allowing the portability of benefits. The trial of practical solutions in these areas, grounded in research, should start as soon as possible.

Properly supported, workers should be able to move freely from inefficient to efficient firms within or across sectors. We note that allocative efficiency means the elimination of waste, for example overemployment in unproductive firms, as well as the allocation of factors to their most productive use. This is expected to be the focus in the first report of Denmark's Disruption Council, due at the end of 2018.

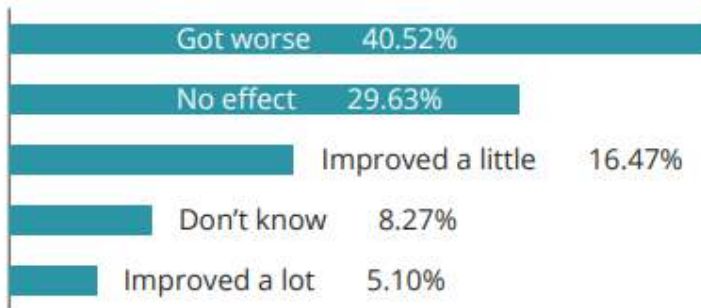
Third, improving the efficiency and governance, as well as financing, for the public sector has potential to increase allocative efficiency. Competition-impeding regulation, high administrative costs and poor governance is likely to reduce the ability and willingness of entrepreneurs and workers to seize opportunities. To varying degrees, these factors will reflect the quality and pay of public sector work too.

We have seen that identifying the primary factors for inclusive and efficient resource allocation takes us - with very little diversion - to 'the future of work'. This means more than assessing the occupations or tasks that will thrive or diminish or identifying and measuring the essential components of good work, although these are essential building blocks. It means examining the social and economic conditions that enable the creation and access to good work and supporting the process of change by focusing on the human experience. It means building on recent national and OECD work on job quality by examining changes, the distribution of 'good work' and the underlying reasons for both. To do this, we must open up and expand the remit of the debate on 'good work.' With Brexit closing in, we think it is especially important to identify the pathways to good future work now.

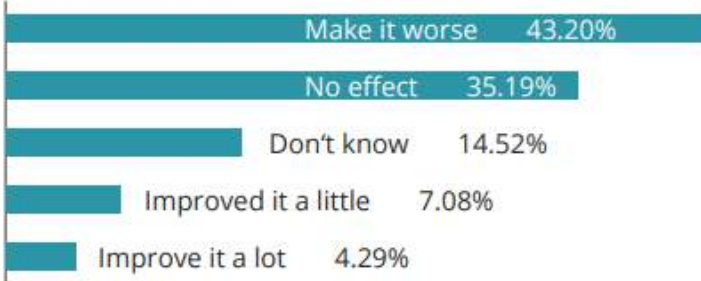
The Future of Work is inextricably connected with the inclusive growth agenda. With good reason, it will bring that agenda to life – and drive it forward.

The data below were taken from a USDAW survey which asked retail workers how their feelings towards their jobs had changed in the last five years and how their job security would change in the next 5 years.

### **RETAIL WORKERS ARE FEELING LESS FULFILLED IN THEIR JOBS**



### **RETAIL WORKERS BELIEVE TECHNOLOGY WILL WORSEN THEIR JOB SECURITY**



A clear plurality of workers feel less fulfilled in their jobs while also more fearful about their future job security. Does this suggest a reallocation of labour is needed and how best can we smooth that transition?



# LESSON 2

**Scope the opportunities of industries of the future**

# Understand your Industries of the Future

Alec Ross

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As countries prepare for the future of work, it is vital for policymakers to understand the industries of the future, where new jobs will emerge. Alec Ross, former advisor to Secretary Hillary Clinton, and author of the international best-seller, *Industries of the Future*, explains how policymakers need to think through the industries – and opportunities – of the future.

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One of the great stories of the last 25 years of globalisation is the nearly one billion people who have moved from poverty to the working and middle classes in India and China. But if you were to index on a continent-by-continent basis where there could be the highest increase in per capita GDPs in the years to come, I think it would be in sub-Saharan Africa.

This is because connectivity has taken once very isolated communities and people disconnected from global markets, and connected them. Now that we have the benefit of a handful of years of connectivity, we are starting to see what I believe is the beginning of the development of genius that has been buried for quite a long time. I've seen some fantastic examples of entrepreneurship, of talent

development that's taking place there that makes me really very optimistic about a part of the world that there hadn't been optimism for decades.

Take Andela. It was founded by a 31-year-old with a thesis: [that] if you put the most talented people in places with a very high population density – like Nairobi, Kenya and Lagos, Nigeria – through the most rigorous possible boot camp – six weeks of absolute coding misery – that they would come out of it as a Google-quality programmer. They've tested this thesis and it's basically proven true,

**"Talent is universally distributed, but opportunity is not"**

What this means is that the 17-year-old who might have been making \$6/7,000 a year, suddenly has a market value of \$200,000 and doesn't have to get on a plane and fly to London or San Francisco, but can actually work from Lagos. Using digital markets, he can suddenly monetise the value of that human capital. This isn't just a cute story, but a simple illustration of the truth that talent is universally distributed, but opportunity is not.

So what are some of the issues policymakers need to think through over the next thirty years?

If we could fast-forward 30 years from now, certain things that we think of as scarce goods will be abundant goods. Things like bandwidth, for example, will be everywhere. And we probably won't be driving cars in 30 years. Synthetic biology will be another area where over the next 10-30 years, there may be enormous change in what we eat, or from where we get transplanted organs.

But when we think about labour substitution – artificial intelligence automating work that was once merely manual and routine, or work that is cognitive and non-routine, there is no evidence that



## *Understand your Industries of the Future*

artificial intelligence will replace creatives. In fact, there will be a new premium placed on people with creative skills – design skills, artistic skills and other such things.

When we think about what skills and attributes are necessary for people to be the leaders of tomorrow's industries, people tend to obsess about STEM – science, technology, engineering and mathematics. I think that's reasonable, but actually the leaders of tomorrow's industries are going to be people who are able to combine some measure of a technical education with skills and attributes that are traditionally domiciled with the arts and humanities. So the blending of arts, culture and design with science and technology is going to produce great businesses and great leaders of the future.

There will be some industry trends that are especially important.

The world's last trillion-dollar industry was created out of computer code. The world's next trillion-dollar industry is going to be created out of genetic code. We are now about 15 years past the mapping of the human genome. Mapping the first human genome cost \$2.7 billion; now it costs about \$2,000. We're finally, after a decade or more of hope, at the point where we can begin to develop personally.

Second, whereas land was the raw material of the agricultural age, and iron the raw material of the industrial age, data is the raw material of the information age. He who owned the land, controlled the land during the agricultural age, and had the economic power. He who owned the factories and controlled access to the natural resources during the industrial age had the economic power. He or she who owns the data, controls the data, or can interpret the data in today and tomorrow's economy, are going to be those that build the most powerful businesses of the future.

What data has done, in essence, is reform business models that are rooted in part in persuasion and decision making. So we go to Google to get access to information that we want more quickly, or

in the business I was in we would use data to help persuade people to vote for somebody. If you're in advertising, you use data to figure out how to more convincingly sell somebody something. And what the Pacific Ocean-worth of data that we're creating is going to do next is to drive reform of industries that we think of not necessarily in digital-first terms – like agriculture.

So what do policymakers need to worry about?

The first thing is focusing in earnest on the working class – the most difficult-to-reach populations – and ruthlessly reorienting the delivery of education, within the communities where we know the most vulnerable people are, toward those skill sets that we know will be more durable, in a world increasingly shaped by artificial intelligence and robotics.

The second thing is to look afresh at emigration policies. I think it is increasingly the case that – especially with people benefiting from connectivity – entrepreneurs can come from anywhere. And if part of what you're trying to do is make, say, London a global hub for the industries of the future, these aren't necessarily going to just be people who go to Eton and Oxford. They're going to be people who come from all over the globe.

Third, I do think that too much time is spent obsessing about a small number of American companies, and I think that time would be much better spent figuring out, from a policymaker's standpoint, what can be done to enable the creation of competitors to these companies?

So from a policymaker's standpoint I would reorient thinking away from, 'How do we deal with these big companies?', and more towards, 'How do we help support the development of some of our own companies?'

In particular, I would think about the data assets that government

*Understand your Industries of the Future*

has, and think about how government can enable technology in the public good; looking at its reservoir of data and figuring out how to open it up, make it machine-readable, and allow entrepreneurs to figure out how to use it in the public interest.

Finally, in a world of more and more super-wealthy and more and more tensions within the working class, we have to make significant investments in raising and strengthening the safety net. The economic burden for this, will have to be shared by the new plutocracy. And I think that most of the people from the new plutocracy would not actually disagree with that.

*This article was adapted from Alec Ross' interview with Second Home.*



# LESSON 3

Redouble efforts to unleash the power of enterprise and new firms

# Helping new businesses capitalise on the future of work

Olfa Soukri Cherif MP

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Encouraging innovative, new firms will be a key strategy for connecting the potential of new technology with the business of actually providing jobs. That will often mean policymakers pioneering new ways for government to help. Olfa Soukri Cherif MP, Vice-Chair of the World Bank and IMF Global Parliamentary Network explains.

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The future of work is part of a broader debate across our region as the fourth industrial revolution changes the way we relate to each other, the work we do, the way our economies work, and what it means to be human. In the Arab world there is increasing urgency towards capitalising on these changes by embracing the innovation of startups and entrepreneurs.

This revolution is transforming practically every human activity: the way we make things; the way we use the resources of our planet; the way we communicate and interact with each other as humans; the way we learn; the way we work ; the way we govern; and the way we do business. It is not just about technology or business – it's about society.

Today, we see our methods of working changing, thanks to the

development of information and communication technologies that make it possible for actors across fragmented organisations to transfer and exchange data, to communicate information and knowledge unconstrained by the limits of time and space.

In companies, managers and their employees are trained to adapt to these technological changes to continue to fulfill their missions, achieve their objectives and create value. At the same time, the manager, both subject and object of our problem, must accompany these changes and adapt the new modes of operation of its employees, initiated by the needs and constraints of remote communication through information and communication technologies.

**"As members of parliament,  
we represent citizens and  
serve the people."**

This inventory of companies in communication with one another opens many fields of research around the uses, logic of appropriation, social representations, processes of communication, coactions, cooperation, collaboration and collective intelligence, methods and management and motivation tools for women and men at a distance.

Over recent years, we have observed these transformations, focusing on the impact of information and communication technologies on human behaviour in business, health, education and politics.

As members of parliament, we represent citizens and serve the people. Considering the systemic complexity of the environment has led us to take an interest in the different approaches to initiate the essential for the jobs of the future and to encourage youth entrepreneurship. Tunisian policymakers, post revolution, have to focus on how to create jobs for young people.

So, what can we do to help ?

*Helping new businesses capitalise on the future of work*

The starting point should be education. A learning process that continues throughout life, to adapt and to work flexibly alongside a career, will be vital – as will technical, social, and critical thinking skills.

Second, we must set up policies that encourage the private sector to generate more jobs. This means the public sector have to invest in transport and digital infrastructure. To this end, the Tunisian Government helps young people start their own enterprises and links small businesses and farmers to larger markets.

Third, encourage an eco-system for start ups. Innovation is a multi-dimensional phenomenon that constitutes a creative synthesis between the worlds of knowledge and technology and the vast expectations of society. The design phase is a magical moment where the vision of the project materialises into a concrete proposal : the fruit of the entrepreneur’s sensitivity, imagination, and inspiration.

In the battle of ideas, Tunisia is climbing up the top-50 in the 2017 Bloomberg Innovation Index, which ranks economies and measures the impact of innovation by multiple factors such as research and development spending and the concentration of high-tech public companies.

Tunisia’s Startup Act is notable not just for the important steps forward the country is taking to build a thriving entrepreneurship ecosystem, but also because this is the first time in the Arab region that startups have successfully lobbied policymakers to change the laws that affect them. Hopefully we will see similar success in other countries across the region.



# LESSON 4

**Work hard to connect young people to jobs**



# How would a Global Campaign for Youth Employment Work?

David Woollcombe, Yunus Carrim MP, Olfa Soukri Cherif MP, Jeremy Lefroy MP

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We know that youth unemployment is already too high. And young peoples' jobs may be hit hard by automation. For these reasons, Yunus Carrim MP, Olfa Soukri Cherif MP, Jeremy Lefroy MP and David Woollcombe set out, this year, a plan for a global campaign for youth employment.

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## Goals

1. To promote policies that will help UN Member states deliver on their UN SDG 8, Goal 5 promise to “achieve full and productive employment for all...”
2. To continue to push youth job creation ideas and policies higher up the agendas of all politicians, business leaders, NGOs, educators and young people;
3. To emphasise the importance of multiple, integrated interventions: the Systems Approach which involves implementing several policies simultaneously.
4. To forge, and energize, partnerships between stakeholders,

because youth job creation cannot be achieved by any one stakeholder alone;

5. To 'accentuate the positive' and promote solutions.

## **Rationale**

Let's examine those goals in more details:

1. Full Employment actually means about 3% unemployment because of the normal churn of people changing jobs, taking time off for sabbaticals etc. Some experts now equate unemployment rates of 4, 5 or 6% as justifiable definitions of full employment. The key word, for Low Income Countries, is 'productive': for many millions of people in these countries, young and old, find themselves under-employed or as working poor - not earning enough to feed and keep their families in good health.  
**"Job-rich growth must be prioritised for political and social reasons, not purely financial"**
2. Prioritise Youth Job Creation: Many more people and agencies are talking about youth job creation than they were ten years ago but there is very little additional investment in the field. The private and public sectors know that profits, and solvency, are better driven by reducing pay-rolls than increasing them. So job-rich growth must be prioritised for political and social reasons, not purely financial ones.
3. The Systems Approach: Many governments and institutions persist with piecemeal solutions – a little skills training here, some wage subsidies there. It is only by reviewing all possible policy solutions together and implementing as many as are appropriate simultaneously, that jobs will be created at scale

*How would a Global Campaign for Youth Employment Work?*

across a nation or region.

4. **Forging Partnerships:** Creating jobs is not something that can be done by governments alone. Yes, they must lead – but they must work in partnership with NGOs, business leaders, educators and young people themselves. And we must look East, West and North – South to see what other countries are doing. For as the crisis of youth unemployment bites deeper all over the world, solutions of all kinds are popping up everywhere. The most important partnership is with youth themselves: teachers and adults must level with them and explain the full extent of the problem. And they must give them the skills and the confidence that will enable them to be part of the solution.
5. **Promoting Solutions:** people are right to be scared at the scale of the problem
  - The need to create 6 million jobs a month, a million a month in Sub-Saharan Africa alone!
  - A billion new jobs by 2030 just to maintain unemployment at current levels.
  - 2 to 3 billion more by mid-century as tens of millions of traditional jobs disappear to digitization, automation and robotics; – and –
  - The need to teach new skills and self-learning techniques as the World Economic Forum estimates that “65% of children entering primary school today will ultimately end up working in completely new job types that don’t yet exist.”

But failure is not an option: if we are going to keep bringing young people into the world, it is our duty to create decent jobs for them to do when they grow up. So: “Don’t tell me it’s impossible. Show me a solution!” That’s what our campaign is designed to do.

## **How? The Layer Cake Approach**

It may be helpful to consider the layer cake approach which separates their solutions into 4 x vital “Layers” of activity. For in depth papers on the approaches, see the Parliamentary Network's previous publication: ‘The Case for Urgent Action on Youth Employment’ from which this essay is taken.

### **Layer ONE: Massively increase inward investment:**

It is axiomatic that, as a country gets richer, the share of the labour force working the formal waged sector rises, and the number working in self-employment or the informal economy declines. So, as DFID SoS, Penny Mordaunt, has said, DFID is “working hard to deliver on the need for large scale productive investment.” Only this will increase the number of formal jobs available to youth. And, as the Economist points out, this must go hand-in-hand with deregulating labour markets: “countries that let business cartels curb competition, place high taxes on labour, enforce high minimum wages or impose regulations that make it hard to fire people, are bad places for the young jobless.”

### **Layer TWO: Improve Skills Training:**

A USAID official famously said: “Training programmes are the crack cocaine of the youth employment field: we’re addicted to them!” As Louise Fox points out in her paper in ‘The Case for Urgent Action on Youth Employment’, skills training for jobs that do not exist is a waste of money. She, and the Economist argue for better skills-matching and Julia Deans argues for more skill training to be done in schools. Basic skills – reading, writing, numeracy – are important, but PCI has shown that mobile apps and visual

techniques can allow entrepreneurship to flourish in the absence of such skills. And Teach a Man to Fish shows how school-based enterprises can both teach young people entrepreneurial skills and help to finance the school. Jonathan Pfahl points out the importance of mentorship, and Ocheck Msuva highlights the importance of career and life-planning guidance – and its almost complete absence from Low Income Countries.

### **Layer THREE: Engage the Private Sector:**

As 80 to 90% of new jobs will be created by the private sector, and taxes paid by private companies pay for 100% of public sector jobs, the private sector is key to new job creation. McKinsey and others point out that many private sector companies complain that government education and training systems do not deliver the employees they need. The World Bank finds that private companies deliver better training than the public sector. They are also the sector that must be persuaded to invest in job-rich growth. Usually, they also provide the first experience of business that allows young entrepreneurs to develop the courage, and the vision, to start their own enterprises. In, 'The Case for Urgent Action on Youth Employment', Chris Nassetta offers a private sector perspective on youth job creation training and the need to show young people what different business sectors have to offer. And Bill Reese of the International Youth Foundation explains why life skills training is often the key to success in finding, and retaining, a job in the private sector.

## **Layer FOUR: Create a bespoke suite of Demand- and Supply-side Policies at scale:**

The top layer of the cake is perhaps the most interesting as it includes the myriad of little things that any government can do often at very little, or no, cost. Initially, the Campaign will focus on these as we find many governments, youth and private sector companies are not aware that such policies exist. In our policy store, we have over 200 different policy products: they may be clustered under the following headings:

- Involve youth! As Ulla Tørnaes argues, “Youth are experts in their own aspirations. Fostering an intergenerational dialogue can help unleash these aspirations and translate them into viable and realizable achievements.” Youth Unemployment is a youth problem so Priority 1: engage youth in solving it.
- Entrepreneurship education – at every level in every school. But beware! There is both effective and ineffective entrepreneurship education: it needs to be carefully calibrated to fit the needs of the country, region and/or local economy.
- Basic Skills Training: all the evidence suggests that it is easier for youth who read and write to get jobs – but many youth in Low Income Countries emerge from several years of schooling without these basic skills. So – Education quality has to improve.
- Extra-curricular Business Plan Creation Training: teach practical business creation skills in schools out of school hours;
- School Enterprise and Self-financing Schools – experiential learning of running a business at schools both teaches youth business skills and helps to pay their teachers’ salaries;
- Comprehensive career guidance – for all students at all levels

### *How would a Global Campaign for Youth Employment Work?*

in schools and universities. Students need to know the shifting realities of the labour market that lies beyond the school gates, so that they and their parents can plan and navigate their education paths accordingly.

- Apprenticeships, part-time jobs, dual systems of education and work experience – for all students. Don't copycat exactly the Austrian, Swiss and German programmes but adapt and recreate them until you replicate their success in your own local context.
- 21st century skills training: include green tech, IT & computer skills, 3-D printing etc. in all national education provision;
- Enable Youth Access to Capital – via loan guarantees, equipment leasing, stock or rent credit etc. As Lina Useche says, “It is imperative to create innovative ways to support young people who want to start their own business to gain access to credit.”
- Enable Youth Access to Mentorship – often the key to the success or failure of a youth-led business start-up;
- Simplify Business Registration Procedures – to enable new businesses to register at close to zero cost;
- Active Labour Market Policies – break up the cartelization of different industries.
- Job-creating Networks: create jobs clubs and enterprise networks to help youth learn from each other;
- Business Plan Competitions: popular, and effective, ways of building entrepreneurship
- Empower & support young women into decent jobs – it is their human right + female empowerment grows economies by up to 25%, as Ulla Tørnaes reports.

## *The Future of Work for the People We Serve*

- Create Jobs for the disabled – young people with physical or mental disabilities can grow economies too;
- Government-led initiatives – wage subsidies, tax breaks, preferential procurement from youth-led business start-ups, EU-Nordic style youth job guarantee schemes, expanded public works programmes, large-scale infrastructure projects – all are great job creators and develop skills and good work habits amongst young people.

There are hundreds more policy solutions and detailed studies of Active Labour Market Policies (ALMPs) which the Campaign can explore with partners – on both the demand and supply sides. The Campaign’s goal is to learn and share experience, good and bad, then explore with individual governments and stakeholders within each country to develop a suite of policies appropriate to their local /national context.

Further, this challenge is so important and so difficult, we must not have any secrets. Actual training materials may be copyright, but ideas and evaluations need to be shared. We will seek radical transparency from all our partners and openly explore how to adapt a policy intervention successful in one country to fit the context of another.

## **Schedule of Work**

There is an immense body of learning gathered by organisations like the World Bank, the Commonwealth Youth Division, the ILO and practitioner agencies. In ‘The Case for Urgent Action on Youth Employment’, we re-published Jamie McAuliffe’s excellent Aspen Institute study of the landscape of youth job creation initiatives, funding sources and platforms. However, there has been no exhaustive study of the youth job creation policy interventions carried out by OECD-DAC member agencies or those carried out by individual



## *How would a Global Campaign for Youth Employment Work?*

country governments. As donors, and everyone else, needs to know what others have been doing in this field, a bench-marking study of what each DAC ODA has done – and how effective each intervention has proved – is Job One for this Global Campaign for Youth Unemployment.

Our campaign will provide PN Members, and other stake-holders, with honest and informed evidence, written in crisp, accessible language, of what has worked well, what worked less well – and which interventions are the most cost-effective.

Armed with this information, we shall then pursue the following three stage approach:

### **Task ONE: Bench-marking:**

The GCYE will first find governments that share our passion to reduce youth unemployment. We will work with them, and other partners, to identify which policy solutions they are currently implementing, where the gaps are, and the areas in which policy delivery can be improved.

In researching ‘The Case for Urgent Action on Youth Employment’, we interviewed one government representative who bewailed the fact that his government had, on the advice of many experts, invested heavily in expanding tertiary level education, only to find that there were now more unemployed university graduates than unemployed primary or secondary school leavers. This same official complained that, though they had sought to introduce entrepreneurship education, they had yet to find an effective model appropriate for his country.

Such specific challenges will be explored by the campaign through the eyes of five different stakeholder groups:

1. governments;

2. the private sector;
3. donors and investors;
4. educators, academics and practitioner professionals;
5. youth themselves.

Combining scores and assessments from each stake-holder will give policy-makers a comprehensive snapshot of the status of youth job creation policies in their country.

### **Task TWO: Prepare a policy prospectus:**

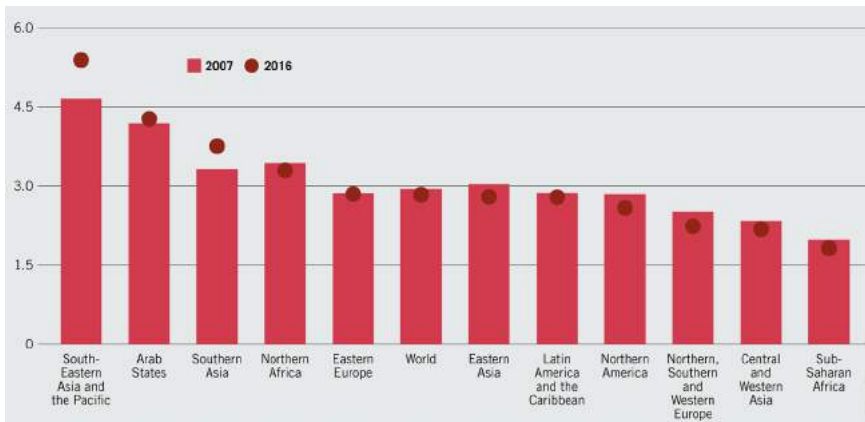
The second task will be to work with interested governments to build out of the bench-mark study a prospectus of polices, tailored to national needs. Each will seek to maximize the number of decent youth livelihoods created while also growing each nation's economy and increasing their tax revenue. The prospectus will draw on the ideas and views of all five stakeholder groups – shaping and re-shaping the suite of policies until all buy into a common and agreed Systems Approach.

### **Task THREE: Implementation:**

Armed with a few carefully worked up Country prospectuses from both Low- and Middle-income countries, the campaign will work with each country's government and stakeholders to mobilise the resources, recruit and train the necessary personnel and oversee the initial implementation of the suite of policies at local, regional and national levels, working with other agencies to capture the learning from each stage of the work. By working with existing institutions and youth themselves, the campaign will keep the cost of implementation as low as possible. A key element of the campaign is to enable the implementation of each country programme to be self-sustaining within a time period of no more than 10 years.

## *How would a Global Campaign for Youth Employment Work?*

The graph below, using data from the International Labour Organisation, show the youth-to-adult unemployment rate ratios by region in 2007 and 2016 (ILO Research Department's Trends Econometric Models, April 2016). The largest gap between youth and adult unemployment is in South East Asia and the Pacific - and the gap is getting wider.





# LESSON 5

**Develop new strategies to raise employment and enterprise rates amongst women**

# Raising Female Employment Rates: A Case Study from Standout Vietnam

Angana Banerji, Sandile Hlatshwayo,  
Albe Gjonbalaj and Anh Van Le

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Raising the employment rate amongst women is a critical task for policymakers developing plans for the future of work. Boosting the female labour force participation rate raises the economy's growth potential by increasing the pool of workers available for productive purposes. This can lean against the negative economic effects of an ageing population, which shrinks the workforce and lowers growth. Angana Banerji, Sandile Hlatshwayo, Albe Gjonbalaj and Anh Van Le elaborate.

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Rosie the Riveter's 21st century legacy is alive in Vietnam.

The fictional Rosie, depicted on posters and magazine covers, became the symbol of women who joined the US factory workforce during World War II, jump-starting the rise in female labour force participation in postwar America.

The Vietnam War had a similar effect in that nation, so that today the daughters and granddaughters of Vietnam's Rosies have made their country among the world's leaders when it comes to employment for women. Almost three-quarters of Vietnam's female

working-age population has been in the labour force for at least two decades, one of the highest and most persistent rates in Asia and the world.

Why does this matter? Higher female labour force participation – the share of working-age women with a job or actively looking for employment – raises the economy’s growth potential by increasing the pool of workers available for productive purposes. This can lean against the negative economic effects of ageing, which shrinks the workforce and lowers growth.

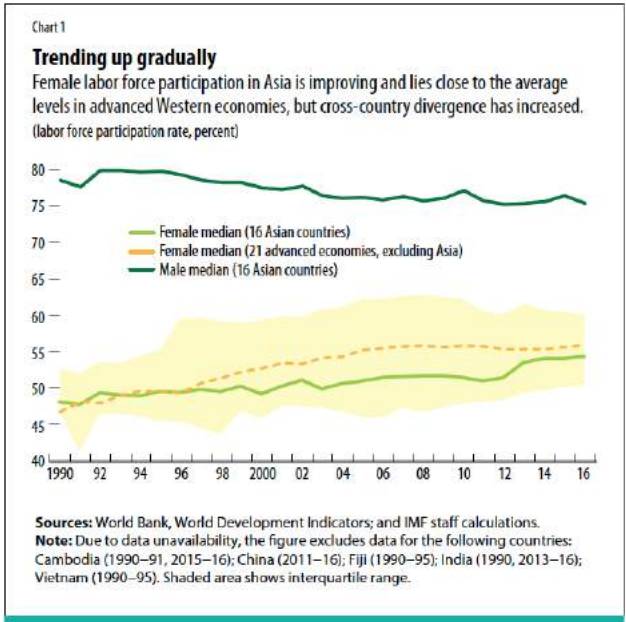
Asia, the most populous continent, with 60% of the world’s people, is ageing rapidly. Bringing more women into the workforce

**"Female labour force participation is trending up across Asia"**

is therefore crucial to reinforce Asia’s economic dynamism and ensure its future prosperity, while also empowering the economic autonomy and aspirations of its female population. A 2018 report by the McKinsey Global Institute, *The Power of Parity: Advancing Women’s Equality in Asia Pacific*, estimates that equality for women in the region could increase collective annual GDP by 12%, or \$4.5 trillion, by 2025.

Several researchers have also demonstrated that a larger presence of women in the workforce and the elevation of women to prominent positions can help foster income equality, diversify the economy, and boost the profitability and efficiency of businesses.

Female labour force participation is trending up across Asia, with many other countries catching up to Vietnam. On average, female participation rates in Asia have increased by about 6 percentage points since 1990 (see Chart 1) and lie not far behind the levels seen in advanced Western economies (IMF 2018). Our forthcoming paper looks at the evolution of female labour force participation in Asia.

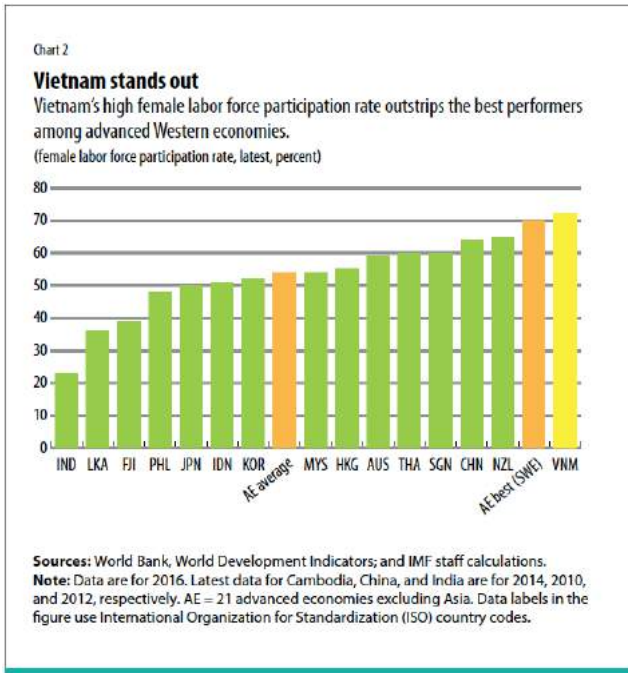


The improving overall picture reflects some convergence in female labour force participation rates in Asia toward the better performers in the region and globally.

Several countries with low participation rates before the Asian financial crisis successfully raised them by some 12 percentage points on average over 1996–2016. Australia, Hong Kong SAR, Malaysia, New Zealand, and Singapore recorded significant gains – above 10 percentage points – over the past decade, in line with improvements seen in nations such as Sweden, which has one of the highest female participation rates among advanced economies. Japan and South Korea have marginally improved upon historically stagnant or declining participation. Together these gains have lifted average female participation rates in the Asia-Pacific region in recent years.

Although female workforce participation has increased in general, cross-country differences have also been rising. Some countries

have failed to keep up with improvements witnessed elsewhere in Asia.



The growing differences in female labour force participation rates across Asia reflect declining or stagnant participation in countries that had low participation to begin with, notably India, Indonesia, the Philippines, and Sri Lanka. Participation rates have also declined in China and Thailand, albeit from relatively high levels.

Vietnam's performance is particularly noteworthy. Its high female labour force participation rate outstrips the best performers among advanced Western economies (see Chart 2). And it has also succeeded in maintaining female labour force participation of some 70% for more than two decades – a feat unsurpassed even among advanced economies.



## **Drivers of female participation**

To understand the reason for better outcomes in Asia, it is important to identify where improvements have been the largest.

As populations grey, the rising share of older workers tends to lower the workforce participation rate for both men and women, as older workers tend to be less active in the workforce. Yet in Asia, despite the negative effects from ageing, participation has improved for prime-age female workers – those 25-54 years of age – even as a rise in school enrollment for younger workers, both male and female, has delayed their entry into the workforce (Anh and others, forthcoming).

These trends generally hold across all Asian countries, with a few exceptions – notably China, India, and Thailand – where prime-age female workers are becoming less attached to the workforce.

The economic cycle has a strong bearing on labour market developments. Slower growth or recessions raise unemployment, which can lead workers to drop out of the labour market as they grow discouraged or their skills atrophy. Some may delay entering the job market until the economy recovers.

Asian economies have benefited from strong growth in recent years, which has supported female labour force participation and countered the effects of ageing. In this regard, the Asian experience is different from that of advanced Western economies, which bore the brunt of the global financial crisis and where the ensuing economic downturn dragged down female labour force participation, adding to pressures generated by ageing (IMF 2018).

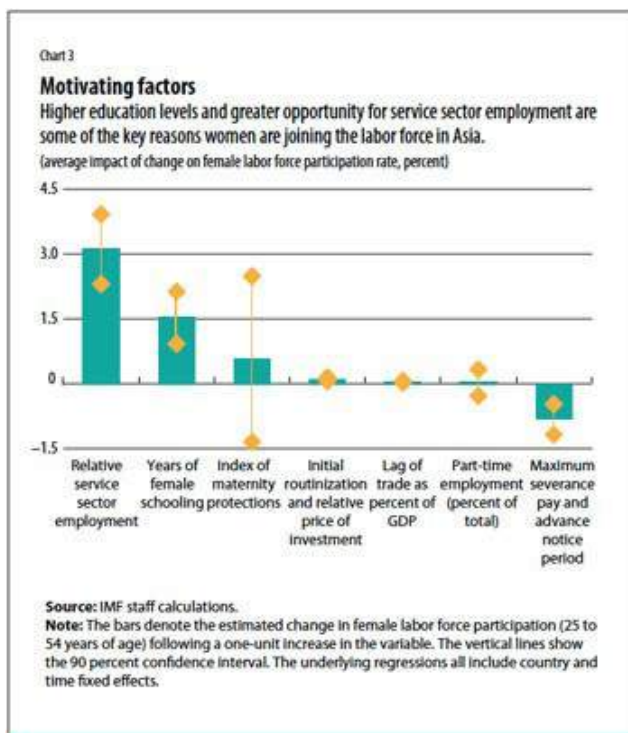
But growth and ageing do not entirely explain variations in female labour force participation in Asia. Structural shifts in the economy and family-friendly policies have also played a role.

A growing body of work shows that female labour market outcomes are also the result of interrelated social, structural, and individual characteristics, as well as of labour market policies and institutions that affect labour market outcomes both generally and for female workers specifically. These factors influence people's decision to join the workforce and employers' decision to hire. The drivers include better infrastructure, more equal labour rights, low adolescent fertility rates, and the availability and affordability of child care, as well as cultural attitudes that affect women's engagement in the workforce.

The impact of policies may vary depending on the structure of the economy and the stage of economic and institutional development. For instance, in more advanced economies, the extent of urbanisation and postsecondary education tends to be linked with higher female labour force participation because female workers tend to be employed in higher-skill jobs in the urban service sector. These factors are less closely tied to female labour force participation rates in low-income countries characterised by high informal employment in the rural (agricultural) sector.

The group of Asian countries examined here covers a wide spectrum when it comes to the stage of economic development, labour market endowments, and policy and institutional settings. Some factors may – on average – be less important statistically in explaining changes in female labour force participation simply because they affect only smaller country subgroups.

Among Asian economies, a larger service sector (including the public sector) relative to the industrial sector – and higher education levels – stand out as most closely associated with greater female labour force participation (see Chart 3). The openness of the economy (measured by the share of trade in GDP) and the pace of urbanisation (not shown) have positive but smaller effects on average given the diversity of Asian countries.

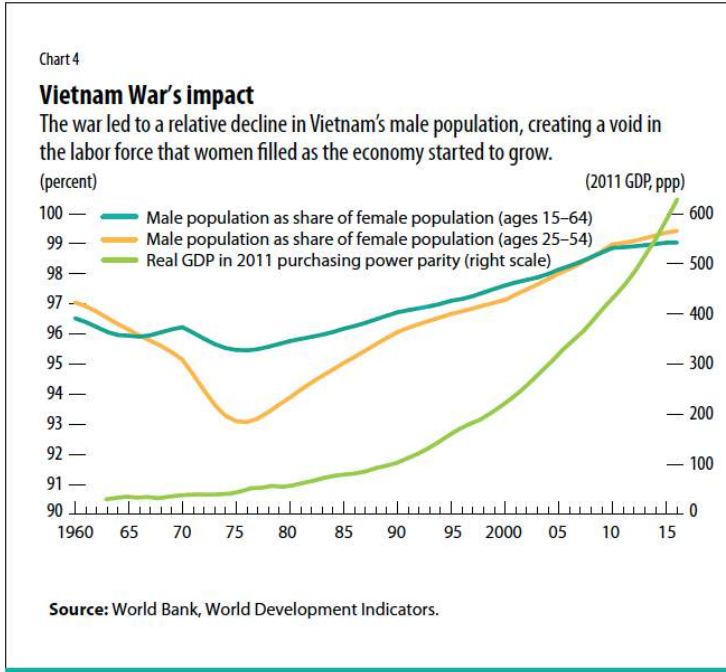


While automation (or routinisation) hurts female labour force participation in some countries, this is not the case across all of Asia. This is because of the relatively low exposure to routinisation in some countries (given the large share of agriculture, for instance) and the high cost of automation.

Family-friendly policies tailored to address specific constraints faced by women in the workforce – such as maternity protection, child care, and part-time employment – play a positive role. But data gaps and the large informal sector in several Asian countries limit the size of the overall effect. Moreover, the effectiveness of family-oriented policies depends on the institutional capacity to enforce legally mandated provisions, which varies across Asian countries.

Finally, labour market rigidities that make it difficult for businesses to let go of workers can have a chilling effect on employers' decisions to hire female workers.

## The special case of Vietnam



How did Vietnam achieve several decades of high female labour force participation?

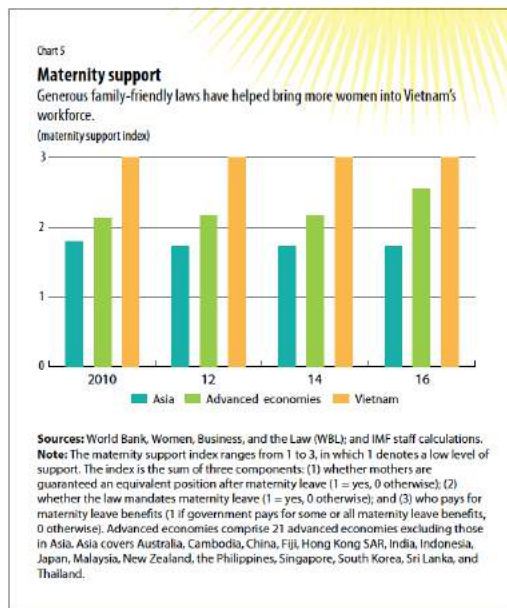
While the war makes Vietnam a special case, the country's experience has lessons for the rest of Asia in advancing female labour force participation. The initial boost to female employment in Vietnam was maintained over time with the help of policy choices: economic reforms and a major push toward improving education that emphasises gender equality.

## Raising Female Employment Rates: A Case Study from Standout Vietnam

The impact of the Vietnam War in jump-starting female labour force participation parallels the rise in female labour force participation in the United States following World War II, according to work by Claudia Goldin and Claudia Olivetti published by the National Bureau of Economic Research.

The Vietnam War led to a sharp decline in the male population relative to the size of the female population, especially in the prime-age group (see Chart 4). As the economy started to grow following the launch of the Doi Moi reforms in 1986, the available supply of labour was predominantly female, and it is no surprise that women stepped into the labour force in greater numbers.

The Doi Moi reforms aimed to build a ‘socialist-oriented market economy’ by encouraging private businesses, ending price controls, and phasing out government enterprises, among other changes. These brought rapid economic growth, opened the economy to trade, and led to rapid urbanisation. While a large share of the female labour force remained, and remains, engaged in agriculture,



female wage workers increasingly joined the large service and foreign direct investment sectors.

Goldin and Olivetti show that the postwar rise in US female participation was persistent among more highly educated workers, and more short term among lower-skilled workers. In Vietnam, the Doi Moi reforms were accompanied by a major push toward improving education – Education for All (EFA). The first EFA plan (1993–2000) emphasised gender equality for all levels of education. These efforts paid dividends by ensuring that the postwar increase in female labour force participation was not short-lived.

In Vietnam, men and women graduate at roughly the same rate at the postsecondary level. It is one of the few Asian countries to have succeeded in translating gender parity in educational attainment into gender equality in labour force participation rates. The relative success in bringing high-skilled women to the workforce is also a function of generous family-friendly laws regarding child care and maternity in Vietnam (see Chart 5). The nation has also strengthened its legal framework to guarantee equality and gender nondiscrimination.

## **More must be done**

While female labour force participation is improving in Asia, there is much scope to further improve outcomes and spread good policies to all parts of Asia. Recent successes have been partly the result of strong economic conditions, which may not be able to support female labour force participation once the economic cycle turns. Recent gains may also be reversed as the forces of ageing and digitisation gather speed.

Digging below the headline participation numbers, there is a need to improve gender equality across other dimensions, such as pay

gaps, high-level representation, and access to wage employment, including in better-performing Asian countries such as Vietnam. The policy specifics may vary across countries, depending on their level of development, institutional capacity, and cultural and societal norms. Access to high-quality education, and the effective implementation of family-friendly laws, are likely to be crucial in all countries. Policies that sustain strong economic growth would also help support the steady improvements in female participation.

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# LESSON 6

**Rebuild systems for social protection and lifelong learning**



# Singapore's SkillsFuture Movement

Chee Hong Tat

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Long renowned as one of the most innovative governments in the world, Singapore is now transforming its education system to create a genuinely lifelong infrastructure that can help its people keep pace, adapt and prosper as automation transforms the economy in which they work. Chee Hong Tat sets out the Singaporean approach.

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The future of work is set to be much more dynamic, continually transformed by technological advances and business model innovations. As a result, we will continue to see a proliferation of new jobs which had never been heard of fifteen years ago. The workforce faces increased demands for new knowledge and skills, especially digital and data-related competencies.

A key enabler to Singapore's success as a city-state is to develop our only natural resource, our people. Singapore's continued success will depend on developing a skilled and nimble workforce that can adapt quickly to change, backed by a culture of lifelong learning and skills upgrading.

## **SkillsFuture – a national strategy**

Singapore launched the SkillsFuture movement in 2015. SkillsFuture

serves wider economic imperatives, as a national skills strategy to transform our industries and boost Singapore's economic competitiveness. Through SkillsFuture, we provide Singaporeans with opportunities to develop to their fullest potential regardless of their starting point in life. This is achieved through substantial investments in education, skills mastery and lifelong learning. The movement involves collaboration amongst multiple stakeholders, including individuals, employers, industry associations, unions, training providers and government agencies.

The four key thrusts of SkillsFuture are:

- Help individuals make well-informed choices in education, training and careers;
- Develop an integrated high-quality system of education and training that responds to constantly evolving needs;
- Promote employer recognition and career development based on skills and mastery; and
- Foster a culture that supports and celebrates lifelong learning.

## **Fostering lifelong learning through SkillsFuture**

A major task is to shift away from an education system that relies on front-loading within the first two decades of an individual's life, towards continuing education and learning over a lifetime. In most countries, education up to tertiary levels is subsidised. However, many state education budgets do not specifically cater for adult education and lifelong learning. Companies and individuals are largely responsible for the costs of designing and implementing adult training.

As the pace of change in industry and turnover of skills intensifies, this approach is no longer adequate in preparing our workers to be future-ready. Hence, we have significantly increased government expenditure

on continuing education and training, and made skills upgrading and lifelong learning much more accessible and affordable for our workers. Through supply-side funding, generous government subsidies are provided for skills training, supported by co-funding from employers and individuals. The subsidies are tiered, with higher levels of subsidy for targeted segments such as low-wage workers and mature workers. Employees of small and medium enterprises also receive higher levels of subsidy.

To catalyse a culture of lifelong learning in Singapore, the government provides a SkillsFuture account for all Singaporeans aged 25 years and above. Each person receives an initial credit of S\$500 in his account, which is also known as the SkillsFuture Credit. Individuals can use this credit to offset the post-subsidy fees for approved training programmes offered by both public and private training providers. The account has no expiry date. We have seen encouraging progress since the initiative started in 2016, with Singapore's resident labour force training participation rate rising from 35% in 2015 to 47% in 2017.

## **Upskilling through SkillsFuture Training Programmes**

Subsidy policies in SkillsFuture are complemented by a wide range of SkillsFuture initiatives and programmes, which have been designed to encourage individuals to embrace lifelong learning and skills mastery at different stages of their learning and career journeys. For example, students are exposed to experiential learning opportunities through enhanced internships at the Institute of Technical Education (ITE) and polytechnics. At the universities, the SkillsFuture Work Study Degree Programmes offer curricula that combine institution-based learning with structured on-the-job training in participating companies.

To provide fresh graduates from ITE and the polytechnics with a head-start in their careers, the SkillsFuture Earn and Learn Programmes

offer them careers related to their field of study, where they undergo structured workplace learning and mentorship, leading to industry-recognised certifications. ITE graduates also have access to the SkillsFuture Work-Learn Technical Diploma programmes, an apprenticeship-based training pathway developed together with the industry.

Singapore has launched a national SkillsFuture for Digital Workplace programme. This is a two-day course that helps Singaporeans acquire basic digital skills. For those who are ready to deepen their skills in areas such as artificial intelligence and data analytics, we have developed a list of short, industry-relevant training courses (known as the SkillsFuture Series) with a focus on these emerging skills areas.

## **Skills for the future economy and industry transformation maps**

Our national skills strategy in the form of SkillsFuture is key in supporting overall industry transformation for Singapore's future economy. The Future Economy Council (FEC) was set up in 2017 comprising of representatives from the Government, private sector, unions, Institutes of Higher Learning (IHLs) and Trade Association and Chambers (TACs) – with a focus on growing and transforming Singapore's economy in three key areas of work:

- Grow a vibrant and open economy that is connected to the world;
- Strengthen our enterprises through industry-specific transformations to help them grow, innovate and scale up; and
- Help Singaporeans acquire and utilise deep skills so as to take up quality jobs and seize opportunities in the future economy, and facilitate the building of a resilient and flexible workforce and great workplaces.

The FEC also oversees the development and implementation of the Industry Transformation Maps (ITMs). These are integrated sectoral

roadmaps to guide and align efforts in lifelong learning and skills development with the existing and future needs of our industries. Each ITM is developed by the Government in collaboration with firms, industries, trade associations and chambers, bringing together all relevant stakeholders to examine the industry landscape, future trends and skills needs. The aim is to systemically raise productivity, develop future skills, drive innovation and promote internationalisation.

SkillsFuture's strategies in workforce upgrading take reference from the ITMs as well as the corresponding Skills Frameworks for each sector. Under the jobs and skills pillar of the ITMs, the Government, employers, education and training providers, industry associations and unions have been actively involved in the development of the Skills Frameworks. These detail the skills needed for specific job roles within each sector, which provide information for career and skills development.

## **Conclusion**

SkillsFuture is a national transformative journey which requires the collective effort of individuals, employers, unions, schools, training providers and the Government. It is a responsive and nimble movement that aims to build a culture of lifelong learning and skills mastery. It is building a future where Singaporeans will take ownership of our skills development to seize opportunities in a dynamic and innovation-driven economy. It is a major investment in our people to prepare them for the future, not just in school but also through continuing education and training throughout their lives.

We have only just started the SkillsFuture journey in Singapore. There remains much to be done in the years ahead, and there are many areas where we can learn from and collaborate with other countries.



# LESSON 6

**Rebuild systems for social protection and lifelong learning**

# Building a learning and sustainable planet together

Gaell Mainguy, Marie-Cécile Naves and  
François Taddei

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It will be impossible for workers to move up into good jobs in a more automated economy, without rebuilding old systems of education. That will mean changes in the basic education system – systems often designed in the 19th century – and creating new systems for lifelong learning. Here, François Taddei summarises some of the sweeping research informing President Macron’s Ministers of Labour, of National Education and of Higher Education, Research and Innovation, delivered in April 2018

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Today, worldwide, most learners are experiencing an obsolete form of education – not to mention the millions of young people who are left aside. In a world of rapid technological and economic transformation, people must engage in lifelong learning to anticipate changes, threads and opportunities and develop new capabilities throughout their lives. In such an uncertain world, we need to profoundly rethink the skills we need to teach, and major reforms are needed in education.

The objective of this report was to facilitate the establishment of a learning society to prepare all learners for tomorrow – by empowering them to learn, anticipate the ongoing transformations, prepare

for workforce change, act and lead for positive change.

In their book, *Creating a Learning Society*, Joseph Stiglitz and Bruce Greenwald presented how ‘learning how to learn’ resulted in a dramatic improvement of our standard of living and they explained how advanced and developing countries alike can model a new learning economy on this example.

A learning society facilitates both individual and collective learning, so that the knowledge and experience of the first

**"Inclusivity, trust, sharing and cooperation are the core values of a learning society"**

learners benefit others and make learning and innovation easier for all. It encourages people to ‘learn how to learn’ by optimising the way each person and each structure learns, including both humans and machines. It relies on research, uses the potential of digital tools and AI, and is open to innovations from other countries, so that good methods can be adapted to a local context – kindergarten, schools, universities, non-profit organisations, small and large companies, public institutions, etc. – whenever they are relevant. A learning society therefore develops its own capacity to adapt in a world where change is ever faster, more volatile and uncertain, giving rise to fearfulness and the temptation to withdraw.

Inclusivity, trust, sharing and cooperation are the core values of a learning society. They promote the pooling of each person’s experiences in order to achieve progress for all. By any standards, to bring about these changes, the personal and professional development of all the actors must be a top priority. The challenge is to move from a control-based approach to a trust-based approach, from one of hierarchy to one of mentoring, which helps each person to advance by relying on research and contributing to knowledge-building.

Innovations already present in public and private organisations all



over the world and in different areas of learning show that implementing change does not mean starting from scratch. Notably, the exponential progress of technology can enable the emergence of a 'digital campus', a truly enhanced knowledge ecosystem that is fast, decentralised, cooperative, inclusive and open.

Moreover, a great number of people and institutions want to be part of a broader movement in order to overcome certain cultural or institutional barriers and optimise the impact of actions they have already taken individually. It is therefore crucial to make a plea for stepping up research, facilitating access for everyone to training, experience and results, and involving as many people as possible in carrying out innovative projects.

The report set forth five fields for action and thirty operational proposals and stressed their complementary nature. They should be implemented at the same time to promote change at scale and enhance synergies in a systemic way. The five overall actions are as follows:

Firstly, experimental approaches to learning should be encouraged, in particular at the city and territory levels, to prototype, document, share and evaluate promising projects for the benefit of all. Opening up actual and digital 'third places' to facilitate the exchange of knowledge and organising a 'Learning Festival' to celebrate all kinds of learning are two examples of concrete actions that could be undertaken.

Second, it is important to create integrated digital learning ecosystems, where all learners can document their learning, make career choices, meet peers and mentors and map out their future, in order to build a society based on recognition. Such a 'digital global campus' should serve as a universal gateway for all learners.

Third, research in education should be stimulated, by harnessing all the relevant disciplines and by stimulating participatory learning

sciences in which everyone can contribute as fellow researchers capable of innovating all lifelong.

Fourth, we must reinvent and enhance research-based training of actors of the learning society, in particular the trainers, trainers of trainers and decision makers. The authors propose for example to set up “labs for the jobs of the future” open to all who wish to contribute to them.

Finally, it is necessary to invite other countries, in particular European partners, to join forces to build a learning Europe and, beyond, a learning planet. Together, volunteer countries can create an international network of education and training that is both agile and equipped with digital platforms for sharing research and innovation, training all the actors wishing to contribute and harnessing the collective intelligence by opening up to society’s initiatives and questions, at a time of co-development of human and artificial intelligence.

The recommendations should logically not be imposed but best be worked out collectively, prototyped and tested with voluntary trailblazers who have the means to experiment as well as document and share their journey. Particular reliance could be placed on the various funds available from the different learning society institutions, from local authorities, or calls for tender at the national and international levels.

The 30 proposals in our report should benefit from a light-touch and unified governance framework, to minimise what is described as typical institutional ‘silo’ effect and maximise the synergies between the proposed actions. The authors suggest that these actions and proposals should be integrated into a five-year interministerial plan, which could be steered by an ad hoc legal entity set up with the aim of transversality, with broad flexibility of action and capacity for dialogue, communication and initiative, bringing a high level of expertise and practicality to this clear and ambitious mission.

## *Building a learning and sustainable planet together*

The learning society, seen as a public service, must emerge gradually to facilitate the necessary evolution and adaptation while making sure that it is not left to the digital multinationals to take over everyone's learning experience. It also means gathering together the forces that already exist both in France and among its international partners, particularly in Europe, to allow everyone to develop his or her potential and help build the future together, as this is a key issue for democracy.

The learning society report has been well received by UNESCO, leading to its translation into the 6 UN languages. UNESCO is willing to engage all the voluntary countries that want to create their own version of the report and join a learning planet network to contribute to invent new ways to learn, teach and do research, in order to mobilise collective intelligence towards the planetary grand challenges such as United Nations Sustainable Development Goals (SDG). In particular, it is critical to invite students willing to contribute to the SDG, via the design of specific SDG-based curricula from higher education institutions and corresponding ad hoc recognition mechanisms such as SDG-based olympiads.

At a time of growing division between those who benefit and those who suffer from globalisation and the ongoing digital revolution, when inequalities of skills and knowledge foment fear and rejection of the 'Other' and are being exploited by some politicians in all the Western countries, it is urgent and necessary to create the conditions that will allow everyone to learn to seize the new opportunities that are opening up.

Each citizen should be given an opportunity to build a much greater entity – a learning planet, capable of tackling our grand challenges such as those of the SDGs. It is about creating new organisational modes, harnessing the collective intelligence and affirming values to be able, together, to build tomorrow's world.



# LESSON 6

**Rebuild systems for social protection and lifelong learning**

# Good Practice in Adapting to Changing Skill Needs

Katharine Mullock

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When redesigning education and lifelong learning systems, policymakers need to focus on tackling skills shortages which seem to rapidly emerge across a wide set of OECD economies, in non-routine cognitive skills, like complex problem solving, and fluency of ideas as well as in skills related to science, technology, engineering, or mathematics (STEM). Katharine Mullock sets out the results of the OECD's most recent survey.

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Skills mismatch and shortages are costly for individuals, employers and society in terms of reducing pay, lowering productivity and dampening growth. Therefore, tackling these skill imbalances should be a high priority for policy. But what can be done? A new OECD report (*Getting Skills Right: Good Practice in Adapting to Changing Skill Needs*) provides examples and insights into the practical ways in which governments improve the matching of skill supply and demand through policy. It is based on five in-depth country reviews of Spain, France, Italy, the United Kingdom and South Africa. Policymakers should find the examples provided useful when considering ways of improving their own country's policy responses.

Across the five countries covered in this review (and indeed, across all OECD countries), technological progress, globalisation and

demographic shifts have contributed to a changing demand for skills. A remarkable convergence is found in the types of skills that are in shortage and surplus across the five countries. Based on the OECD Skills for Jobs database, skill shortages emerge primarily in non-routine cognitive skills (e.g. complex problem solving, fluency of ideas) as well as in skills related to science, technology, engineering, or mathematics (STEM), including knowledge of computers and electronics. Surpluses appear predominantly in routine non-cognitive skills (e.g. manual dexterity).

**"Opportunities for lifelong learning are particularly important for low-skilled workers"**

While some degree of imbalance between the supply and demand for skills is

inevitable, persistent skill imbalances are costly for individuals, employers and economies. The objective of this new report is to help policymakers to minimise such costs, by providing a comparative assessment of policies in place in the five countries reviewed that help to reduce skill imbalances. The report focuses on examples from education, employment, migration and industrial policies. A number of good practices are identified:

- To reduce the misalignment between the skills needed by employers and those that students graduate with, it is crucial to ensure that higher and further education provision is responsive to skill needs in the labour market. For instance, the Higher Education Funding Council of England (HEFCE) distributes public funds to higher education institutions in a way that promotes policy objectives, like the development of facilities related to high-demand STEM training. Funding arrangements like these allow governments to steer the mix of provision in favour of subjects for which there is high labour market demand.
- To promote resiliency as the demand for skills changes, adults

should have access to opportunities and incentives to invest in lifelong learning. Opportunities for lifelong learning are particularly important for low-skilled workers, who are less likely to receive training from their employers, but who may most need to upskill or retrain to remain employable in the context of technological change. In the UK, the Union Learning Fund receives public funding to subsidise learning activities that trade unions identify as important to their members. Union learning representatives actively recruit older and low-skilled workers to participate in training activities. Also, training rights that are not tied to jobs but instead to individuals are becoming more important with the emergence of new forms of working arrangements (i.e. casual, temporary or part-time contracts), as such working arrangements tend to be characterised by shorter tenure and lower likelihood of receiving training from employers. France, for instance, grants training leave rights to individuals which are preserved upon job loss and transferable between employers.

- Migration policy should also facilitate entry of high-demand skills into the country. For instance, in both France and the UK, employers can bypass the requirement to demonstrate adequate efforts to recruit a suitable candidate on the local labour market if the candidate is qualified to fill a position on the country's shortage occupation list, thus helping to reduce skill shortages through migration.
- In countries with high levels of underqualification (including France, South Africa and England), validation of non-formal and informal learning strengthens the signaling power of skills acquired on the job, thus improving skill matching. For instance, in South Africa, a well-established system of recognition of prior learning has enabled validation of skills for people who had been denied access to formal education under apartheid.

- On the demand side, policies that stimulate the demand for higher-level skills and qualifications can reduce over-qualification. As a bonus, they can also contribute to higher productivity, growth, better job quality and well-being. For instance, Italy's Industria 4.0 and Spain's Industria Conectada 4.0 propose to shift each country's productive system towards greater use of higher value-added technologies, which should stimulate demand for the growing supply of higher-level skills and qualifications.
- Of course, the success of all policies directed at skill imbalances hinges critically on the quality of the underlying information about skills needs. To ensure the accuracy and relevance of such information, providers of skill assessment exercises must engage with stakeholders in the production and use of skill needs information. For instance, in France, the Réseau Emploi Compétences (REC) brings providers of skills needs exercises together with decision makers in order to create dialogue and reinforce cooperation through joint projects.

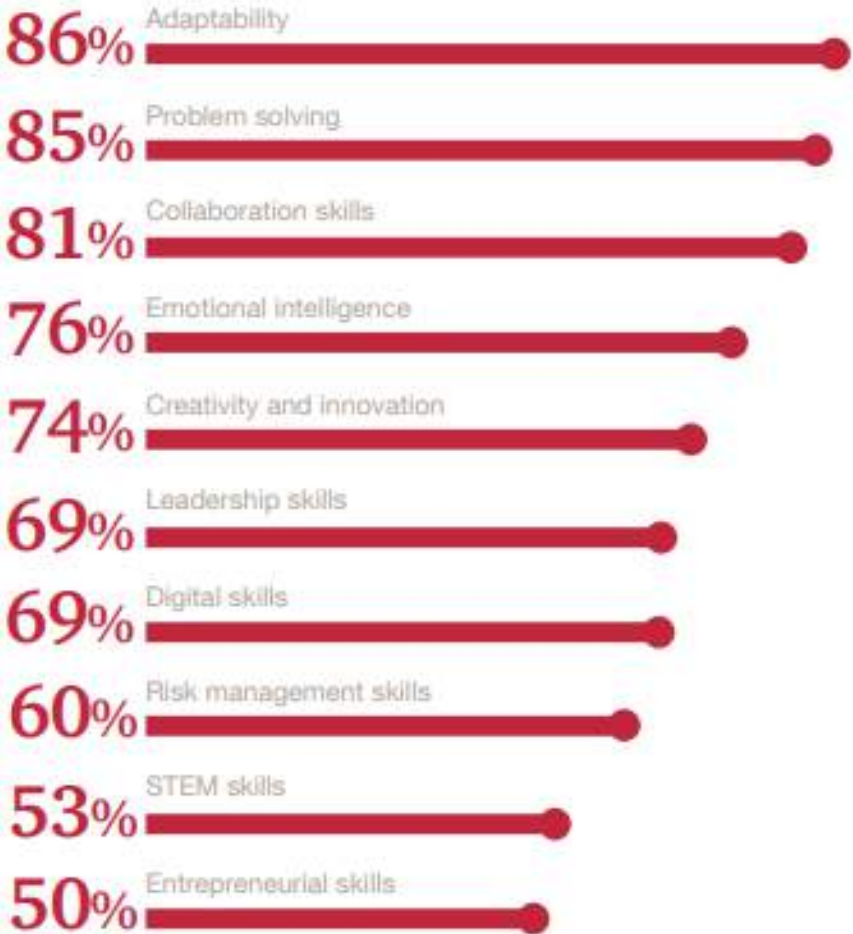
The optimal policy response to skill imbalances will be unique for each country. Most importantly, it will depend on which factors are driving skill imbalances in that country. For instance, in some cases shortages in high-level skills are generated by rapidly rising demand, while in others they arise from supply-side factors like an unresponsive education system. Even so, the good practices identified in this report should help policymakers to learn from the experiences of other countries, and to consider ways to improve their country's policies to successfully reduce skill imbalances.

*This article introduces the OECD report, *Getting Skills Right: Good Practice in Adapting to Changing Skill Needs*, that was published on 6 December 2017. The work on this report was carried out by Katharine Mullock and Glenda Quintini, Senior Economist, Directorate for Employment, Labour and Social Affairs, OECD.*



This PWC survey of over 10,000 workers in China, Germany, India, UK and USA finds that 86% of workers agree that they have the skill of adaptability - far higher than leadership or risk management.

*(percentage who agree or strongly agree)*





# LESSON 6

**Rebuild systems for social protection and lifelong learning**

# The Future of Social Protection in a New World of Work

Monika Queisser and Raphaela Hye

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Many social security systems were built to minimise disruptions to earnings. But 21st century systems will need to help workers maximise potential for earnings. That will require reform argue Monika Queisser and Raphaela Hye.

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Technology, globalisation and demographic shifts are rapidly shaping a new world of work. More and more people are working part-time, are self-employed or are on temporary contracts – all forms of ‘non-standard’ work. Today, one in six workers in OECD countries is self-employed, and a further one in eight employees is on a temporary contract, while the number of ‘gig’ workers – recruited through online platforms for specific tasks – is growing.

In many countries, social protections, such as healthcare, sick leave, parental leave, unemployment insurance and pensions have long been based on the idea that people have a stable, full-time job with a single employer. Employers and employees alike paid into the protection programmes and benefitted from them. But is this still feasible today, when people are much more likely to be self-employed, work part-time, have short-term contracts, or even simply change jobs numerous times during their working lives?

Social protection systems need to be adapted to today's world of work. Those with non-standard jobs should not be left behind. We must reduce the chances of people slipping through safety nets and falling into poverty.

## **Are our social protection systems still fit for purpose?**

Social protection systems were designed with the model of a person having a stable, full-time job, for a single employer, in mind. However, the self-employed, those who often switch jobs, or those combining self-employment with working for an employer, do not easily fit into the traditional framework of contributory social protection systems, for a number of reasons.

First, when it comes to non-standard work, it is not clear who should be liable for the employer contributions to the system. Having the self-employed pay both employer and employee contributions is unrealistic for many, but subsidising their contributions may create the wrong incentives and raise issues of fairness. In addition, self-employed people who earn little money may ultimately receive very low benefits, especially from programmes based on earnings, such as pensions.

**"The self-employed don't earn a fixed amount every year: there are good times and bad times"**

Second, the self-employed don't earn a fixed amount every year: there are good times and bad times. Even if their contributions and entitlements are annualised, they might still struggle to contribute in lean years.

Third, when it comes to unemployment insurance, the self-employed have no employer to confirm that they have no work. It is hard to assess whether they are in fact involuntarily unemployed or are choosing not to work. As a consequence,

unemployment is the least-insured risk for non-standard workers.

## **What works?**

Examples from OECD countries show that there are ways to make social protection work for everyone.

### **Making sure everyone has social protection**

Untying social protection from people's jobs – for example, by granting individual entitlements based on residency criteria – could prevent people from having limited or no protection. Such benefits could be financed through contributions, such as the Dutch basic pension scheme and the Swiss public earnings-related pension scheme, or entirely tax-financed, such as the vast majority of social safety nets in OECD countries.

### **Making clients and customers contribute to social protection**

This system already exists in some countries for workers whose employment may be unstable or occasional. In Germany, for example, qualifying writers and artists participate in a social insurance programme through which is funded 50% by their own employee social security contributions, while institutions that rely on the services of artists and writers cover 30% and the remaining 20% is covered by a public subsidy, justified by private households' consumption of art and writing. However, attractive as this programme may seem, the insurance alone is not likely to fully protect its participants from poverty in old age, as their earnings – and thus their contributions – are low compared to other jobs.

## **Harmonising the rules for everyone**

Some jobs blur the lines between self-employment and working for an employer, such as independent contractors who perform services for a few, or only, one client. Including workers that sit on the border between dependent and independent forms of work in social protection schemes can be effective in ensuring that such workers receive the same benefits as others and that the systems cover those who are most at risk. In Italy, for example, self-employed workers highly dependent on specific client(s) used to pay lower pensions contributions than those in standard work, which meant that they had lower future pension entitlements. They also lacked unemployment or sickness benefits. In response, Italy gradually increased such workers' contribution rates and their prospective benefits.

## **Making benefits portable**

Untying entitlement to benefits from specific relationships with employers and tying them to individual contributions instead not only makes it easier for workers to switch jobs, but it also makes it easier for them to switch between self-employment and working for an employer. Austria, for example, replaced its severance pay scheme by company-based pension accounts in 2003. While the old severance pay entitlements benefitted only laid-off employees, all workers now have a company-based pension account, which is portable across jobs. This measure makes it easier for people to move between jobs, including when their employer is in difficulty or a firm closing.

## **Better income security for those working flexible hours**

Using flexible hour contracts, on-call employment or independent contractors (whether via online platforms or not) allows firms to cheaply adjust to fluctuations in demand. But for workers, this brings income insecurity. To offset this, some countries are introducing a wage premium for flexible work as a compensation for the workers assuming part of the entrepreneurial risk. In Australia, for example, casual workers are already entitled to 25% more for each hour worked compared to a worker doing the same job on a permanent basis. The Netherlands requires employers to pay on-call workers at least three hours of work each time they are called in to work.

## **Voluntary insurance programmes might not be the answer**

Several countries have opted for voluntary programmes for non-standard workers, for example, Austria (in 2009) and Spain (in 2014). However, voluntary social protection programmes only work if coverage rates are very high. Any insurance depends on risk sharing across members. With a voluntary programme, those who have the highest risk have the greatest incentive to join. Unless the programme achieves a very high coverage rate, a pool of subscribers who have the highest risks – and thus place the most financial demands on the programme – can lead to a downward spiral in which premiums rise and coverage falls.

### **What next?**

The OECD, along with partners such as the G7, is currently exploring how to address the rising inequalities in our labour markets and societies. In 2019, it will release policy recommendations to guide countries in responding to the increasing uptake of new forms of work in the labour market.



# LESSON 7

**Ensure financial services are a proactive force for creating good, new jobs**



# Refocus Finance on its Purpose

Liam Byrne MP and  
Professor David Pitt-Watson

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The finance sector plays a critical role in mobilising savings into investment for new firms. But in many economies, this basic purpose of finance is failing.

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Governments and bankers have always had a love-hate relationship. When one has a crisis only the other has to sort it out. Sometimes it ends well. And sometimes it doesn't.

Outside the House of Commons stands Carlo Marochetti's great bronze statue of Richard the Lionheart, a king kidnapped on his way back from the Third Crusade and only saved when Italian bankers stumped up a loan to pay the ransom. They were richly rewarded – only to be smashed when Edward III defaulted on his huge war loans.

Six hundred years later and countries work hard not to leave lenders high and dry. Banks, however, have proved perfectly capable of

manufacturing problems of their own. When big banks go wrong, it is often governments – and tax-payers who end up bailing them out. Now, ten years after the Global Financial Crisis, taxpayers are debating whether they got their money's worth, when they spent so much rescuing so many western financial institutions. In particular, many debate whether banks are really playing the role they should in mobilising the finance needed to modernise economies around the world.

Before and after the financial crisis, there was a concern that the "financialisation" had created an industry which paid itself well. But it was unclear, as Britain's financial regulator, that what it was doing was "socially useful". The result was a degree of anger amongst the people. And regulators passed a lot more regulation.

**"The actual purpose of finance is a question that is rarely debated"**

However, anger, no matter how justified, doesn't solve many problems. And few would argue that it is possible to run a productive, inclusive, modern economy without an effective financial system. After the crisis, banks lent less. So the newest entrepreneurs – those without a long track record of borrowing – went to the back of the queue for finance. So many now ask: how do we ensure financial services do more to foster the creation of good jobs in the years to come? And how do we make sure that regulation actually helps?

We argue the key is to refocus on the purpose of the finance industry.

The actual purpose of finance is a question that is rarely studied or debated, and still more rarely answered. Yet we cannot create a growing, inclusive economy, without an effective finance industry.

For most industries, it is not difficult to define their purpose. Food is there to keep us alive and to please our palates. Cars are there to get us from A to B, quickly, conveniently safely and in comfort.

Pharmaceuticals cure and ameliorate illnesses.

But finance is more complicated. And those who study it have preferred to ignore the question of purpose. Rather they assume that if financial markets are competitive, they must ipso facto be purposeful.

But that can be a dangerous assumption.

In the past many medical treatments were open to competition, but not all of them cured patients. For that reason, new pharmaceuticals need to demonstrate efficacy; they need to fulfil their purpose.

We believe finance has four critical elements.

The first is simply **(i) to keep our money safe**. That was why the first banks were established. The second is **(ii) to facilitate transactions**. Because once your gold is in the bank vault, you don't need to take it out in order to buy goods from someone who also has an account at the bank. You simply ask that gold be transferred from your account to theirs. Or you can just give them a bank-note, which promises to pay the bearer a certain sum on demand.

The third is to allow **(iii) a sharing of risk**. That is what insurance companies do. It is what a good fund manager will do when they ensure that they don't put all of a saver's money in one basket.

The fourth, and most critical function is **(iv) intermediation**; that is taking money from point A, where it is, to point B where it is needed.

These functions are profoundly important. The history of finance demonstrates that early financial pioneers often saw themselves as social reformers. Henry Duncan in Scotland who opened one of the first savings banks, or Friedrich Raiffeisen in Germany who created the first agricultural credit union, saw their activities as having social purpose, in much the same way as Nobel Peace prize winner

Mohamed Yunus does today in Bangladesh. Their activities are critical to the improvement of the lives of poor people, and critical to creating inclusive growth.

So if these are the four functions of the finance, how well are they executed by today's industry?

The truth is: we don't know.

We do know that over the past 70 years, the finance industry has grown enormously. But remarkably without the sort of productivity savings that we might expect as an industry matures. Thomas Philippon's study (for the USA), and Guillaume Bazot's work, commissioned for the Purpose of Finance project, (for Europe) suggest that there has been little or no improvement in the cost of intermediation over 70 years. Unlike almost every other industry, the finance industry is no better at fulfilling its purpose today, than it was in 1950.

This then raises two questions.

First how is it possible for this to happen? In the boxed example, we summarise a study commissioned by the Purpose of Finance project, investigating asset management, which illustrates how that industry may be doing costly things which are not purposeful, while failing to do things which are.

But the second question, and the one which is central to our work is to ask how we can create a finance industry which better fulfils its purpose.

This must begin with a debate about what a purposeful industry would look like. Nor is it simply a question for experts. It is one for all of us, and particularly for those who seek to guide public policy. The debate must begin, we believe by defining the hallmarks of a successful, inclusive, financial system, and then measuring whether

or not we are realising that goal. For example, what services should individuals and businesses expect from a purposeful industry; a bank account? a pension? a source of funding? In the UK, we are now bringing together the finance industry, politicians and policy-makers for precisely this debate. We know that we will not agree on everything. But unless we find the overlapping consensus and regulate to deliver these outcomes, we will consign a critical section of our economy to ever greater costs, lose the progress towards a more inclusive economy that we need, and profoundly damage our ability to mobilise investment towards creating the jobs of the future. The jobs that could reconnect the people we serve to a fair share of the prosperity our economies are capable of delivering.

*This essay draws on The Purpose of Finance research programme developed in the UK, sponsored by Pension Insurance Corporation, and hosted in the UK Parliament by the cross-party group on Inclusive Growth.*

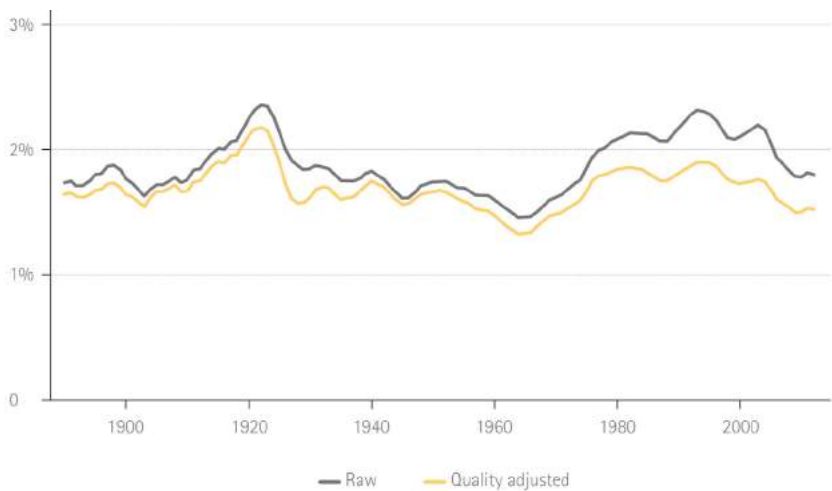
## **The Purpose of Asset Management**

The purpose of asset management is to look after our savings in a way which will balance risk and return in order to help us defray some future expense – for example an income in retirement, or the deposit for a new home. Managers do this by investing in different securities, such as the bonds and equities issued by companies and governments. So they should presumably take a keen interest to ensure that the companies in which they invest are well managed.

Most asset managers spend their time trying to demonstrate that they have achieved a better ‘risk adjusted return’ relative to other asset managers. Indeed there is even an academic theory which claims to allow a measurement to be made of the risk and return achieved by one asset manager relative to the market in which they are investing. It is known as Modern Portfolio Theory.

This focus on risk adjusted return relative to the market absorbs a huge amount of the resource of the asset management industry. But it has a number of weaknesses. First it is easy to cheat the system. For example, by establishing lots of different funds, an asset manager can be assured, just through the laws of probability that some of them will outperform. That might explain why there are nearly 30,000 funds in which a UK citizen can invest their pension. But more fundamentally, outperforming a market is not the same as looking after the returns required by a saver. Yet millions is spent on trying to outperform. And outperformance is usually achieved by buying and selling securities, not by ensuring that companies are well managed.

As productivity in most fields has increased, the cost of intermediation has failed to drop over the last 100 years as shown in the graph below.



Source: London Business School



# LESSON 8

**Ensure corporate governance is fit for the future**



# **New technology: new companies.**

## **The challenges for corporate regulators**

Simeon Djankov

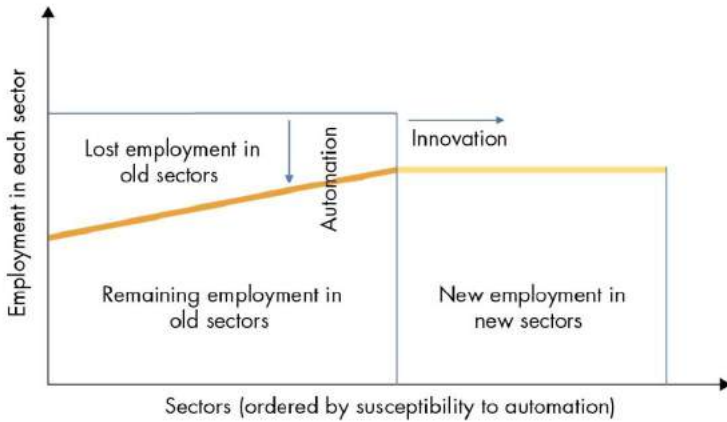
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Each year the World Development Report focuses on a particular aspect of development selected by the Bank's president. This year's 2019 World Development Report, *The Changing Nature of Work*, studies how the nature of work is changing as a result of advances in technology today – and it begins with an analysis of the ways to invest in human capital, update social protection systems, and improve private sector policies to help countries compete in the digital age. Simeon Djankov, the Director of the World Development Report explains some of the challenges for corporate regulators

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It's robots that mostly come to mind when you ask people about the future of work. Robots taking our jobs, to be specific. And it's a reaction that's two centuries old, in a replay of Lancashire weavers attacking looms and stocking frames at the start of the first industrial revolution. A secondary reaction, among a much smaller group, is the creation of new jobs in the coming fourth industrial revolution.

Professor Ed Glaeser at Harvard neatly summarises this dichotomy in one figure:



Source: Glaeser 2018.

On the left side are old industries, where some workers are being replaced by robots. This change is animating research and policy discussions in the US and Europe. On the right are jobs in new sectors arising from innovation. In emerging markets like India or China these jobs easily outpace the jobs which are and will be lost as a result of automation. In these countries, creating the next new sector is the craze.

But automation and innovation manifest themselves in other ways too. One of the more exciting directions for economic research is the changing nature of firms.

The 2019 World Development Report sets out some of the features of what's happening: physical assets become a thing of the past (think of Yandex, the Russian ride-share company); the boundaries of the firm blur as startups quickly become global players by selling online (think of China's Alibaba); consumer data are explored to open new markets (think JD Finance, China's most innovative small business creditor).

These changes bring challenges too – and one of them is corporate governance. I single it out because I recently attended a conference on corporate governance at the Dutch Central Bank. Stijn Claessens, a mentor to me when he worked for the World Bank, was the host.

Let me list some of the ways in which new economy firms (often described as ‘platforms’) differ from traditional firms in corporate governance terms. First, their founders are typically both the CEO and the largest shareholder – and even the company’s marketing face (Jack Ma at Alibaba springs to mind).

Company valuations are based to a large extent on their public personae.

They often sport dual-

class shares, further cementing the founders’ hold on decisions.

**"In most new economy sectors, regulation is scant to non-existent"**

Second, platform companies typically tap money on private markets, using neither banks nor public capital until well into their growth binge. Many of these companies generate cash flows that are sufficient to fuel expansion without the need of creditors.

Third, employees are typically the second-largest shareholder bloc. But as their company shares get vested after a period of time, these employees are beholden to the founders’ vision. And, as a result, they do not provide an independent voice.

So what happens is that decision-making in platform companies is highly concentrated and transitional governance mechanisms are wanting. This is fine as long as outside investors’ money is not at risk. But when platform firms go public, risks abound.

The main risk comes from regulation. In most new economy sectors, regulation is scant to non-existent. Ant Financial, the financial arm of Alibaba, does not have a banking license. Yet its activities increasingly look like banking. If and when the regulator decides to

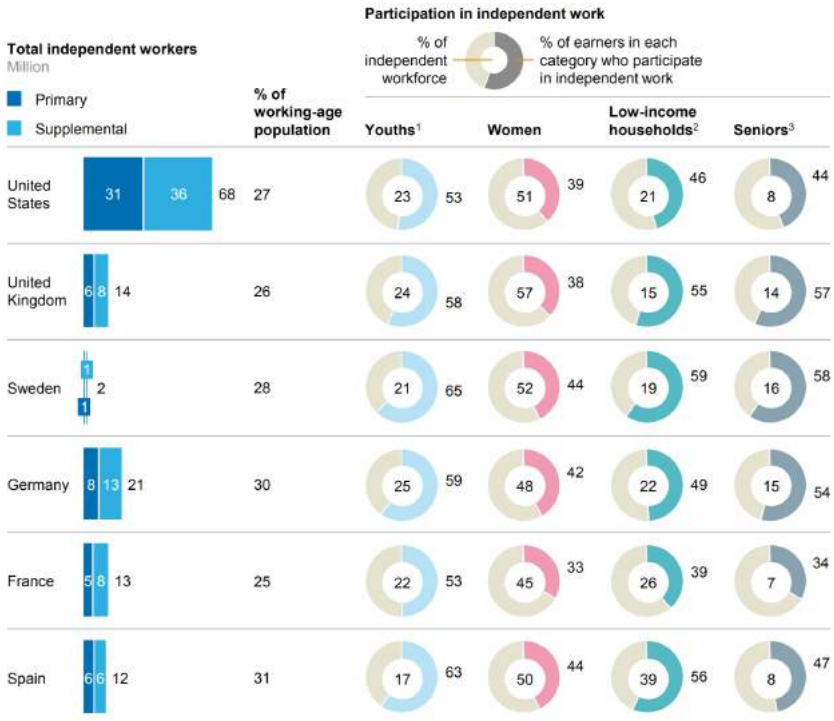
step in, shareholders will face a different (and less positive) value proposition.

The second risk comes from changing tax policies. In most emerging economies (and in advanced economies too, as a matter of fact) platform companies' profits are barely taxed. This is about to change, as a result of pressure from other sectors and governments' needs to create fiscal space for more social protection. Again, valuations are likely to be affected. But that's in the future.

For other risks and rewards, you can read more on this in chapter 6 of the #WDR2019.

## The challenges for corporate regulators

In the data below, taken from the McKinsey Global Institute, we see that independent work - taking place in the gig economy - makes up a big chunk of work for all demographics.



1 Defined as under age 25.

2 Defined as below \$25,000 or similar across countries.

3 Defined as ages 65+.

NOTE: Numbers may not sum due to rounding.

SOURCE: Eurostat; BLS; McKinsey Global Institute analysis



# LESSON 9

Let cities pioneer reform of industry – and social safety nets

# Cities can help lead the way

Park Won-soon

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Cities were the turbo-chargers of the first industrial revolution - and today, cities are the crucible where new technology, new industry and new jobs are created. Cities, therefore, are often at the cutting edge of rethinking the ways in which safety nets have to be modernised. And so we're delighted to share some thoughts from Park Won Soon, Mayor of Seoul Metropolitan Government, and the first mayor to promise Koreans that 'I will change your life'.

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Countries around the globe are still suffering from recession since the 2008 global financial crisis. Global capitalism based on competition seemed to have lost its power. Now is the time to realise an ideal world. Under these circumstances, countries around the world are turning their attention to the labour market. They want to secure new growth engine by improving labour conditions. In line with this way of thinking, the Seoul Metropolitan Government has been exerting efforts to become a city where labour gets respect that it deserves.

"I will be the first mayor that changes your life."

This is the first promise I made to ten million Seoul citizens when I became the mayor of Seoul in 2011.

To change Seoul citizens' lives, we needed to change the labour environment as work takes up so many hours and forms an essential part of people's lives.

However, labour in Korea is still not respected. If you get paid with the minimum wage for a month, it falls short of average monthly expense of a single household. That is, the minimum wage does not guarantee basic livelihoods. Unfortunately, one out of six young workers in Korea receives an hourly wage even lower than the minimum wage.

Furthermore, one out of three workers in Korea are temporary or non-regu-

**"Work should be a route to a happy and satisfying life, not a source of anxiety or pain"**

lar workers. Such workers do the same job as the regular worker, but get paid only half the wage, with a working year that is only one third of regular workers. The labour of the citizens of Seoul is not respected, either, as 62,000 workers did not get paid on time in 2017 in the city alone. The number of labour law violations has been increasing every year. The situation is worse for young workers. The ratio of non-regular workers among young workers reached 64% in 2015, a 24.5% increase from 2007.

This is not sustainable. Work should be a route to a happy and satisfying life, not a source of anxiety or pain. Given these challenges, in 2012 Seoul became the first metropolitan government in Korea to create a dedicated division for labour policy. The division made efforts to transition non-regular workers to regular contracts and established an ordinance designed to protect rights and



interests of workers. In April 2015, Seoul established the framework on labour policy, the first of its kind among local governments in South Korea. It also introduced the labour director system that allows workers' participation in management. The very first labour director was appointed in January, 2017, and it has expanded to 16 organizations where Seoul invested with over 100 labour directors. Seoul leads efforts to identify labour issues and reflect them in city policy. The Seoul labour model has since been applied to other local governments in Korea.

Here are the principles of the Seoul labor model:

First, Seoul guarantees the livelihoods of workers, not just their survival. In 2016, Seoul became the first metropolitan government to introduce the living wage to improve workers' quality of life. The living wage is offered to workers and contract workers in Seoul, and we are increasing the numbers. Seoul has been expanding the labour director system to the public and private sectors through the recommendation of legislation to central government and it plans to further expand the living wage through incentives for private companies. Seoul believes that deciding sensible working hours is a right of workers, not that of employers. On average, workers in Korea work 2,014 hours a year, the second highest rate among OECD members. These long working hours negatively affect not only the health of workers but also their quality of life and the competitive edge of companies. Seoul Metropolitan Government has implemented various projects to reduce working hours and I firmly believe that complying with a 40-hour-week law will both improve workers' quality of life and create more jobs.

Second, Seoul provides practical measures to support workers. It is not easy to get legal advice as a worker to guide you through the various laws and policies related to labour violation. The Seoul Metropolitan Government provides certified labour lawyers

for communities to give consultation on the rights and interests of workers and labour management in small companies with fewer than nine employees and distributed 20,000 books on labour rights to convenience stores around the city. We have also scaled up efforts to protect rights of part-timers, running the Seoul Labour Academy where anyone can receive training for labour-related matters and establishing the Center for Rights and Interests of Workers and the Welfare Center for Workers.

Third, Seoul has been providing support for vulnerable workers. There are 70,000 workers that are not under the protection of labour law in Seoul, working as substitute drivers, messengers, and delivery workers. Substitute drivers are those who drive their customers home in their customers' cars. As they normally work at night, 33.8% have health problems, while 63.3% suffer from sleep disorder. To provide support for these workers, Seoul came up with various policies. For example, the city opened resting areas around Seoul. These are not only places to rest but provide diverse services, including job, welfare and financial advice, in cooperation with other facilities in the city. Additionally, Seoul designated a labour investigator specifically to protect vulnerable workers in the public sector and recommend improvements to avoid the violation of workers' rights. For private businesses, it provides a regular consulting service for labour management.

Fourth, it is improving labour conditions for employees of the Seoul Metropolitan Government. It acts as a role model for public organisations around the country by becoming an innovative working environment in Seoul. It has been transitioning non-regular workers with unlimited working periods to regular workers, a policy that has been applied to 2,442 workers at organisations where the Seoul Metropolitan Government invested. The city has also applied its model to reduce working hours to 22 organizations where the Seoul Metropolitan Government invested.

This is intended to reduce late-night work and create more jobs. According to the research of the Korea Labour & Society Institute, it is possible to create around 130,000 new jobs if workers in Seoul complies with the weekly 52 working hour law. It chose this policy as a joint campaign for labour and management for the first half of this year, to expand to organisations where the Seoul Metropolitan Government invested. In addition, Seoul respects work by private outsourcing or contractors, becoming the first local government to make it mandatory to comply with the directory provision-measures to protect contract workers. It will also continue to enhance working conditions of cleaning contractors.

These examples show that labour reform has been my priority for the past six years as the mayor of Seoul. New attempts are usually met with opposition. This was true for the labour director system and living wage. There have been harsh criticisms against Seoul's labour administration. However, now we see these policies being applied to local governments around the country. Seoul has been making utmost efforts to promote respect for labour not only in our city but also around the country. To this end, there have been joint efforts between the public sector, private business, and workers.

Though Seoul has made some progress, it still has a long way to go.

I sincerely believe that countries around the globe need to make collaborative efforts to protect work and citizens' lives in the face of low growth, inequality, and Industry 4.0. We will learn from other countries' best practices on labour policy. We will come up with better policies for workers in Seoul. I ask for your support regarding Seoul's efforts to enhance the working environment. Let's take a step toward a better future of work for the people we serve.



# LESSON 10

Reflect on how the rules of economic institutions must change to ensure new wealth is wealth that is fairly shared

# Time to change the rules

Philip Jennings

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AI alone could raise global GDP by as much as 14% by 2030; but how do we make sure that new jobs are good jobs - the kind of jobs that help ensure that new wealth is shared more fairly? The perspective of trade unions will be a critical part of the debate around new programmes of reform. Here Philip Jennings sets out the dimensions of a new social contract.

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Since 1947 the Bulletin of Atomic Scientists has published a doomsday clock. The clock tells us how close we are to human catastrophe. In 2018 the clock was set at two minutes to midnight. The closest since 1953.

At its inception the clock was based on how close we were to nuclear Armageddon, but a decade ago it was changed to take into account broader threats from which could bring irrevocable change to humanity from climate to tech change.

The unjust process of globalisation and current economic thinking is part of the new threat.

For working people the clock already stands at two minutes to midnight. The only way we can push back the minute hand is with a new social contract. We call on policymakers to choose a new growth model as a continuation of business as usual will fail people tomorrow as it does today. This age of digital transformation demands nothing less.

## **A snapshot of the global world of work**

Let's take a snapshot at the global world of work. The ILO 2018 World Jobs report confirms there are 3.2 billion people in work. Global unemployment is close to 200 million. The ILO estimates we have to create 600 million jobs in the next decade just to keep unemployment where it is today. The ILO says we are falling short.

Of the 3.2 billion a massive 42% (1.4 billion) are in vulnerable and precarious jobs. In the leading market economies, we are worried about the creeping 'uberisation' of jobs where workers are forced out of employment and social safety nets, yet elsewhere it's the daily reality for hundreds of millions. In developing and emerging market countries the numbers in vulnerable jobs are namely much higher, at 76% and 46% respectively.

The world has made progress to reduce extreme poverty, but we should not be complacent – the number of people considered working poor is on the rise almost everywhere. In developing and emerging markets 430 million people survive on USD 1.90-3.10 per day in PPP. In the US, 80% of people in work survive pay check to pay check.

In many leading economies wages are stagnant and the labour share in the wealth produced is in freefall. In the UK, the trade union centre, the TUC, found that the only wage slump longer than the one we are experiencing today, was the 24 years between 1798 and 1822 "a period when Europe was ravaged by the Napoleonic Wars and their aftermath".

The wage share has fallen, the wages link to productivity improvements broken and we have seen a corresponding rise in the share of wealth flowing to profit and dividends. It's a world where shareholder values rule.

As wages have stood still and precarious jobs grown so the wealth

and income gap has grown. The evidence of a world of benefit to the top 1% of the population is all around us. Just 8 billionaires have as much wealth as the poorest half of the world's population and just 50 companies hold a combined wealth of equivalent to 100 nations. When we look closer at the those top 50 and their supply chains we find a world of poverty pay and insecurity, where only 6% of the people were in direct employment with a hidden exploited workforce of 116 million.

A world where just 28% of the entire population have access to comprehensive social protection.

Women workers are most affected. Women's participation in the labour market has stalled and gender inequalities in all its forms persist in the labour market. The World Economic Forum 2017 gender gap report concludes on current trends it will take 217 years to close the gap.

**Youth unemployment stands at almost three times the adult rate"**

A decade on from the global financial crisis which cost 60 million jobs, youth unemployment stands at almost three times the adult rate with a concentration of young workers in low paid precarious work. As one worker said to me these are "bxxx sxxx" jobs.

There are many factors at work in this new world of work including climate and demographic and digital change. Digital change and its impact on the future of work and the conditions of working people has pushed its way up the global agenda.

It's not just about the tech it's also about the business model that underpins the changes happening. The concentration in global wealth is further exacerbated by digital business in terms of both market capture and the rise in precarious work. We have unprecedented business concentration. This is not a world of shrinking

wealth. PwC calculate that global GDP will be 14% higher in 2030 as a result of AI alone.

Even so, in this time of abundance the business model of many in the platform economy was based on a drive to escape traditional labour protections and contributions to social safety nets.

## **A world of work in transformation**

With these devastating facts, let's look ahead a little, and to the job impact of digital change in terms of quantity and content. We have been assailed by the warnings of catastrophic job loss and major transformation in job content. An OECD 2018 study found that one in two jobs are likely to be significantly impacted by automation, and that 14% of jobs in the OECD are highly automatable thus affecting 66 million workers in the 32 countries studied. In addition, another 32% of jobs will change as a larger number of tasks that constitute these tasks can be automated.

The World Bank Development Report in 2016 looked at jobs at risk of automation in Ethiopia 85%, India 69%, China 77%, Argentina 65%, Nigeria 65%, Thailand 72%.

We may worry about the veracity of these findings, but all arrows indicate significant transformation in the world of work with the worry that the policy responses are not on the scale required.

Space does not permit us to go much deeper, but big data, AI, management by algorithm, data protection and cyber security concerns, and their entry into the workplace propels us into a new labour relations environment.

Unions are taking a stand but are faced with the closing of democratic spaces to enable us to do our job.

As we mark the 70th anniversary of the UN Declaration on Human



## *Time to change the rules*

Rights the violations of workers' rights have reached pandemic proportions. The 2018 ITUC survey of workers' rights violations in 142 countries found 65% of countries exclude workers from the right to establish or join a trade union, 87% violated the right to strike, 85% violated the right to collective bargaining. In 65 countries, workers experienced violence and in 59 they were subject to arrest or detention. Inevitably the scope of collective bargaining has shrunk.

The global unions' annual poll covers over half the world's population. The message is clear. The race to the bottom is not fiction nor drama. It is a lived reality but many. Over 70% worry about losing their jobs, and just as many are concerned about the growing inequality. 80% say they are just getting by, and that the economy favours the wealthy rather than being fair to most people.

A world of work in transformation. Our policy responses have to meet the gravity of the times. The grievances expressed must not, should not, and cannot be ignored.

## **Policy Responses**

There is no quick fix, or easy response. But it is now that we must re-commit, shuffle the cards and think anew. Let's take as a point of departure the pursuit of a new, inclusive and sustainable growth model.

### ***Leave no one behind***

Governments everywhere must reinforce their social contracts with the goal that people should not be left behind. People need to be storm-proofed from adversity. We need a renewed commitment to full employment. A social contract that must be the key to global and national economic growth policies, not just a bystander.

### ***A fair deal at work***

People must have a fair deal at work. We need a policy that promotes good jobs, not just any job aimed to improve the statistics but nothing more than that. Let's together define what a good job is.

### ***Regulate platforms***

Platforms have swum through the regulatory gaps and are reaping the benefits of regulatory non-action. They have pushed the risk of the market away from themselves and onto the individual worker, whilst reaping the economic benefits of their business model. It's time to ensure that workers in all forms of work have the right to organise, to collective bargaining and to social protection. Policymakers need to act on this now.

### ***Fair wages***

Workers need a pay rise! Let's make it a national economic goal to raise the share of wages to where it was. The race to the bottom must stop. To this end, we need a commitment from businesses and states to extend collective bargaining coverage to all workers in the sector concerned.

### ***Keep people in work***

Giving workers, across all forms of work, the access to re- and upskilling must not be seen as a cost, but an investment. Having a multi-skilled, diversely-skilled labour force is the responsibility and obligation of governments and businesses. As digital change creates work changes, businesses should commit to keeping people in work and retrain and reskill them in due time. Pressing the dismiss button is all too easy and way too irresponsible. Workers must have the right to safe workplaces. Workplaces where our data is protected and free from algorithmic bias. One where humans, not robots, are in command.

### ***Responsible business***

We need to legislate for business to have a new purpose. Let's reward those who show responsibility to all stakeholders, to our climate, our people and to the long term interests of us all. Let's change the models of corporate governance and welcome other voices to a seat at the table. We cannot address the failures of today, without rebalancing our economies away from the short termism that financialisation has brought.

### ***Revamp our social institutions***

In a world of growing wealth, yet declining social cohesion, we require a floor of worker rights. We can do this. We need to revamp and strengthen our labour market institutions, so they embrace the fluidity of the market through new models of universal social protection.

### ***Workers' rights are human rights***

The right for workers to join unions must be respected. We must embrace and once more encourage fair labour standards by improving the coverage of collective bargaining. In workplaces undergoing change, collective bargaining is the tool to ensure the just transition for working people. Dialogue has to transcend borders. We support the growth of global framework agreements between global unions and multinationals companies. Multinational companies should act in compliance with the UN Guiding Principles on Business and Human Rights and we look forward to a binding UN Treaty in this regard.

### ***Taxes***

Business and the wealthy must pay their fair share of taxes. Let's close the tax loopholes, which allow 21 trillion dollars to sit in safe havens around the world. Let's consider taxing the new intangible

commodity of data flows.

### ***What jobs?***

We need to more to monitor the jobs at risk and where the jobs of tomorrow will be. We see many job opportunities in care, the green economy, and in the infrastructure surrounding new digital services. We must put in place long-term plans to ensure a just, reasonable and respectful transition for workers whose trades and skills will become obsolete

### ***Embrace market diversity***

We should look to rearm our competition authorities to question the dominance of a handful of companies. Their current and unprecedented economic, technical, innovative and ultimately social and democratic power must be curbed. We must allow the flourishing of the artisan economy from which much of our creativity and innovation stems.

### ***Moving forward***

Our call above is a call for the most comprehensive change of our times. We need new rules for a sustainable globalisation, for markets and for people. We have made the case for a new social contract, and why.

Let's use the tools and pathways we have. The UN has its ambitious Sustainable Development Goals many of which reflect longstanding union policies to end poverty, ensure inclusive and equitable education and lifelong learning opportunities (SDG4), achieve gender equality (SDG 5), decent work (SDG 8) and reduce inequalities (SDG 10).

The G20 Employment Ministers in 2017 committed “to leave no one behind” and that breaches in basic labour rights should “not be part of the competition”.

### *Time to change the rules*

We have the commitment to a just transition in the Paris climate change agreement.

The global unions have submitted a nine-point plan to the 2018 G20 summit in Argentina.

The answers are there but we are faced with a failure of political will to act. This failure to commit aggravates the crises in the world of work which has spilled over to our national democracies and the anger we see exploited by the populist right.

In 2019, the ILO will celebrate its centenary. The ILO was the author of the first global social contract based on its understanding that poverty anywhere was a threat to prosperity everywhere. They were clear that labour is not a commodity. Built from the ashes of the First World War and a time of revolution, the ILO through fair labour standards and promotion of rights to organise and negotiate, to have workplaces free of discrimination, to eliminate child and forced labour and by making clear the responsibilities of business to act in compliance with those standards, sought to put the human face of decent work in every workplace everywhere.

To mark its centenary, the ILO in 2017 established a Global Commission on the Future of Work. In January 2019 the ILO Commission will publish its findings. All ILO Member states have been requested to call national tripartite talks to discuss the report's findings and to act on them.

If we can deliver a new social contract, then perhaps the 2020 doomsday clock will be further away from midnight than it is today. It's in our hands.



# **Conclusion: Putting it all together**

Memo from the G20

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The way in which this agenda for change will come together in individual nations will vary widely. Different ideas will be priorities in different nations at different times. The challenge for politicians everywhere will be to put together inspiring, powerful stories and programmes for change that knit these ideas together – and crucially modernise tax systems to provide the state with the resources to act. So we conclude with an example of bringing the agenda together set out by the G20 this year, which under the Argentinian Presidency, has focused on the future of work.

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## **G20 Menu of Policy Options for the Future of Work, from the G20 Framework Working Group**

Transformative technologies will bring immense economic opportunities, such as new ways of doing business, new industries, new and better jobs, higher GDP growth, and better living standards. At the same time, they will create transitional and longer-term challenges for individuals, businesses, and governments. Policy action is needed to harness the opportunities and ensure the benefits are shared by all.

The purpose of this paper is to provide a menu of policy options (the Menu) for G20 Finance Ministers and Central Bank Governors to consider in the areas of tax, public expenditure and transfers, competitive conditions, and measurement and data. Where useful, opportunities for international common efforts, coordination, and knowledge sharing are also identified. These policy options should be underpinned by sound macroeconomic policies to achieve a successful and inclusive digital transformation. The Menu is organised around four overarching objectives with corresponding specific objectives:

# OBJECTIVE 1

## **Harness the benefits of technology for growth and productivity**

Technology is the key to productivity growth and rising living standards. However, innovation as well as technology diffusion and adoption are uneven.

- Bridge the productivity gap between frontier and lagging firms. To ensure that more firms benefit from technological change, countries could foster a more competitive environment where



*Conclusion: Putting it all together*

new entrants can enter, innovate, grow and gain market share, limiting the ‘winner-takes-all’ effect where appropriate. Countries could also consider tax and public expenditure as well as non-financial measures to help improve the productivity of lagging firms, particularly of small and medium-sized enterprises, through measures aimed at facilitating technology diffusion. Access to private funding is also key.

- Close the technological divide between advanced and emerging market economies. To realise the benefits of innovation, emerging economies could develop comprehensive strategies to increase R&D investment while supporting the enhancement of other elements needed for the innovation process such as infrastructure, firms’ capabilities, human capital, and physical capital. International trade and investment also have an important role in technology adoption and knowledge diffusion.
- Expand the technological frontier. To raise growth, productivity, and living standards, countries could consider public investment in priority areas where the private sector is unlikely to invest and consider ways to crowd-in private investment. Countries could also consider policies that simplify their regulatory frameworks and reduce regulatory barriers so that businesses can test innovative products, services and business models.

# OBJECTIVE 2

## **Support people during transitions and address distributional challenges**

Although the overall long-term impact of technological change is expected to be positive, the transition period could be disruptive for some workers and there may be negative longer-term distributional effects. It is essential that we address this challenge in an inclusive way and in particular:

- Facilitate labour mobility while ensuring adequate protection for all. Countries may explore policies to enable people to develop new skills and increase their adaptability, and to provide economic security for all. For example, they could scale up and improve the design of active labour market policies, encourage lifelong learning opportunities and/or strengthen social safety nets.
- Ensure the sustainability and adequacy of social protection for a changing workplace. Countries can use different policies to secure people's social protection while remaining fiscally sustainable. For example, they may combine different instruments and resources to fund social protection. They could also consider policies to increase contributory revenues, better tailor social protection systems to workers' needs, and close existing coverage gaps.
- Address distributional challenges and ensure equal opportunities beyond the transition. To help those who may fall behind, countries could consider, for example, ensuring access to universal and high quality education. In addition, to mitigate negative distributional effects, they may consider measures to

improve the overall efficiency and progressivity of the tax system. They could also overhaul policies to support disadvantaged groups and regions left behind.

# OBJECTIVE 3

## **Secure sustainable tax systems**

Alongside opportunities to modernise their tax administration, countries are facing an increasingly mobile tax base and pressure on domestic and international tax systems and their effectiveness.

- Adapt the tax mix to support inclusive growth and ensure sufficient tax resources. To secure their revenue raising capacity, while maintaining or improving overall fiscal progressivity and making their tax systems less vulnerable to globalisation, countries could choose a greater reliance on less distortive taxes and on taxes that have less mobile tax bases, taking into account country specificities. In addition, they could consider base broadening and reducing differences in effective tax rates across different forms of investment, for the effective taxation of capital income; and ensuring tax neutrality between different forms of work. Countries should also ensure an appropriate taxation of the digital economy.
- Leverage new technologies to modernise and strengthen the tax system. New technologies could be used to better identify and assess tax risks and simplify tax payers' compliance, while promoting formalisation.

# OBJECTIVE 4

## **Ensure the best possible evidence to inform decision-making**

New technologies pose significant challenges to economic statistics and some of the standard analytical tools used by policymakers. They also offer promising new methods and approaches.

- Refine GDP and other macroeconomic measurements to better capture the value of technological advancements. To ensure economic statistics continue to provide a reliable picture of economic activity in light of digitalisation, countries could review current measurement techniques, explore new frameworks, and make use of new data sources. Countries could also collaborate to formulate recommendations on how international statistical frameworks might be updated.
- Track the implication of new technologies on welfare, labour markets and human capital. Countries may develop new methodologies and headline indicators aimed at a broader measurement of economic welfare. In addition, new analytical tools may be used to accurately track the range of variables affected by new technologies. Countries could also develop international frameworks for innovative measures of human capital, welfare and employment.
- Harness the power of data to achieve a more granular and timely understanding of the economy. Countries could develop a data science profession in statistical agencies, central banks, finance ministries and in the wider public sector, and set up national data science centres of expertise. Moreover, countries could develop partnerships between the private sector, public sector, and academia. Cooperation between national government agencies

*Conclusion: Putting it all together*

in the use of new methodologies could also be promoted.

- Support regulatory authorities' enhanced understanding of new business models and future trends. Countries could consider how regulators and organisations (including firms) can access new sources of information while ensuring adequate levels of privacy and protection of sensitive data. Under their own legislation, countries could encourage the exchange of data across organisations. Countries could also establish a public-private dialogue to enhance the understanding of, and trust and confidence in, digital technologies.



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# LESSONS FOR THE FUTURE OF WORK

- 1 Understand the impact – and opportunity – of automation for your country.
- 2 Scope the opportunities of industries of the future.
- 3 Redouble efforts to unleash the power of enterprise and new firms.
- 4 Work hard to connect young people to jobs.
- 5 Develop new strategies to raise employment and enterprise rates amongst women.
- 6 In the labour market, rebuild systems for lifelong learning.
- 7 In capital markets, ensure financial services are a proactive force for creating good new jobs.
- 8 Ensure corporate governance is fit for the future.
- 9 Let cities pioneer change in industry and social safety nets.
- 10 Reflect on how the rules of economic institutions must change to ensure new wealth is wealth that is fairly shared

