

# SYSTEM UPDATES: RESETTING THE FUTURE OF W RK

A COLLECTION OF POLICY  
RECOMMENDATIONS

## **ABOUT THE BERTELSMANN FOUNDATION**

The Bertelsmann Foundation (North America), Inc., established in 2008, was created to promote and strengthen the transatlantic relationship. Through research, analysis, forums, and audiovisual and multimedia content, we seek to educate and engage our audience on the most pressing economic, political and social challenges facing the United States and Europe. We are the U.S. office of the Germany-based Bertelsmann Stiftung. At a time when many are asking what people from all parts of the U.S. and Europe think about global issues, our aim is to bring our work to audiences outside Washington and Brussels. Through discussion forums, documentary film screenings and other events, we present our materials to diverse audiences of students, educators, community organizers, journalists and policymakers. Our goal is learning together how the transatlantic relationship affects us all, and how we can shape it in the future.

## **ABOUT THE BERTELSMANN FOUNDATION FELLOWSHIP**

The Bertelsmann Foundation Fellowship (BFF), formerly known as the Congressional European Parliamentary Initiative (CEPI), was established in 2010. BFF is a transatlantic fellowship that convenes over a period of five months. Fellows are provided with two in-person exchanges, one on each side of the Atlantic. The exchanges are supplemented with a three-month virtual program during which the fellows meet once a week with experts related to the year's topic. The fellows write a final publication and it is published at the end of the BFF program.

The BFF Class of 2023 met on the topic of the future of work. Over the course of several months, BFF participants engaged with diverse, high-level stakeholders across a variety of sectors to discuss transatlantic cooperation and divergence on issues relating to the future of work. The goal of these experiences was to provide participants with tools to enhance policy formulation, deepen participants' understanding of transatlantic legislative processes, and learn lessons from the respective approaches to the issue at hand.

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# THE BERTELSMANN FOUNDATION FELLOWSHIP CLASS OF 2023: THE FUTURE OF WORK

BY CHLOE LADD

Designing a future of work that works for everyone is not a simple task. And yet, luckily, this topic is actively on the minds of transatlantic policymakers and policy shapers.

In the United States, conversations center around: What is a good job? The Biden administration has made this a legislative priority, but how does one actually define “good jobs”? In Europe, the European Union made the focus of 2023 the “Year of Skills”, ensuring that the European workforce is able to meet future demands.

But what does the future demand of work and the workforce? This is a question that concerns both partners, and the answers take many different forms.

The goal of the Bertelsmann Foundation Fellowship in 2023 was to try to understand and make recommendations for the future of work. The Bertelsmann Foundation brought together 11 Fellows from both sides of the Atlantic, ranging from migration experts to digital experts, to discuss how we could best address the issues of work as a collaborative transatlantic partnership.

This publication is a reflection of those conversations, debates and takeaways the fellows had during the five months of the program. We also invited two of our external experts to contribute to the policy recommendations found in this publication. Conversations in Washington, DC, in Brussels and online brought new angles and dimensions to the topic every single week.

In the months of programming, it was clear that there are no copy-and-paste solutions; that every country, city, county, village and organization will have to adapt to the changing times and find ways to make the future of work human-centric. At the end of the day, even in the midst of the new technological revolution in which we find ourselves, there is no work to be accomplished without the workers. Every policy passed by government, every guideline in an employee handbook, every recommendation should have people at the center. This publication is a starting point with its collection of policy recommendations.

We begin with the hottest buzzword about work: the impact of artificial intelligence (AI). **Marc Lendermann** (p.8) provides policy challenges that must be addressed to navigate this technology and what it means for the future of work. **Joe Wilcox** (p.12)

discusses the opportunities for incorporating AI into education, as well as the workplace, to build a future workforce equipped to handle these ever-evolving technologies. **Andrea Castagna** (p.16) builds on the importance of these digital skills, and turns his attention to the Global South. He argues for a strengthened digital partnership between the European Union and Africa that could benefit both partners and their respective workforces.

**Amir Kamel** (p.20) highlights the impact of hidden workers on the formal economy. They are often missing from official metrics to their detriment and to the detriment of their host countries. He argues that there are many ways to use new technologies to help bring these workers out of the shadows, whether in the U.S., the EU or in the Global South.

**Céline Chateau** (p.24) argues that there is a need to recognize the importance of third- country nationals in the European workforce. Similarly, **Jeanne Batalova** (p.28) discusses the importance of placing immigration at the heart of the conversation on the future of work debate in the United States. Both authors place importance on overcoming the credentialing obstacles that third-country nationals face on both sides of the Atlantic.

Credentialing is on the mind of many in this publication. **Leighton Johnson** (p.32) argues for dynamic credentialing models as a solution to addressing how technology is changing the way we work in both the U.S .and the EU.

External author **Vicent Climent-Ferrando** (p.36) brings attention to the younger generation and alternative pathways that dual-vocation programs can offer. **Michele Zagordo** (p.42) further emphasizes the importance of focusing on the younger generation and reminds us that younger individuals should be at the heart of new workplace policy.

**Elisabeth Giesemann** (p.46) touches on an issue at the top of a number of younger minds, the Twin Transition. Tackling the issue of the digital and green transition together is critical, but it won't succeed if it isn't embedded in policies about the future of work. External author **Francesco Matteucci** (p. 50) provides another solution to this issue. He argues for a transatlantic network to be set up to ensure Cleantech is developed, further ensuring both sides of the Atlantic reach our green transition goals and prep our workforces for the future that awaits it.

And finally, **Heather Painter** (p.54) and **James Dunn** (p.58) round out this publication by reminding us of the most important aspect: the individual. Heather emphasizes pushing for policies that work for people facing difficult obstacles to employment. James champions the position that work means nothing without good health.

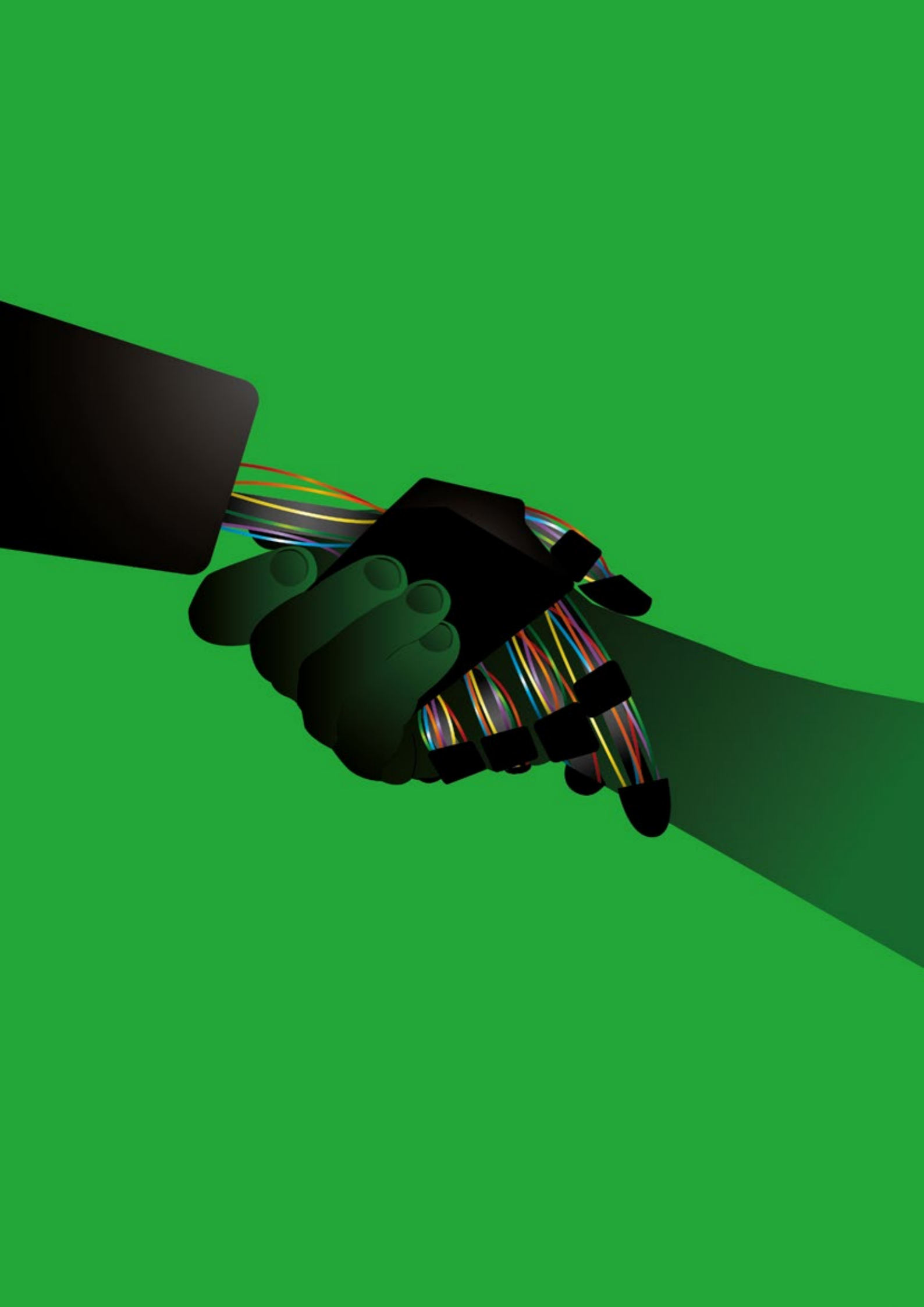
I hope you enjoy the breadth and depth of this publication. It is intended to be a tangible reminder that policy is intersectional and multidimensional, and therefore requires expertise, creativity, persistence, and, most of all, patience.

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## GENERATIVE AI AND THE FUTURE OF WORK: GEOGRAPHY MATTERS

BY MARC LENDERMANN

### THE PROSPECTS FOR GENERATIVE AI TO HAVE AN UNEQUAL IMPACT ON DIFFERENT REGIONS

It is well known that digital technological changes affect the labor market, but the impact of artificial intelligence (AI) will be more far-reaching. AI is a general-purpose technology that is touching nearly every sector and occupation. Unlike other digital technologies, it does not just automate routine, non-cognitive tasks but in the form of generative AI is even capable of creating novel content (text, images, video, audio) that is indistinguishable from human-created content. It does far more than merely describe or interpret existing information.

Some compare the ongoing AI revolution to the industrial revolution, which initially led to substantial job loss but ultimately proved to be beneficial once humankind adapted to it.<sup>1</sup> AI too has spurred a lot of fears about the technology's potential impact on work. Unions have expressed worries about the deployment of AI in the workplace to monitor workers.<sup>2</sup> Most concerns, however, are related to potential job losses caused by AI.

Past narratives linked automation to disappearing blue-collar jobs. Research on AI, however, shows that so-called "knowledge work", or labor done by well-paid professionals with a college education, faces the most upheaval.<sup>3</sup> This is particularly true for generative AI. Concerns about AI's impact on creative jobs is already reflected in the Hollywood strikes, in which unions of actors and writers protested the use of generative AI by film studios, before reaching a deal that – among other things – states that productions must get the informed consent of actors whose digital replicas are used.

The public discourse about AI on both sides of the Atlantic has so far focused on generative AI's potential for job displacement. This essay argues that AI's potential for job creation and productivity increases deserve more attention by, in particular, policymakers. They should focus on the unequal distribution of generative AI hubs across regions and on the potential of the workforce of the Global South that contributes to training and developing AI models.

### SKEPTICISM IN THE U.S. ABOUT GENERATIVE AI'S IMPACT ON HIGH PAYING JOBS

A recent Pew Research Center survey found that few Americans believe that generative AI will have a major impact on their jobs. Fully 27% of employed adults who have heard of ChatGPT think chatbots will have no impact, while another

36% say it will have a minor impact. Only 19% say it will have a major impact.<sup>4</sup> This perception is surprising, given that research suggests that generative AI will likely have a significant impact on the entire labor market. A Goldman Sachs study found that generative AI could expose the equivalent of 300 million full-time jobs in the U.S. and Europe to automation over the next several years.<sup>5</sup> Generative AI is also going to accelerate the changes that are already taking place. The McKinsey Global Institute estimated that automation could take over tasks that account from 21.5% of the hours worked in the US economy by 2030, the institute concluded that when that includes generative AI, the figure jumped to 29.5%.<sup>6</sup>

A recent report by the Organization for Economic Co-operation and Development (OECD) found that the occupations most at risk of being automated account for an average 27% of the workforce across OECD countries. These include Germany and the U.S.<sup>7</sup>

However, research also shows that generative AI is likely to augment jobs rather than destroy them. A recent International Labour Organization (ILO) study found that the impact of generative AI on job quality (e.g., work intensity and autonomy) might be larger than its capacity to replace jobs.<sup>8</sup> The study concludes that most jobs and industries are only partly at risk of the effects of automation and are more likely to be complemented rather than replaced by the latest wave of generative AI, which comprises chatbots.

The potential of generative AI to augment jobs is corroborated by other research. A study by researchers at the Massachusetts Institute of Technology on the impact of generative AI on highly skilled workers found that it can improve a worker's performance by as much as 40% compared with workers who don't use it.<sup>9</sup> The impact of generative AI on productivity has also been analyzed by other studies. A Google-commissioned study by IW Consult found that generative AI tools could save an employee in Germany an average of 100 hours per year in the future and therefore compensate a large portion of the loss of work that Germany will face due to retirements through 2030.<sup>10</sup>

An area in which an increase in AI-led productivity can already be observed is coding, as software engineers have been early adopters of generative AI.<sup>11</sup> One of the experts with whom the Bertelsmann Foundation fellows had the chance to talk, explained in a virtual session that coding camps have lost their relevance since ChatGPT is now able to produce code in the programming language Python with great accuracy.



Despite the large potential of generative AI to produce code and the high uptake of AI tools by software engineers, many people – among them many who work in the field of software engineering - argue that generative AI is not going to replace the jobs of programmers, but augment them.<sup>12</sup> Besides positively affecting software engineering, generative AI is reportedly increasing productivity in sales.<sup>13</sup>

AI can also contribute to job creation, an issue that has so far received limited public attention. According to news reports, AI job posts on the platform Upwork increased by more than 1,000% year-over-year in the second quarter of 2023.<sup>14</sup>

These jobs, however, are not equally distributed geographically. A Brookings Institution study found that more than 60% of generative AI jobs posted in the U.S. in late 2022 and most of 2023 were clustered in only 10 metro areas, with the San Francisco Bay region and New York City leading the list.<sup>15</sup> There seems to be no similar analysis for Europe, but it is fair to assume that a similar geographic concentration of AI jobs is taking place there as well, with cities such as London already identified as hotbeds for AI companies.<sup>16</sup>

#### **CHALLENGES FOR POLICY MAKING: BLIND SPOTS WITH REGARD TO THE FUTURE OF WORK?**

While little attention has been focused on AI's potential for creation of new jobs, there has been much attention focused on the possibility of regulation to minimize the risks associated with AI. In meetings in Brussels and Washington, DC, the Bertelsmann Foundation fellows heard from experts about approaches to regulating AI now under discussion. These include the EU's AI Act.

Policy makers so far seem to be focused on instruments that would address potential displacement of jobs due to AI, including prohibiting the use of AI; establishing new instruments such as a universal basic income; or giving more bargaining power to groups of workers.<sup>17</sup>

The potential of generative AI to augment jobs does not get much attention from policy makers, even though several scholars have proposed innovative approaches to support augmentation, such as changing tax laws, which currently treat income that uses labor less favorably than income derived from capital.

The geographic distribution of generative AI jobs and the potential to incorporate AI-trained workers in the Global South are two other aspects of generative AI jobs that deserve more attention from policymakers.

The aforementioned Brookings Institution study noted that generative AI jobs will continue to cluster in a limited number of hubs unless policymakers intervene. The study's authors suggest public-sector investment to help disseminate AI activity in the U.S. through:

- expanding the National Science Foundation's National Artificial Intelligence Research Institutes program, as universities constitute a widely spread network of hubs

- establishing and enlarging the proposed National AI Research Resource to make essential data and computational capacities more accessible

While the geography of AI seems to be less skewed in the European Union than in the U.S, European policy makers would be well advised to take geographical distribution of jobs into account when deciding how to promote the AI innovation ecosystem in the EU and its Member States.

Moreover, developments in Europe might even provide some inspiration to policymakers on the other side of the Atlantic. In Germany for instance, AI competency does not cluster in a few hubs, but is spread across the country. One example is the network of centers of excellence for AI research.<sup>18</sup> Furthermore, it can be observed that with public-private partnerships, AI can contribute to the emergence of new AI ecosystems such as the under construction large AI innovation park, a collaboration funded by the state of Baden-Württemberg and the private Schwartz Foundation in the city of Heilbronn. According to the developers, this will be the largest ecosystem for AI in Europe.<sup>19</sup> Similarly, public private partnerships to create AI hubs could also be used in other regions that are not traditional homes to the tech industry.

#### **POTENTIAL TO CREATE GENERATIVE AI JOBS IN COUNTRIES OF THE GLOBAL SOUTH**

Workers in countries in Africa have long been used to train AI systems, for instance by labeling data that is used to train self-driving cars.<sup>20</sup> Many workers in countries in Africa and elsewhere in the Global South are hired to train the models that form the basis of generative AI applications.<sup>21</sup> Because of this work, these employees are described by some authors as a hidden workforce behind AI.<sup>22</sup>

Western media reports have criticized the low wages that these workers receive but offered scant coverage of an expanded role that they may play in the development of AI ecosystems in their countries. Bertelsmann Foundation fellows had the opportunity to speak with a Tanzania-based social entrepreneur who showcases Africa's AI potential. He has founded a service that uses AI for tutoring and teaching. Seeing examples like this, where individual founders create innovative AI-based solutions suggest that African countries can be a breeding ground for creative AI applications.

For policy makers, the AI workforce in the Global South does not always have a voice in the political process, such as the G7's Hiroshima process, in which the G7 members have developed international guiding principles on AI and a voluntary code of conduct for AI developers.<sup>23</sup> Policy makers from countries in

the Global South have already expressed frustration about being excluded from decision making and conversations on AI that will have an impact on these countries. For instance, Tanzanian politician Neema Lugangira has demanded that African voices are included in the increasingly complex global discussions on digital policy.<sup>24</sup>

In the absence of a membership in multilateral groups such as the G7, where AI regulation is under discussion, bilateral dialogue between G7 members and countries of the Global South on the future of AI could fill this gap. In the European Union, the Trade and Technology Council (TTC), established in February 2023, could be a forum for this dialogue. The German government's international digital dialogues<sup>25</sup> with a few governments, including countries from the Global South, can serve as a platform for an exchange of ideas about AI and the future of work. Moreover, the German government is working on its first strategy for international digital policy. Some members of the German Parliament have already publicly demanded that this strategy account for the interests of countries in the Global South.<sup>26</sup> While it has not been announced yet whether the future of work will be a topic that is going to be addressed in the above-mentioned bilateral dialogues, they would certainly provide a good platform to do so.

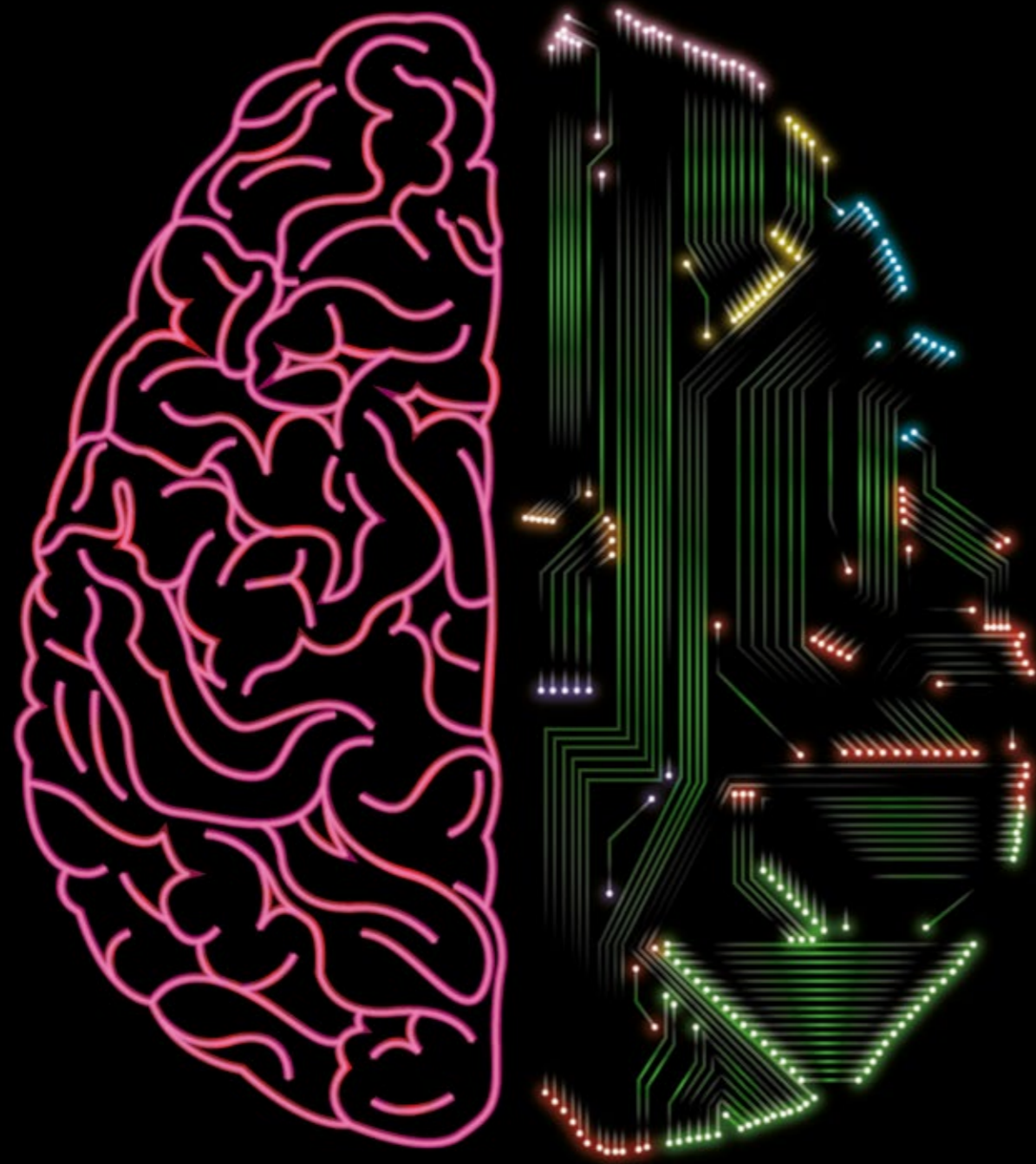
*The opinions expressed in this essay are those of the author and do not reflect the opinions or views of any organization with which the author is affiliated or has been affiliated.*

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# THE PROMISE AND THE CHALLENGE OF AI IN EDUCATION

BY JOE WILCOX



Humankind has long prided itself on innovation, creativity and intellect as the singular advantages that have propelled it to its role as the dominant species on earth. The rapid ascent of artificial intelligence (AI) is now testing these long-held convictions, challenging not only the natural order of traditional power structures and social contracts, but also the very nature of what it means to be human. Reactions to this unprecedented phenomenon have been very human indeed. Some have called for heavy regulation and restriction<sup>1</sup> on the use of AI, fearing future retribution by coldly efficient death machines (think, *The Terminator*).<sup>2</sup> Others have seized upon this transcendent computing power in the hope of achieving rapid, profound advances in industries from health care and education to transportation and manufacturing and beyond.

The reality of the positive potential of AI and the risks AI poses lies somewhere in between, blurring the lines between profitability and morality, technology and humanity.

The transformational nature of this technology suggests that AI has the potential to revolutionize countless industries and occupations across the globe. Open AI's Generative AI product Chat GPT has so far led the pack in public recognition and early adoption, logging 100 million active monthly users within just two months of launching,<sup>3</sup> and quickly becoming the innovative, yet disturbing poster child for AI.

But behind AI's creation of flawed news stories, catchy tunes<sup>4</sup> and surreal artwork<sup>5</sup> are massive opportunities for those able to employ AI's tools in constructive ways, such as fostering a more productive and competitive workforce and supercharging innovation. Recognizing this, businesses around the world, from tech titans such as Amazon (Amazon Web Services), Google (Bard) and Microsoft (Bing, and Co-Pilot integrated in the Microsoft Office suite) to small startups, are battling to develop the cleverest synthetic learning machines.

Yet, concern continues to grow around all-too familiar issues inherent in any technological disruption: job displacement, workplace privacy and surveillance, harmful bias, and inequity. And unlike previous technological revolutions that threatened blue-collar jobs, AI has shown that white-collar jobs often requiring four-year degrees, such as those for accountants, journalists and HR professionals, are now at risk.<sup>6</sup>

Less than a decade ago, disruption in the workplace was largely focused on the risks and rewards of automation. Were robots coming to replace human workers, or to augment their capabilities and free up workers for more innovative pursuits?

Fast-forward to today, and creative fields once thought to be inoculated against machine competition, such as fiction writing, acting, storytelling, art and music are undeniably threatened by synthetic competition. The 2023 Hollywood screenwriters' and actors' strikes are prime examples of the high stakes at play, with the usage of AI-generated material playing a central role in negotiations.<sup>7</sup> While AI can enhance and support aspects of these jobs and skills, unique human qualities and abilities, such as empathy, critical thinking, innovation, teamwork, leadership and others, remain difficult to replicate fully with current AI technology.<sup>8</sup>

## EDUCATION

Worries about these issues are especially acute in education.<sup>9</sup> Legitimate concerns about computer-enabled student cheating are widespread, as are concerns about long-term declines in student performance and critical thinking skills. At the same time, proponents tout advantages such as streamlining teacher workloads and personalizing student lessons. The key now for education and workforce development policymakers is to balance the potential dangers of AI with the possible benefits of the technology.

The crucial challenge for educators is to arm workers with the technical skills needed in this rapidly evolving workplace while emphasizing unique characteristics that only people possess. More specifically, how can society mitigate the potential pitfalls of AI in this space (plagiarism, job displacement, inequity, etc.) while maximizing the benefits of the technology?

AI has the capacity to assist both the educator and student in this setting in such tasks as:

- **Curriculum Enhancement:** Use AI to broaden content and the ways it is delivered, and customize lessons to meet individual student needs.
- **Assessment and Grading:** Implement AI-driven assessment tools to provide timely and personalized feedback to students and educators.
- **Teacher Support:** Assist educators with AI tools for lesson planning, classroom management and professional development.
- **Ethical AI Education:** Include AI ethics and responsible AI usage in the curriculum to ensure students and faculty are aware of the implications and potential biases of AI.



There are already a host of AI tools supplying these capabilities and operating in classrooms today, freeing up educators from routine tasks to allow them to better use their time. Khanmigo,<sup>10</sup> for instance, is an AI-powered online learning system capable of tailoring lessons and curricula to individual students. OpenAI has developed a guide for teachers using ChatGPT in classrooms.<sup>11</sup> Products such as Gradescope<sup>12</sup> can assist with student assessment and feedback.

While these tools are extremely powerful, they are much less useful, and even harmful, if misused. A very real concern for educators is plagiarism using AI to craft assignments in seconds without doing any real work. This apprehension is warranted, as there have been many reports of secondary and postsecondary students admitting that they have used AI to complete schoolwork. One survey found that nearly one-third of U.S. college students have used ChatGPT to complete a written assignment.<sup>13</sup> To help mitigate this challenge, educators are focusing on honing students' critical thinking<sup>14</sup> and collaborative skills when utilizing this technology.

Heightened understanding of AI's strengths and weaknesses will better prepare students for the current work environment, but falls short of providing a stable career pathway through retirement. The rapid disruptive effects of AI on the workforce are resulting in a constant shifting of desired skills and competencies needed in the future workforce. To counter this, lifelong learning opportunities will be needed across the workforce such as those provided through the individual learning accounts<sup>15</sup> model successfully employed in France. AI can help enhance this field, too, as it presents opportunities for increased workforce development efficiencies in skills assessment, job matching, continuous learning and labor market analysis.

#### **ETHICAL CHALLENGES**

In addition to establishing a system for increased vigilance against cheating, safeguards are also needed to ensure equitable access to these tools, and to ensure data and privacy protections for users.<sup>16</sup> The European Commission proposed the first EU regulatory framework for AI in 2021, and amended it in June 2023 to address these challenges. Rather than relying on blanket regulations, the AI Act<sup>17</sup> calls for rules and obligations to be enforced depending on risk levels to health, safety or individual rights. For example, unacceptable (banned) applications would include government social scoring or real-time biometric identification, while minimal risk activities, such as spam filters or video games, would receive a lighter touch.

#### **ALIGNING WORKFORCE DEVELOPMENT AND EDUCATION SYSTEMS FOR THE FUTURE OF WORK**

Given the unparalleled speed of adoption of AI, along with its ability to disrupt nearly every occupation and industry across

the world, policymakers are faced with limited options<sup>18</sup> to harness this rapidly evolving technology. There will undoubtedly be winners and losers in this competition. For good or ill, these will largely be determined by those who embrace AI and maximize its benefits, and those displaced by it.

Rather than restricting the use of AI in workforce development and the workplace, policymakers should be looking to maximize its potential by aligning workforce development and education systems to the future of work. Instead of trying to predict jobs and skills of the future, decision-makers should look to assess what current knowledge, skillsets and abilities best align with the adoption and usage of AI, and how to better align workforce development systems (public and private postsecondary education, private education providers) to be nimble to meet these rapidly changing skill demands. If carried out in a thoughtful and deliberate manner, the usage of AI in learning and workplace settings could usher in an educational renaissance that amplifies rather than replaces human productivity.

#### **POLICY RECOMMENDATIONS**

A purposeful and nuanced policy framework is necessary to align workforce development and education systems with AI capabilities for the future of work. Rather than restricting AI usage, education and workforce development programs could employ AI tools to enhance teaching and learning opportunities. This will empower educators to utilize technology for education and workforce development, boosting their effectiveness.

Students should similarly be empowered to employ AI technology in learning environments to augment productivity to achieve learning goals. Adoption of this technology should be done in conjunction with increased emphasis on collaboration, critical thinking and other human-centric skills that are less likely to be replicated by technology.

Policymakers should also support lifelong learning opportunities for workers to help keep their skillsets relevant in an evolving workplace.

Lastly, policymakers should enhance AI regulations to promote accountability, transparency and equitable access to AI, as well as safeguard data privacy and other protections for users.

*Joe Wilcox is the career pathways manager at Washington state's Workforce Training and Education Coordinating Board, where he works with agency partners and stakeholders to support an environment of equitable access to career pathways in high-demand, livable-wage careers.*

*He was also the co-manager of Washington State's Future of Work Task Force, which was created in April 2018 by the Washington State Legislature. Comprised of business and labor leaders along with legislators from each caucus, the task force was responsible for developing a set of policy recommendations that help Washington businesses and workers prosper together. The report was delivered to the state's Legislature and Governor in December 2019, including 17 specific policy recommendations.*

*Prior to his work with Washington state, Joe worked as a business analyst for 13 years in dozens of countries around the world, having analyzed a wide range of industries across North America, Europe, the Middle East, Africa and Asia. Through the course of this work, Joe has researched, analyzed and presented assessments on a variety of topics and policy areas, ranging from education and workforce development to economic growth and information technology.*





## BETWEEN INFRASTRUCTURES AND DIGITAL SKILLS FOR AFRICA: IS THE EU READY TO STEP IN?

BY ANDREA CASTAGNA

The European Union's (EU's) role as Africa's primary trading partner is facing a significant challenge as the future of work in the growing African digital realm becomes progressively entwined with new socioeconomic dynamics, mostly in the digital sphere. The EU is Africa's primary and largest trading partner, responsible for the majority of exports (36%) and imports (33%) to and from the African continent, particularly in sub-Saharan African countries. Yet, considering the growth of a new emerging digital economy in Africa, this European position is now under threat. If the EU wants to remain Africa's top partner and promote a collaboration based on democratic cooperation and multilateralism, it must meet the current and future needs of African economic development, especially as the African digital economy grows and its diverse local societies rely more and more on technology and digitalization.

The World Bank's report on "The Future of Work in Africa" states that fast internet adoption has greatly improved job prospects for individuals in Africa.<sup>1</sup> This trend has a positive impact on Africa's economic prospects at both the national and regional levels. However, significant social challenges persist. In 27 sub-Saharan African countries, there is a significant shortage of digital education opportunities, particularly for women and low-income people.

African countries have specific local needs that influence and shape the adoption of digital technology and the creation of inclusive digital opportunities for their society. For instance, across much of sub-Saharan Africa, the creation of digital skills and digital educational opportunities is closely linked to the extent of internet access and the availability of electricity (or a combination of the two).<sup>2</sup> Without the establishment of robust physical infrastructures, the future of African digital development will lack inclusivity, leaving a significant portion of its workforce behind.

Therefore, the future of work in sub-Saharan Africa will depend heavily on the level of support from the international community in advancing physical infrastructure, inclusive education and opportunities for skills development in the digital sphere at the local and national levels. The balance between offering educational opportunities and developing effective infrastructure will be the central issue in shaping the future of the sub-Saharan African economy and its inclusivity vis-à-vis its most vulnerable people. However, the extent to which the EU can contribute to this equation remains unanswered.

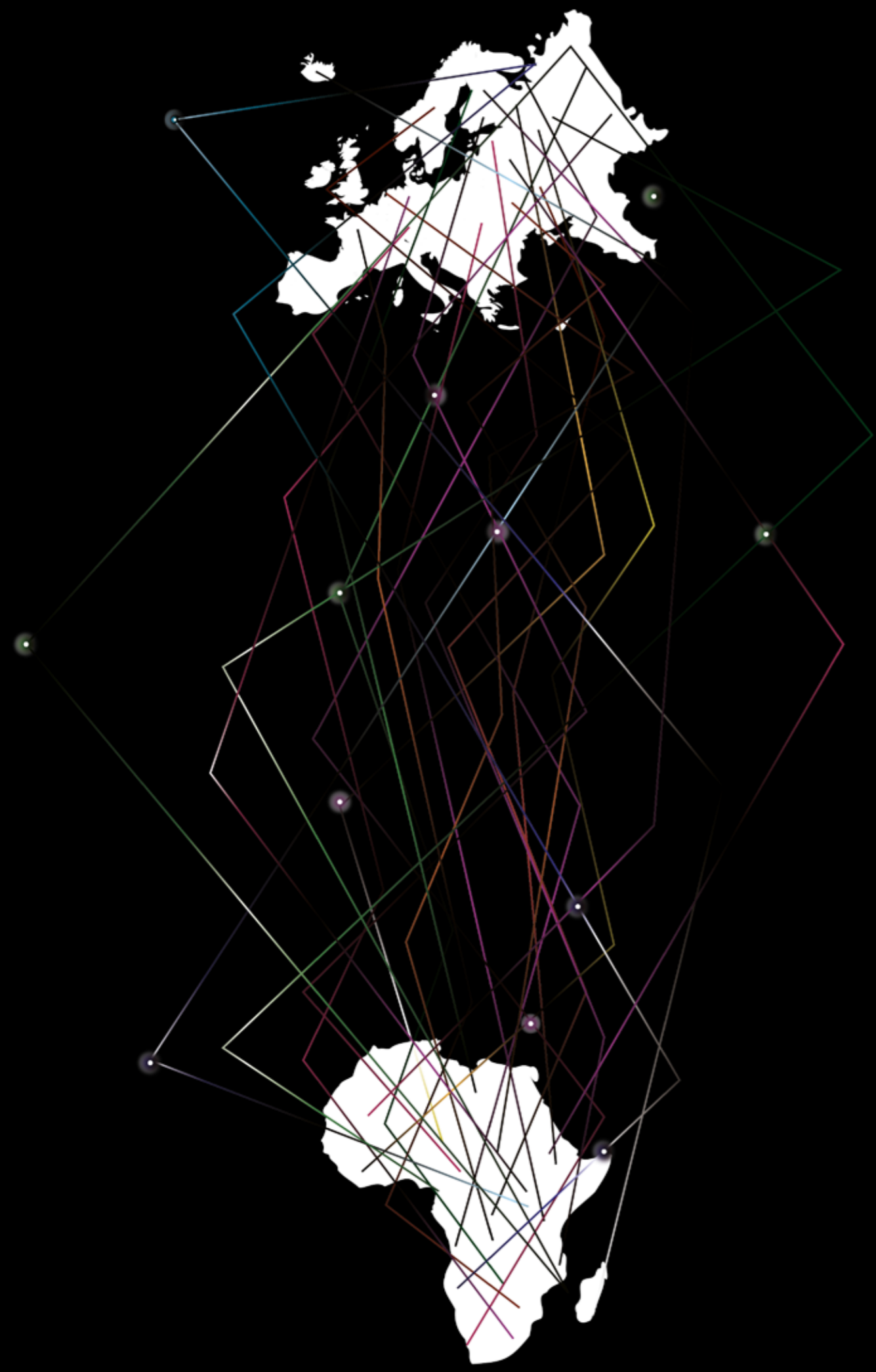
In 2021, European Commission President Ursula von der Leyen acknowledged the importance of this challenge and took decisive action by launching the EU's Global Gateway.

This ambitious investment plan represents a substantial European commitment aimed at countering China's Belt and Road Initiative. Through the Global Gateway initiative, the EU has pledged to allocate €300 billion, a significant sum, for the 2021-2027 period to support development and cooperation efforts across the globe. Furthermore, through a new Team Europe strategy, which involves the collaboration of the EU, its member states, their implementing agencies, and public development banks, the EU aims to bolster its global influence by directing increased investments towards infrastructure projects in developing nations, African countries included.

This approach also seeks to promote the establishment of more inclusive societies and focus on key areas, such as education and skills development. In this context, sub-Saharan Africa emerges as a crucial testing ground for realizing these renewed EU ambitions, for instance by advancing infrastructure development, and ensuring that a more significant portion of the African population can actively participate in the digital economy by, for example, ensuring more access to opportunities and resources for African people who are currently excluded from the benefits of digitalization. In practical terms, the Global Gateway could mobilize more resources to address African digital needs as a whole and concretely improve inclusive digitalization of African societies.

Nevertheless, as of today, the EU has given precedence to approximately 70 to 87 projects within the Global Gateway framework, and a significant portion of these projects relies on conventional EU financial aid mechanisms, predominantly concentrating on physical infrastructure initiatives.<sup>3,4</sup> Consequently, the complete scope of the Global Gateway and its far-reaching consequences has yet to be realized. Notably, the development of infrastructure within the Global Gateway has not yet been merged with education and skills development, particularly in African countries.

It could be argued that the Global Gateway's scope extends far beyond the dichotomy between physical infrastructure and digital educational opportunities and that it is unrealistic to demonstrate comprehensive impacts of a new and massive program initiated just a few years ago. While these assertions may be true to some extent, it is vital to emphasize that, within the specific context of sub-Saharan Africa, a strong focus on digital education and skills development is absolutely crucial, particularly if one considers the specific trends of the workforce and the job market in the region and the specific digital needs at the local and national level.



For instance, African countries have more than 480 million mobile digital money accounts, which is constantly increasing.<sup>5</sup> The World Bank has projected that just a small 10% increase in digital infrastructure could lead to a 1% growth in Africa's overall economy and increase the work opportunities for millions of people.<sup>6</sup> As a consequence, in sub-Saharan Africa, the next decade will see over 230 million jobs requiring digital skills and this will lead to incredible changes in the job market and job creation trends.<sup>7</sup> As a result, individuals who will not have access to digital skills training and job opportunities, particularly women and people living in rural areas, will likely remain excluded from trends and career paths that could substantially reduce their poverty.

Moreover, it is worth noting that although digital education is pivotal for Africa's inclusive economic development for broad segments of the African population, there is no sufficient data on the deficit of digital skills in the region to properly formulate effective and long-term policy-driven solutions. In particular, for many African countries, there is very limited statistical data on the use of the internet, digital skills opportunities and digital literacy. Therefore, policymakers can rely only on partial or aggregated data from international organizations and large NGOs. Furthermore, the absence of quality data has negative consequences in terms of coherent policy development.<sup>8</sup> Even African countries that have a relatively robust digital ecosystem, such as Kenya or Ghana, have limited policy strategies and plans for digital growth. Hence, their digital strategies often remain vague or lack clear direction.<sup>9</sup>

For the EU and its Global Gateway, the absence of such data poses additional risks. The infrastructure and projects established through the Global Gateway might not produce the desired long-term benefits that European policymakers aspire to achieve, particularly in fostering sustainable economic growth in Africa. For example, certain groups could remain excluded from utilizing the infrastructure developed through EU initiatives due to a lack of local skill development opportunities and specific data on their particular needs. On the other hand, enhancing connectivity in a particular African country might not necessarily translate into inclusive economic growth at the regional level. This issue presents a significant challenge to the global aspirations of the EU, its goal to remain Africa's main trade partner and the objectives of the Global Gateway initiative as a whole. There is a risk that the EU may allocate considerable resources without realizing significant returns in local economic development and democratic consolidation and be unable to achieve inclusive social changes associated with the creation of a modern digital society.

Yet, the EU holds the potential to play a pivotal role in addressing the digital skills gap in Africa. However, achieving this goal necessitates the implementation of concrete and targeted actions in three different but related fields.

### 1. MAKE DIGITAL SKILLS A CORE COMPONENT OF THE GLOBAL GATEWAY

The Global Gateway has been characterized as a transformative action showing how the EU, member states, and private-sector participants can collaborate beyond the EU's borders. Yet, at the moment the major focus of the Global Gateway initiative is still on hard infrastructure and, for the digital sector in Africa, on the area of connectivity.<sup>10</sup> The real turning point for the Global Gateway could emerge if there is a solid investment ecosystem between the EU and partner countries in critical areas for global economic development. But in Africa, this appears to be extremely difficult, primarily due to the fact that millions of Africans still lack the digital education and digital skills required to participate actively in such an ecosystem.

If the EU aims for the Global Gateway to have a transformative impact in Africa, the inclusion of digital skills support must become a fundamental component of this initiative and create more and better opportunities for Africans to benefit from the positive aspects of technology. Without it, the Global Gateway is doomed to failure.

### 2. COLLECT MORE AND BETTER DATA ON DIGITAL EDUCATION

As previously outlined, the scarcity of data regarding digitalization trends and skill development opportunities in Africa remains a significant challenge. Particularly, the understanding of trends concerning gender inclusion and rural development is notably very limited and therefore EU policy-driven initiatives might have limited impacts. As digitalization advances in Africa, and the current and future trends of its digital workforce depend on the ability to collect and analyze this data, it becomes crucial for the EU to play a more active role in supporting data collection efforts in Africa. This means supporting local statistical agencies and bodies, African Regional Economic Communities (RECs) and NGOs in improving their capacity to collect and process data.

Moreover, the private sector and large European companies could find it in their business interest to support the collection of such data, particularly in countries where they are already operating. For instance, European telecom groups or software firms might be particularly motivated to collect data and establish private-public partnerships with the EU and its affiliated organizations for development and cooperation for specific countries.

Furthermore, the EU possesses substantial expertise in data collection related to digitalization and skills development. Entities such as Eurostat, EU member state agencies and EU agencies are well positioned to provide significant support to their African and international counterparts in improving data collection and sharing best practices.

### 3. INVOLVE HIGHER EDUCATION INSTITUTIONS IN TEAM EUROPE

It is no surprise that European higher education institutions and universities are known for their high standards of education and research and the capacity to attract students and facilitate mobility across the continent. European higher education can be an excellent way to promote digital skills development in Africa, particularly through innovative teaching methods, including digital learning platforms, interactive classrooms, and remote learning.

One way to do so is to better involve European higher education and universities in projects and initiatives such as Team Europe and the D4D hub. By doing so, European higher education institutions can enhance digital learning opportunities in Africa, and ultimately foster skill development, youth empowerment and economic growth across the African continent.

For instance, the EU has strong experience in facilitating university exchange programs, such as those offered by the Erasmus+ program. Thus, expanding opportunities, both online and in person, could be a beneficial approach to promote digital education in Africa and create more and better academic cooperation between African universities and their European counterparts.

Given the significant importance of digital development for Africa's future, it is in the best interest of Brussels to actively promote high-level cooperation in the area of skills development. Specifically, establishing robust digital partnerships with aligned African universities could contribute to building greater global confidence in democratic principles, Western actors, European technologies and open and transparent policy frameworks. This approach would help prevent investment duplication, enhance the dispersion of international aid and better support Africans interested in gaining improved digital skills.



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## USING TECHNOLOGY TO BRING “HIDDEN WORKERS” TO LIGHT

BY AMIR MAGDY KAMEL

Official measures of employment, tax and GDP overlook informal, undocumented and shadow economy workers. These include those who fall short of the threshold to be considered employed, such as gig workers; those who are willing but unable to find work; and those who volunteer.<sup>1</sup> Despite being left out of official metrics, these “hidden workers” contribute to the functioning of the broader economy in sectors such as construction, agriculture, caregiving, and hospitality. Demographically speaking, hidden workers range from veterans and refugees to those with disabilities, those who were previously incarcerated, or those who lack specific technology skills. Various economic and political barriers impede these workers from integrating into the conventional workforce, hampering national and individual productivity. These barriers include a lack of formal identification cards, social and legal protections, susceptibility to discrimination, and an inability to gain access to something as basic as a bank account, insurance, or social security. This is often coupled with political complexities that come with forced displacement, such as missing documents, non-transferrable national qualifications, or a rejectionist sentiment held by host societies. The transformative potential of technology, including artificial intelligence (AI), blockchain, and data analytics systems, can be harnessed to dismantle these barriers for the good of the worker and the economy. These barriers are further exacerbated by COVID-19 virus suppression measures, as differences in immigration restrictions, social distancing and vaccination requirements persist at the local, national and international level. In the U.S. context, partisanship determines behavior and attitudes towards COVID-19,<sup>2</sup> while sentiments of feeling disadvantaged in the southern and eastern European states hampers EU efforts to suppress the virus.<sup>3</sup> And on a global level, the director of the World Health Organization notes how the politicization of COVID-19 by leaders and policymakers exacerbates the negative consequences of the pandemic.<sup>4</sup> While these issues relate to health concerns, the politicization risks have spread into public policymaking more widely. Technology interventions have the potential to assuage such sentiments of distrust and inequality felt by hidden workers in public policy by easing the formal recognition of qualifications and providing vital financial services, all within a protected legal framework.

### HIDDEN WORKERS COMPRISE A LARGE WORKFORCE

Informal workers who are not captured in official statistics account for 20% of the EU’s economy and 15% of the U.S. economy (rising to a third of the world economy).<sup>5</sup> More widely, 60% of the population and 80% of business enterprises

engage in informal activities on a global scale.<sup>6</sup> In addition, gig workers amount to 55 million people in the U.S. alone,<sup>7</sup> all of whom risk job insecurity, legal uncertainty and exploitation. Hidden workers are mostly found in the construction, agriculture and hospitality sectors where harsh conditions and their marginalized status make them more vulnerable to injury, discrimination and pay discrepancies.<sup>8</sup> Women are 8.5% more likely to work outside of formal sectors,<sup>9</sup> while minorities and young people make up the largest share of hidden workers, owing to a need for flexibility, their undocumented status and relative inexperience. As a consequence, policies should be pursued that make use of technological advances to ensure that the financial needs, official documents and legal protections are recognized and in place for hidden workers. At the same time, policies should ensure that these segments of society are not further disadvantaged. This will allow employers, and the wider economy, to integrate hidden workers into the workplace, which will result in increased productivity.

### POLICY RECOMMENDATIONS

There are several ways technology could be useful in aiding hidden workers. The development of digital identification platforms can support the establishment of a digital public service database for all workers. In turn, this can ensure the immigration status of users is protected on a secure platform. These goals can be pursued using blockchain-based systems to certify authenticity, similar to the national system tested in Malta to verify education certificates, which ensures users – like refugees – are able to present their validated qualifications in a secure manner when fleeing conflict and destruction.<sup>10</sup> Elsewhere, a digital system for health records was set up during the pandemic in Singapore with a focus on ensuring that an individual’s COVID-19 status is securely recorded.<sup>11</sup> Analogously, Oman uses a digital system to protect against identify fraud,<sup>12</sup> and the European Digital Identity platform was set up to provide online and offline public and private services across the EU.<sup>13</sup> While these and other technological advancements have the potential to benefit both hidden workers and wider economic output, four technologies present the lowest hanging fruit to enable rapid change:

### **INTEGRATE FINANCIAL INCLUSION SYSTEMS TO ENABLE HIDDEN WORKERS TO ACCESS BANKING SERVICES**

Blockchain-based digital wallets and mobile banking have the potential to “bank” the “unbanked”. In the broader context, mobile banking through existing systems is estimated to be worth \$1.82 billion by 2026,<sup>14</sup> with a survey showing 97% of

millennials, 91% of Gen X, and 79% of the preceding Baby Boomer generation using this service.<sup>15</sup> Furthermore, the decentralized nature of a blockchain-based system would appeal to those who are weary or critical of public policymakers and the estimated 1.7 billion people in the world who remain under- or unbanked.<sup>16</sup> A key to this recommendation is ensuring the U.S. and EU technology regulation is aligned to ensure efficiency. This, along with the integration of blockchain-based systems can help minimize the politicization of criticisms and concerns.

#### **IMPROVE ACCESS TO TECHNOLOGY-POWERED EDUCATION AND TRAINING**

AI programs can be used to identify and tailor training to upskill and reskill workers to maximize their employment potential.<sup>17</sup> These can complement education providers to ensure “soft skills” are not lost. This also has wider applicability for both hidden workers and non-hidden workers to ensure skills adapt to industry needs. In addition, this will ensure education provision matches job vacancies, something that is proven to be a proven powerful minimizer of informality.<sup>18</sup>

#### **DATA ANALYTICS SKILL MATCHING**

By combining big data analysis with AI software, policy makers can enable efficient and skill-specific job matching to integrate hidden workers into the conventional economy.<sup>19</sup> This movement is already underway, with the shift in emphasis from jobs to skills repeatedly highlighted,<sup>20</sup> and so deploying this technology to improve the jobs to skills matchmaking will help achieve this broader policy shift. To do so, policymakers can make use of AI systems to identify industry and job needs as opposed to reacting to them through regulation, concerns or institutional resistance.<sup>21</sup> This can be accomplished by bringing together national teams made up of industry and government representatives dedicated to the design, implementation and monitoring of these policy proposals to harness and build expertise, ensure accountability and adjust to industry needs. Such a task force will enable the most informed and attuned policy formulation processes.

#### **IMPLEMENT THE USE OF SMART CONTRACTS TO PROTECT HIDDEN WORKERS**

Once workers are employed, the blockchain-based smart contract infrastructure has the benefit of being secure, transparent, and traceable, thus minimizing political and logistical barriers. Furthermore, this system has the ability to improve assurance and reduce fraud risks when deployed in cases where the broader governance infrastructure is designed in a complementary manner.<sup>22</sup> In other words, the legal and infrastructural aspects that are necessary for the functioning of this technology need to be designed in a way that ensures interoperability between the technological system and the law. In addition, smart contracts can be designed to adapt to

the changing marketplace – an important and integral aspect when considering the future of work. These systems can help avoid inadvertently incentivizing bad actors through loopholes that circumvent the intent of these systems, unequal access levels that favor those less fortunate, or laddered rewards that benefit elites. To do so, these technological systems should be designed after a thorough stakeholder consultation and testing program, along with a plan to adapt to the evolving operating environment. The use of such technological systems should come with legal protections for historically (and potentially new) disadvantaged users from the very outset. In turn, this will help close existing abusive labor market practices that have reinforced glass ceilings and maintained inequality.

More generally, these recommendations can be accentuated by increasing the policy cycle. In other words, hasten the calls for evidence, testing, and implementation stages that predicate policy understanding and formulation – something that is lagging in the U.S. and EU compared to other parts of the world. Indeed, this lag can be observed through China’s notable leading agenda and norm-setting approach to technology. Here, Beijing is forging ahead through its very own blockchain-based service network and the digital yuan with its Digital Currency Electronic Payment or DCEP platform.<sup>23</sup> Importantly, these technological interventions can be used for hidden workers to participate in the formal economy in a manner that requires minimal to no technological literacy. This ensures that disadvantages and inequalities that are baked into the current system are not exacerbated further. Together, these technological tools can integrate and empower hidden workers to the benefit of broader society.

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## UNLOCKING THIRD-COUNTRY NATIONALS' FULL POTENTIAL TO FEED IN THE EU FUTURE OF WORK

BY CÉLINE CHATEAU

In her 2022 State of the Union address, European Commission President Ursula von der Leyen announced that 2023 would be the European Year of Skills. She listed several measures needed to counter shortfalls in the workforce and stressed the need to attract workers with the right skills to help companies and strengthen Europe's growth. As a first important step, she recognized the "need to speed up and facilitate the recognition of qualifications also of third-country nationals",<sup>1,2</sup> to make Europe more attractive for skilled workers. Indeed, as its economy faces new environmental and technological challenges, and as its population ages,<sup>3</sup> the EU should attract more third-country nationals<sup>4</sup> who can help fill skills shortages and respond to the "new world of work".<sup>5</sup>

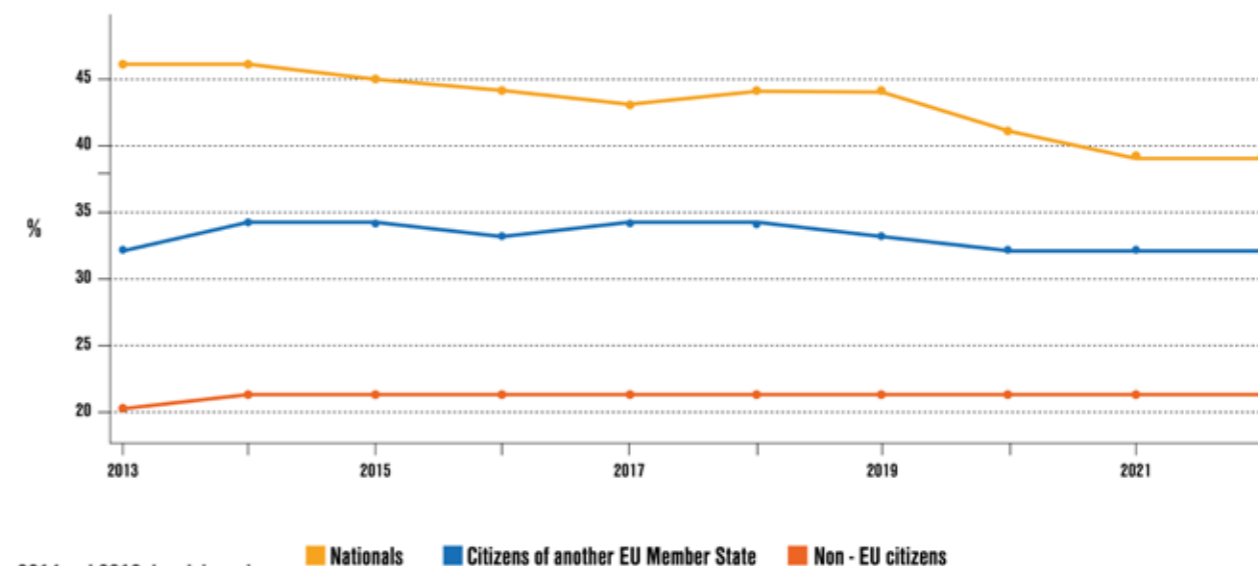
Although incomplete and somewhat patchy, EU common immigration policy,<sup>6</sup> which has developed since the early 2000s based on competences shared with the member states, still achieved harmonized conditions, procedures and rights for third-country nationals. The policy, in particular, simplified some administrative procedures, increased legal certainty and predictability, and improved the recognition of rights across the EU for "equal treatment" of third-country workers.<sup>7</sup> However, so far, no harmonized binding rules have been set in place to recognize qualifications and skills of immigrant workers.

A distinction should be made here between professional and academic qualifications, as well as skills, whether formal or informal, which are often addressed jointly. The recognition of academic qualifications, which operates around the acquired learning outcomes, is now established within the EU.<sup>8</sup> The

European Council recently reaffirmed its commitment to "further steps to make automatic mutual recognition in education and training a reality".<sup>9</sup> The practical transparency tools developed in this framework,<sup>10</sup> as well as tools for skills assessments, are not directed to qualifications acquired outside the EU but could be extended to those, and fully include third-country nationals, like the EU Skills Profile Tool for Third Country Nationals<sup>11</sup> or what was recently done for Ukrainians fleeing war (see below.) On the contrary, third-country nationals are generally excluded from the scope of the 2005 Directive that established a system for recognition of professional qualifications.<sup>12</sup> The logic here is to look into the professional status in the country of origin and the rights this status opened there. Member states developed their own systems,<sup>13</sup> generally involving a multiplicity of actors, making the steps difficult to understand and to use by third-country nationals and employers.

Within the current sharing of competences between the EU and member states, the EU could provide common standards, thus facilitating mobility of third-country nationals and easing their integration.<sup>14</sup> Indeed, in the absence of a harmonized and clear system of recognition of skills and qualifications of third-country nationals in the EU, hence of mutual recognition among member states, non-EU citizens are generally not entitled to "free movement"<sup>15</sup> within the bloc. This limits their employability on EU territory. Procedures for recognition can be lengthy and cumbersome, leading employers to hesitate making employment offers to third-country nationals and instead preferring to hire EU citizens.

Over-qualification rate for persons aged 20-64 years, analysed by citizenship, EU, 2013 - 2022



2014 and 2012: break in series

Source: Eurostat ( online data code: ifsa\_eoqan)



Third-country workers are more often overqualified for their employment than their EU counterparts are. Eurostat, the official EU data collector and analyzer, defines overqualified employed people as “persons with a tertiary level of educational attainment working in low- or medium-skilled occupations”. This is commonly referred to as a “vertical” skills mismatch. Eurostat indicators of integration show that tertiary-educated persons who are foreign-born or foreign citizens appear to have a less positive employment situation, and their formal qualifications are more likely to be not—or not fully—used in the labor market. In 2022 in EU member states, the average over-qualification rate of non-EU-born immigrants aged 20 to 64 was around 40%,<sup>16</sup> while the corresponding figures for natives and EU-born workers were, respectively, just above 20% and 30%.

Underemployment and over-qualification might result from several factors.<sup>17</sup> There is insufficient data to fully assess the impact of the lack of recognition of foreign qualifications. However, statistical evidence of the positive impact of recognition of foreign qualifications for migrant employability has been collected.<sup>18</sup> Difficulties that immigrants face having their qualifications and skills recognized are widely identified<sup>19</sup> and negatively affect their access to the labor market.<sup>20</sup> Moreover, there is a wide gap between the legal provisions in place and their implementation in most member states.<sup>21</sup>

The matter goes beyond economic considerations around skills mismatch or individual “brain-waste”.<sup>22</sup> Eventually, better integration and consideration of migrants is a question of survival for the EU and its “way of life”. Increasingly polarized societies and political debates put social cohesion at risk. In many countries, immigration is a contentious topic although it contributes to the wealth of countries of destination. Studies show that migrants contribute more to their host societies’ economies via spending and taxes than they benefit<sup>23</sup> and, although more difficult to measure, to the society and culture at large.<sup>24</sup> The contribution of immigrants was particularly evident during the COVID-19 period, as migrant workers are more represented in low- and medium-skilled-jobs that were “front-liners” during the pandemic.<sup>25</sup> Migration in itself is a source of dynamism, with migrants being overrepresented in innovation and patents, arts and sciences awards, startups and successful companies.<sup>26</sup> It is, therefore, in the interest of the host society and of the migrants themselves to help unleash migrants’ full potential.<sup>27</sup>

Recently, EU efforts and recommendations were particularly directed at easing recognition of skills and qualifications of Ukrainians,<sup>28</sup> with specific tools<sup>29</sup> and a set of recommendations issued by the European Commission shortly after the Russian invasion.<sup>30</sup> While recognition of qualifications and skills of all other third-country nationals moving to the EU, in particular those who are not entitled to international protection, mainly remains left to the discretion of national systems (or the absence

thereof), lessons can be learned from this “Ukrainians-only” policy development.<sup>31</sup> The European Commission published its first feedback, which shows that in spite of significant variations of implementation, member states “have made significant strides in facilitating the integration of Ukrainian professionals”, especially in the fields of health and teaching.<sup>32</sup> EU tools used to facilitate integration were also evaluated positively.

The main lesson of the experience with Ukrainians may be that recognition mechanisms can be swiftly set in place to ease integration in the labor market when the political will to do so exists. That has left stakeholders, including businesses, raising the question: Why not set up a system to extend similar measures to other third-country nationals?<sup>33</sup>

## POLICY RECOMMENDATIONS

### FOR EU MEMBER STATES:

Qualifications acquired in non-EU countries need to be recognized faster and more easily, for all categories of migrants including undocumented workers:

- Procedures for recognizing qualifications should be quick, fair, transparent and affordable.
- Assessment of migrants’ skills should also be more effective and faster, upskilling and reskilling training should be continuously supported, including through validation procedures for non-formal and informal learning.<sup>34</sup>
- Fragmentation of the responsibility for assessing and recognizing qualifications and competences is to be avoided. “One-stop shops” or single “contact points” concentrating all services involved are recommended. Coordination among all authorities involved is necessary.
- Early recognition of foreign qualifications is key, whether through pre-departure assessments or programs for migrants upon arrival in the EU.<sup>35</sup>

### FOR EU MEMBER STATES AND EU INSTITUTIONS:

Easier conditions such as those offered to Ukrainians, the sole beneficiaries of the Temporary Protection Directive,<sup>36</sup> for the recognition of their qualifications and for accessing the labor market, should be extended to all third-country nationals legally residing in the EU, for the benefit of all and to ensure equal treatment before the law.

### FOR EU INSTITUTIONS:

To date,<sup>37</sup> the European Commission has not fully responded to the European Parliament call for “the creation of a framework for validation and recognition of the skills and qualifications of third-country nationals, including vocational training, based on objective and uniform criteria, to facilitate their early integration into the labour market.”<sup>38</sup> The Commission just

published recommendations on recognizing third-country qualifications in a “Skills and Talent Mobility” package<sup>39</sup> that also includes a legislative proposal for an EU “Talent Pool”. The latter could be a way to facilitate use of migrants’ skills and qualifications by better matching non-EU workers and EU employers.<sup>40</sup> As for the former, the recommendations take inspiration from a 2005 directive<sup>41</sup> that sets out the system of recognition of professional qualifications in the EU and draws on experience with the implementation of the April 2022 Commission recommendation on facilitating the recognition of qualifications for people fleeing Russia’s war of aggression against Ukraine. However, the legal form of the instrument, i.e., non-binding Commission recommendations, leaves the matter to the discretion of member states. Moreover, the Commission’s timing for publication left too little time for any new legislative initiative to be adopted before the end of the current EU parliamentary mandate. Recommendations could still be useful if intended as a first step towards binding proposals in the next legislature, which will be elected in June 2024.

### AMONG THE POSSIBLE SOLUTIONS:

- A common system for the recognition of skills of third-country nationals in the EU should be adopted with common standards and procedures. A legally sound path to this would be extending the scope of Directive 2005/36EC to include third-country nationals and creating a unified and harmonized system for the recognition of third-country qualifications.<sup>42</sup>
- The EU legal migration framework should be revised to enhance rights to intra-EU mobility for third-country nationals and to achieve full equal treatment for third-country nationals residing and working in the EU.

- A common system for recognizing qualifications should not be seen in isolation but as part of labor migration instruments, such as the Single Permit Directive, which is being recast to impose simplified and faster procedures for work permits.<sup>43</sup>
- Welcoming more third-country students can also be a way for migrants to obtain the skills and qualifications needed in EU labor markets.
- Skills mobility partnerships with third countries are another means<sup>44</sup> by which EU countries may finance the training of potential migrants in their country of origin and provide them with entry upon certification. So far, however, experiments in the field of labor migration partnerships are limited in number and reproducibility.<sup>45</sup>

### FOR ALL LEVELS OF POLICYMAKING (EU, NATIONAL, REGIONAL, LOCAL):

Better use of foreigners’ competences by facilitating their recognition would help establish a more positive narrative and depoliticize the conversation about migration. Such a narrative is sorely needed given the facts and figures about migrants’ contributions to societies as a whole and economies in particular. It could also enhance efforts to adapt work to an increasingly digital and green environment.

*The opinions expressed in this document are the sole responsibility of the author and do not represent an official position of the European Parliament.*

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## PUTTING IMMIGRANT-ORIGIN WORKERS AT THE CENTER OF THE FUTURE OF WORK DISCUSSION IN THE UNITED STATES

BY JEANNE BATALOVA

### GROWING PROMINENCE OF IMMIGRANT-ORIGIN ADULTS IN THE U.S. LABOR MARKET

Prior to the COVID-19 pandemic, two themes dominated the discussions about the future of work in the United States. One focused on the impact of an aging population, declining birthrates and falling labor force participation of white men on the slow growth of the workforce. The other concerned the impact of technological advancements such as automation, robotics and digitization.<sup>1</sup> The pandemic accelerated the underlying demographic dynamics (e.g., by prompting early retirement) and technological developments (e.g., by expanding remote work and adoption of generative artificial intelligence (AI) in the workplace). These changes helped to usher in an era of significant workplace transitions across sectors and across skill levels. McKinsey estimated that up to 25% more workers than initially thought in advanced economies may need to switch occupations by 2030.<sup>2</sup>

Both the pre- and post-pandemic conversations about the future of work have largely overlooked another important force shaping the U.S. labor markets: immigration. In 2022, close to 88 million immigrants and their U.S.-born children (referred to here as the immigrant-origin population) resided in the country, accounting for 27% of all U.S. residents.<sup>3</sup> This population already drives growth in college enrollment and the workforce across the nation. Students from immigrant families accounted for almost 80% of the increase in U.S. college enrollment between 2000 and 2022.<sup>4</sup> They also made up 27% of the U.S. workforce in 2022. In large immigrant destination states, such as California, New Jersey and New York, that share is in the range of 40% to 50%.<sup>5</sup> According to U.S. projections, the immigrant-origin population will be the sole source of net growth in the U.S. working-age population over the next decade.<sup>6</sup>

Because nearly half of immigrant-origin persons have been born, raised and educated in the U.S. their outcomes are viewed as an additional “benchmark” for successful immigrant integration policy.<sup>7</sup> Additionally, because almost four in five of these individuals are racial and ethnic minorities (i.e., Latinos, Asian American and Pacific Islanders, or African American) their educational and economic success represents not only successful immigrant integration but also progress towards racial equity.<sup>8</sup>

How to tap this demographically large, diverse and growing group to make migration as beneficial as possible for both the U.S. economy and immigrant families? The U.S. needs to

help them develop or improve the workplace and language skills necessary for success in the changing labor market and remove barriers to their full economic participation. Bringing immigrant-origin adults into the conversation about the future of work is important for understanding how to boost their economic contributions going forward.

### VIEWING THE IMMIGRANT-ORIGIN POPULATION AS A U.S. TALENT POOL: POLICY RECOMMENDATIONS

The post-pandemic labor market is changing rapidly. This is driven by demographic dynamics; disruptive technology like ChatGPT; new and significant investments into a green economy, semiconductor industry and infrastructure development; and new global challenges such as the rise in cybersecurity threats. The mix of available jobs, and skills needed to perform them, is also changing.<sup>9</sup> This is making it more urgent to equip workers with skills, credentials and work experience to prepare for the changes ahead. These competencies must go beyond high school education, given that the most recent U.S. occupational projections show that 72% of U.S. jobs will require postsecondary education or training.<sup>10</sup>

The demographically important immigrant-origin population has a diverse set of skills that can be tapped. While many immigrant-origin workers are well positioned to navigate the changing labor market, others may fall behind. Research shows that workers with higher levels of education were in a better position to navigate the pandemic-related recession. For instance, they were able to switch to teleworking with little interruption or could move across industries doing essentially the same type of work.<sup>11</sup> However, nearly half of immigrant-origin adults lack a quality postsecondary credential beyond a high school education, with shares higher among workers who are racial and ethnic minorities, women, and employed in low-skilled jobs. Policymakers, practitioners in both higher education and workforce development, and employers should consider the unique barriers and opportunities of several target groups:<sup>12</sup>

- **IMMIGRANT WORKERS WITH LIMITED ENGLISH PROFICIENCY** More than 28.7 million immigrants were engaged in the civilian labor force across different sectors and different skill levels in 2021. Of them, 43% had limited proficiency in English.<sup>13</sup> Research shows the importance of English proficiency and literacy in shaping immigrants’ economic outcomes such as wages and occupational status.<sup>14</sup> Instruction to improve English proficiency in the workplace context (i.e., by combining



technical and academic instruction with English learning) have been shown to be particularly beneficial to immigrant workers, not only from the point of view of getting a job, but also enabling workers to move up the career ladder.<sup>15</sup>

• **UNDEREMPLOYED COLLEGE-EDUCATED IMMIGRANTS** More than 2 million, or one in five, immigrant college graduates are either unemployed or work in jobs requiring no more than a high school education due to limited English proficiency, lack of professional networks, poor recognition of international credentials and other barriers.<sup>16</sup> Immigrant professionals who experience difficulties restarting their careers once they arrive in the U.S. would benefit from career counseling and access to additional training to close educational and language gaps.<sup>17</sup> At the same time, rethinking licensing laws could be a critical step in recognizing internationally earned credentials and skills—an issue that already has been addressed by numerous promising models developed at the state level across the U.S.<sup>18</sup> The time is right to focus on this population given that 47% of immigrants who entered the U.S. between 2017 and 2021 had a bachelor’s degree or more (compared to 35% of U.S.-born adults).<sup>19</sup> The U.S. is not the only country facing “brain waste” or skill underutilization of its newcomers. In fact, better and faster recognition of qualifications of third-country nationals in the EU has been a key priority identified by the European Commission in its “European Year of Skills” agenda.<sup>20</sup>

• **IMMIGRANT-ORIGIN STUDENTS IN SECONDARY AND POSTSECONDARY EDUCATION** As of 2022, 6.1 million immigrant-origin students were enrolled in colleges and universities. Addressing universal barriers to college completion such as financial instability, competing family and work pressures, and mental health as well as immigrant specific barriers, such as legal status for immigrant students, would help to ensure that both private and public investment being made in their education bear results. An additional 6.1 million immigrant-origin youth (aged 14-18) were in high school as of 2022. While many will be graduating from high school in the coming years, their postsecondary enrollment and graduation prospects may be at risk because of pandemic related learning gaps as well as other barriers such as the rising cost of college education; lack of information about market-valuable credentials; and immigration-related barriers such as lack of legal status or having a family member facing deportation from the U.S.<sup>21</sup>

• **IMMIGRANT-ORIGIN ADULTS WITHOUT A POSTSECONDARY CREDENTIAL** More than 29 million immigrant-origin adults (aged 16-64) had no postsecondary credential, representing roughly 31% of all U.S. adults without such a credential in 2022.<sup>22</sup> Some of these adults would need to obtain a high school education first. These adults face multiple barriers to credential attainment, including lack of basic skills such as literacy, numeracy and digital skills; limited English proficiency; and financial pressures.<sup>23</sup> Similar to other groups discussed above, not having a stable legal status is a major obstacle for

many immigrant adults without a postsecondary credential. Their ability to pursue postsecondary credentials will depend on decisions by federal and state governments regarding immigrants’ rights to remain in the country and the unique barriers they face to postsecondary education and job skills training.

While investing in the success of these target groups should be a no-brainer, making such investments is not straightforward in the current political environment in the U.S., which is characterized by a long-standing impasse in Congress over border, asylum and other immigration policies. In addition, there is growing anti-immigrant rhetoric in the national debate and some states, and increasingly difficult conversations about the state and local governments’ high costs of hosting new arrivals.<sup>24</sup> Policymakers who wish to advance smart immigrant integration policies that support long-term economic growth and prosperity of all community members could turn to the lessons learned from the U.S.’s long history of often welcoming immigrants.

Both U.S. research<sup>25</sup> and comparative international work<sup>26</sup> find that immigrants and their U.S.-born children, motivated by the promise of the “American Dream”, have made major strides in linguistic, economic, educational, social and political integration. In the process, they have also made significant social and economic contributions to the U.S. Immigrants and their children are among prominent figures in various fields, including tech pioneers such as Sergey Brin of Google, business leaders such as Hamdi Ulukaya of yogurt company Chobani, Hollywood icons such as “Casablanca” director Michael Curtiz and influential political leaders such as Madeleine Albright. History has repeatedly shown that the U.S. has greatly benefited from investing in its “Immigrant Dream”.<sup>27</sup>

Building on these historical lessons, ensuring access to the needed credentials and promoting the idea of continuing learning among immigrant-origin workers and students should be pillars of both labor and immigrant integration policy. Such a commitment holds the promise of bettering lives of the 88 million immigrant-origin individuals in the U.S., but also of reducing projected labor and skills gaps in sectors such as healthcare, education, advanced manufacturing and computer design services. More broadly, given uncertainty about the impact of technology on the workplace, immigrant-origin and other workers need to have genuine opportunities to continue learning new skills so that they are able to adapt nimbly to the changing workplace environment and offer competencies that match employers’ evolving needs.

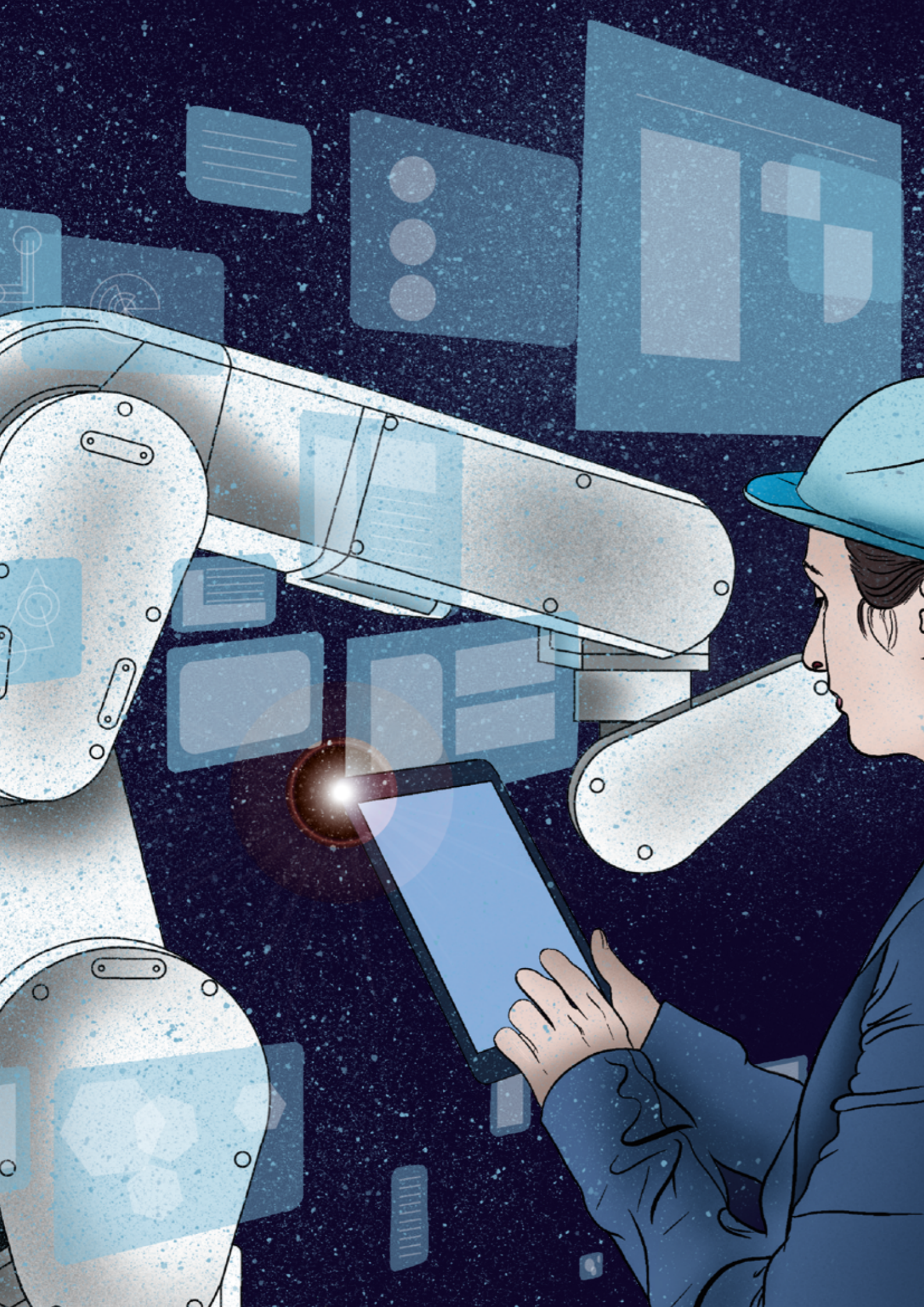
*The opinions expressed in this article are the author’s own and do not necessarily reflect the views of the Migration Policy Institute.*

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## ADDRESSING THE GLOBAL DIGITAL SKILLS GAP—U.S. AND EU MEMBER STATE PERSPECTIVES

BY LEIGHTON JOHNSON

Global labor markets face massive skill gaps and labor shortages that continue to grow with the onset of technological change and digital adoption. Given existing disconnects among skills development, workforce programs and postsecondary credentialing initiatives, the skills gaps will continue to widen. In their 2019 report “Automation and Artificial Intelligence: How machines are affecting people and places”, Brookings Institution researchers reported that automation and artificial intelligence (AI) will affect 61% of U.S. employment, with 88 million jobs facing medium to high exposure to automation the near future.<sup>1</sup> The European Parliament, for its part, has commissioned numerous studies in recent years to identify specific measures that may address the future of work in Europe. One study called for the “urgent need for digital upskilling of workers in older age groups” to help address basic skill shortages within the labor market.<sup>2</sup> To address these gaps, economies, such as the U.S.’s and the EU’s must aggressively adopt innovative practices and policies to better align education, training and postsecondary credentialing with impending economic and technological shifts. This essay focuses on recommendations for the U.S. to adopt such digital infrastructure policies and relevant government regulation, and for EU member states to mirror U.S. industry and employer engagement policies and practices that focus on technology and digital skills. Together, the transatlantic community should exchange ideas for innovative practices and policies to strengthen workforces through reskilling and improved credentialing.

### COMMON GLOBAL CHALLENGES

Over the past decade, numerous U.S. public-private organizations have touted European vocational and education training models as the “gold standard” for workforce development and advocated for similar model designs at home. One such policy perspective highlighted by a globally recognized education research institute, the National Center on Education and the Economy found that 30% to 70% of students in upper secondary school in Austria, Denmark, Germany, Norway and Switzerland participate in dual vocational education and training (VET) that combines in-school and workplace learning.<sup>3</sup> A common misperception in the U.S., however, is that most European countries operate VET optimally. In practice, however, many EU member states do not benefit from the VET models found in, for example, Germany and non-EU Switzerland. The models being facilitated in non-Swiss nation states rely on existing educational systems that do not transition well into VET secondary training models and would require massive system realignments to do such.

Given these realities, it would be a fair viewpoint of many EU nations may be that the VET infrastructure of countries such as Switzerland and Germany are too far advanced in VET integration within the primary and secondary education system for other countries to be able to mirror and adopt their similarly successful systems. In many cases, European Union member states have developed and embraced an EU-wide campaign to reskill their workforce and align training towards digital technologies, branded as the European Year of Skills (2023).<sup>4</sup> Given this instance, the EU should look towards workforce training innovations across countries with comparable economies and similarly nascent VET systems in order to identify potential policy levers to adopt that may be viewed as more easily attainable.<sup>5</sup>

### OPPORTUNITIES - INDUSTRY ENGAGEMENT AND DIGITAL INFRASTRUCTURE POLICY

Key global opportunities have emerged from best practices for workforce training in the U.S. and in other countries. In the U.S., industry engagement within policy development and funding programs have supported the launch and scale of high-impact workforce training initiatives. There are long-standing programs such as regional workforce boards established by federal legislation that manage and facilitate industry involvement within their governance boards and periodic strategic planning. State and federal initiatives support the development of industry sector partnerships and industry-education cooperatives to boost re-skilling programs at state and regional levels. The U.S. by and large has delivered policies and programs that embed industry collaborations at high levels. Within EU member states, shared policy goals in Parliament have largely championed digital infrastructure policies to define, regulate and spur government innovation. Such programs include setting up a system for identification cards and establishing standards for recognition of postsecondary credentials.

### GLOBAL TRENDS – IMPACTS OF TECHNOLOGY CHANGE ON LABOR MARKETS

EU member states such as Denmark, France, Spain and the Netherlands have also been the venues for industrial firm-level studies on the effects of robotic automation. These studies have highlighted the tendency for technology adoption to increase productivity and expand employment, which have enabled robotics-adopting firms to gain a competitive market advantage over non-adopting firms.<sup>6</sup> Economists, policymakers, industry leaders and other key public- and private-sector actors may have varying views of the magnitude



and true effects on occupations of technology change and digital adoption, it is certain that all actors can agree that the future world of work will be marked by constant change and continuing advances in technology in the workplace.

#### **INDUSTRIAL TECHNOLOGY ADOPTION LEADS TO REQUISITE DIGITAL AND TECHNOLOGY SKILLS MIX**

With the rapid expansion of industrial automation, workers' tasks and functions change just as quickly as the technology deployed. The Brookings Institution recently provided updated research on the impact on worker roles by analyzing the rapid "digitalization" of work that has occurred over the last decade. Brookings defines digitalization as "the infusion of digital skills (though not necessarily higher-end software coding) into the texture of almost every job in the economy". Through analysis of unique occupational survey data available from the U.S. Department of Labor occupational information database, O\*NET, the analysis showed that job requirements for relatively similar roles requiring a robust knowledge of computers and electronics rose from 9% of all U.S. occupations in 2002 to 26% in 2020.<sup>7</sup> In short, one in four jobs now require high levels of digitalization.<sup>8,9</sup>

#### **PROMISING SOLUTION – DYNAMIC CREDENTIALING MODELS**

In the past decade, a movement towards postsecondary credential transparency has taken place on a global scale, especially within European Union member states and the U.S. Credential Engine defines credential transparency as ensuring that "essential information about credentials—including their associated skills and competencies—are public, easily accessible, and actionable".<sup>10</sup> A global movement towards this transparency has taken place in the past decade, especially in the EU and the U.S. In France and Germany, a consortium is piloting a large-scale European Digital Identity Wallet that allows postsecondary credentials to be stored in an individual's digital profile. The pilot is expected to launch in 2025 and will test the technical specifications required to scale digital wallets across the EU.<sup>11</sup> Several EU member states, such as Denmark, Germany, Greece, Lithuania and Spain, are piloting the EU Digital Identity Wallet's education certification programs, which provides "proof of possession for education credentials, such as diplomas, degrees, and certificates, making it easier to apply for jobs or further education".<sup>12</sup> The complete consortium related to digital credentials is titled "Digital Credentials for Europe" which involves 80 relevant institutions from 22 countries.<sup>13</sup> In 2021, Spain launched CertiDigital, an inter-university project "aimed at creating a digital credential service for the Spanish University System" that includes pilot programs at more than 20 Spanish universities. One is related to "micro-credentials" and continuing education digital certificates of completion.<sup>14</sup> Through the momentum in countries such as France and Spain, other EU member states are positioned to test and adopt bloc-wide digital credential systems once sufficient technical specifications are determined. The U.S. also has public-private

entities that have championed credential transparency and digital portability, such as the nonprofit Credential Engine. U.S. state and federal governments can draw inspiration from EU Digital Wallet policy initiatives and learn from the EU directives that lead to implementation.

#### **PROMISING SOLUTION – INDUSTRY AND GOVERNMENT PARTNERSHIPS**

U.S. federal policies such as the Workforce Innovation and Opportunity Act (WIOA) require states and local workforce boards to engage in and/or develop industry partnerships. WIOA also authorizes the creation of American Job Centers, coordinated by the U.S. Department of Labor's Employment and Training Administration.<sup>15</sup> Through state and local workforce boards, industry partnerships are established and maintained in coordination with public governmental systems, nonprofit organizations, industry associations and other public-private entities. Examples of strong sectoral partnerships are often highlighted by leading national think tanks, such as the Aspen Institute, which has examined partnerships in Kentucky (KY FAME), the Wisconsin Regional Training Partnerships (WRTP) and several others.<sup>16</sup> In 2012, Toyota Motor Manufacturing, Inc. (TMMI) – a Toyota Manufacturing facility in Princeton, IN that manufactures Toyota vehicles such as the Grand Highlander, Sienna Hybrid and even the Lexus TX – outlined needs for employees with specific skills at the firm that employs approximately 7,500 workers, charged with vehicle production and assembly, as of May 2023, and for Indiana's broader manufacturing workforce. The company developed an Advanced Manufacturing Technician (AMT) training program, which sources talent directly from K-12 schools and places students in a two-year USDOL Registered Apprenticeship programs where the students gain skills in electrical, mechanical, fluid power, fabrication, programmable logic control, and robotics competencies. Serving as an EU example of promising Industry-Government partnerships, the European Battery Alliance launched efforts to expand skills training in Critical Raw Materials Academies to equip the manufacturing workforce with the skills to produce key materials for the Electrical Vehicle industry.<sup>17</sup>

#### **TRANSATLANTIC INNOVATION EXCHANGES**

EU and U.S. labor markets are experiencing similar shifts that require new methods for reskilling their workforces. Public- and private-sector leaders on both sides of the Atlantic would benefit from best-practice exchanges and the sharing of lessons learned from policy initiatives. EU member states are collectively taking innovative strides towards addressing digital infrastructure through policy directives and pilot programs such as the expansion of the European Digital Identity Wallet, while the U.S. continues to showcase itself as a global leader in forging industry-government partnerships to address workforce challenges. Ultimately, a mechanism for transatlantic peer exchanges would fuel innovation and ideas generation to benefit the world economy. Global networking

entities such as the World Economic Forum could serve as forums to convene and catalyze such exchanges.

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*With a background in both state-, and regional-level innovation and economic development, Leighton previously supported digital transformation and technology adoption within Indiana's Manufacturing Readiness Grants Program, in which he directly facilitated 215 industry grants, providing \$24.6M in matching grant funds, that unlocked \$234.4M in total tech-enabled capital equipment investments across the state. As the former Senior Director of a North-Central Indiana regional economic development initiative, he also led the development of key workforce programs such as a regional U.S. Dept. of Labor Registered Apprenticeship program model that developed Robotics Technicians, Industrial Maintenance Mechanics, Programming Technicians and more to prepare regional Advanced Manufacturing firms for impending technology adoption, among several other initiatives created in collaboration with regional workforce, economic development and other higher education partners.*





## DUAL VOCATIONAL TRAINING: A KEY EDUCATIONAL MODEL TO SOLVE THE UNEMPLOYMENT PARADOX IN SPAIN

BY DR. VICENT CLIMENT-FERRANDO

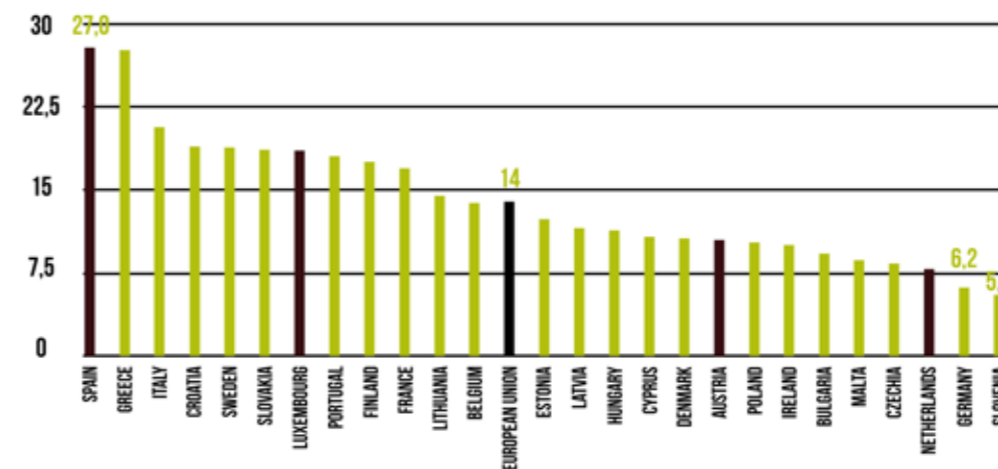
“Instead of millions of people looking for jobs, millions of jobs are looking for people in Europe.” This statement by European Commission President Ursula von der Leyen in her 2023 State of the Union address exemplifies the employment bonanza Europe is experiencing today. Paradoxically, a few months before, the president herself labelled as unacceptable Europe’s youth unemployment rate: 14%. “This cannot be”, she stated at the 15th Congress of the European Trade Union Confederation in May 2023.

These two statements represent a clear illustration of Europe’s current labor market situation: labor shortages in specific industries or regions coexisting with high levels of unemployment, particularly among certain segments of the population such as the young. This binomial has often been referred to as the unemployment paradox.

Some figures will help illustrate this paradox: 76% of small-and medium-sized enterprises (SMEs) in Europe claim they are facing labor shortages and two-thirds of European companies cannot find IT specialists they need. The European battery industry will need 800,000 additional skilled workers just in the next two years. The solar industry will require 1 million additional jobs for skilled workers by 2030, twice as many as today. And yet, 14% of the European youth, almost three million under the age of 25, cannot find a job. Certainly, this is a complex and puzzling situation.

One of the EU countries that best exemplifies this paradox is Spain, a country that is breaking job market records while topping the EU’s youth unemployment rate of 27.9%, almost twice as high as the EU average of 14%, as shown in table 1 below.

Figure 1: Youth Unemployment Rate in the EU-27 (%)  
Source: Eurostat (May 2023)



SOURCE: EUROSTAT (MAY 2023)

There are several factors that account for this excessively high unemployment rate in Spain, namely:

1.The economic downturn initiated in 2008 hit Spain particularly hard. It became one of the countries experiencing one of the most severe recessions in Europe, leading to a contraction in economic activity and hitting all segments of the population, especially the young. The youth unemployment rate skyrocketed to almost 57% in 2013.

2.The structure of the Spanish labor market has been characterized by temporary work and low wages. This has led to increased job instability, precarity, lack of career advancement and brain drain. This situation has particularly hit, once again, the young.

3.Spain’s education system has often faced criticism for not aligning effectively with the needs of the labor market, creating a mismatch in skills and exacerbating unemployment among the young.

The Spanish education model presents certain features that can help explain the mismatch between education and the labor market. On the one hand, there is a high level of overqualification, employed people with higher education for the occupation they perform. There is also a high number of workers without accredited professional qualifications and, at the same time, there is a remarkable shortage of people with intermediate qualifications and skills obtainable through vocational training, especially in technological and industrial sectors.

This qualification mismatch is best exemplified in figure 2 below. The upper- and lower-skilled represent the majority of the working population in Spain, more than 75%, whereas the population with technical skills accounts only for 23.2%. At

the same time, forecasts indicate that 65% of the jobs in Spain to be created by 2030 will require intermediate skills whereas only 35% will need higher/ tertiary education, as highlighted by the European Center for the Development of Vocational Training (CEDEFOP). This is a clear mismatch between the markets’ needs and the Spanish education system. As shown in the figure below, the Spanish situation differs from that of the EU-27, which has a higher number of people with intermediate technical education



and a lower under-skilled and over-skilled population.

## Education level of population

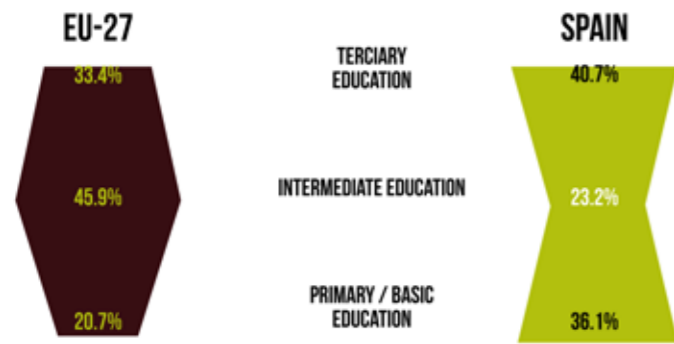


Figure 2: Education level of population (25-65 years). EU-27 and Spain

Source: Ramon Areces Foundation (2022) based on the statistics provided by the Spanish Labor Force Survey

This pattern has certainly led to an anomalous situation in Spain. Those with higher education cannot find the jobs for which they are suited and have no choice but to take jobs requiring intermediate skills. In turn, intermediate-skilled workers see how their jobs are taken by those with higher education and, therefore, have no choice but to take low-skilled jobs. As a result, those with unaccredited qualifications are pushed out of the job market. At the same time, there are thousands of unfilled technical jobs, mainly those requiring intermediate education, due to a lack of qualified personnel. The Spanish Quarterly Labor Cost Survey put a figure to this fact: 145,053 vacant posts in Spain at the end of 2022 in a wide range of sectors, from construction to industry to technology, to name a few. These tensions between the education system and labor market are a clear example of the mismatch between supply and demand in Spain.

### EDUCATION REFORMS AND DUAL VOCATIONAL TRAINING: THE WAY FORWARD?

The education reforms developed over the past years in Spain have placed special emphasis on vocational training as a way to modernize and adapt the system to current socioeconomic needs. As repeatedly stated by the Organization for Economic Co-operation and Development's education indicators: countries with solid vocational training systems are better equipped to combat youth unemployment.

Over the past decade, legislative efforts have been focused on adopting a solid framework aimed at responding to the skills needs of the labor market and reducing youth unemployment. The approval of the Spanish 2022 Organic Law for the Organization and Integration of Vocational Education and Training (VET) culminates a long process of making vocational education and training a lever of change for economic growth in the country. These changes have led to a progressive increase in vocational training provision especially for those sectors with a higher demand for it. There has been an increase in the percentage of students choosing vocational education and training as their education pathway. Some figures help illustrate this point.

The number of VET students has grown exponentially over the past years, by a yearly average of 6.5% and by more than 45% over the past decade, reaching the 1-million mark in 2021-2022. Forecasts indicate that, over the next few years, there will be more VET students than university students in Spain.

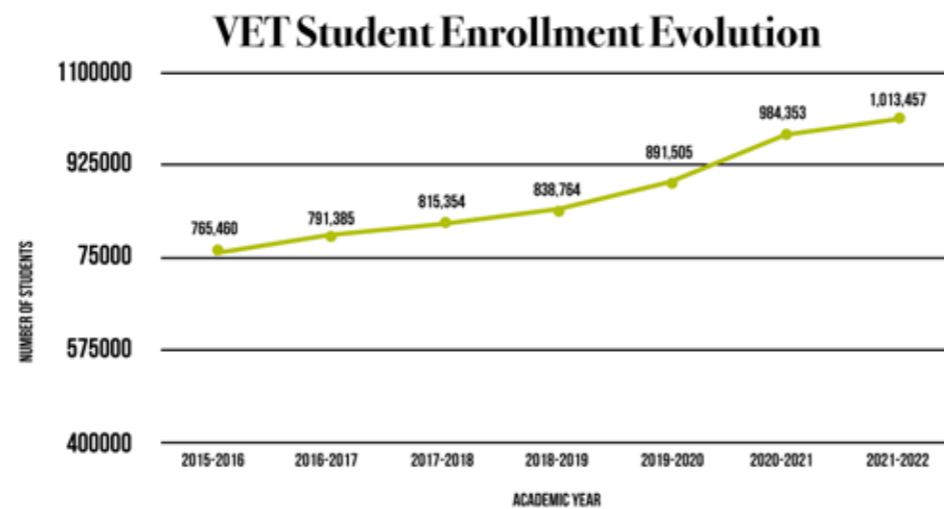
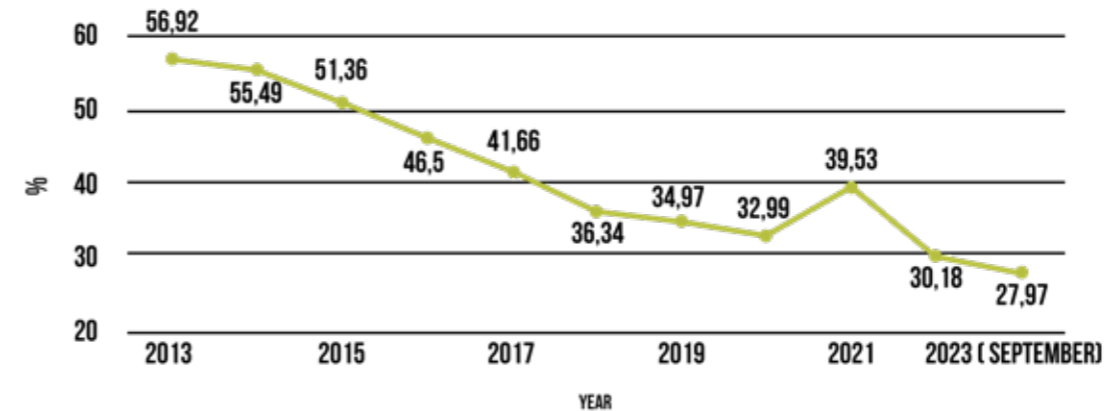


Figure 3: VET and Student Enrollment in Spain (2015-2022)  
Source: Spanish Ministry of Education (2022)

While it is true that a 27.9% youth unemployment rate is an unacceptable figure for any well-functioning society, we should not lose sight of the wider picture: it is the lowest rate in more than a decade, as shown in figure 4 below. Because of the economic recession, the Spanish youth unemployment rate has been unbearably high over the past decade, skyrocketing to 56.92% in 2013 but with one positive aspect: it has been continuously declining since then.

Figure 4. Youth unemployment rate in Spain (2013-2023)  
Source: Spanish Ministry for the Economy (October 2023)



One particular element included in the VET reforms of the past years has been the incorporation of the Dual VET system, that is the education and training model that combines workplace learning with classroom-based instruction. Incorporated into Spanish legislation in 2012 for the first time, it was fully deployed in the 2022 Organic Law for the Organization and Integration of Vocational Education and Training. Dual VET has become a core element that can help to combat the unemployment paradox.

### DUAL VET HAS SOME FEATURES THAT MAKE IT PARTICULARLY ATTRACTIVE:

1. It constitutes a quality training itinerary in which students develop technical skills in real professional contexts. It combines qualification with professionalization, providing a solid experience for students.
2. It strengthens the intrinsic motivation and professional self-esteem of students and enhances transversal competencies, including the much-needed soft skills, which are better acquired in a real work environment than in a classroom. All data indicate that this motivation decreases school dropout rates.
3. It creates synergies among the different stakeholders, students, vocational schools and companies, as it strengthens a culture of collaboration among them. Training goes beyond the school as companies acquire a training role in close collaboration with vocational schools.

Dual VET has been prioritized in the current Spanish education reforms on Vocational Training. These reforms, which are crystallized in the Spanish 2022 Organic Law, have been aimed at strengthening collaboration between the education sector and industry, encouraging the participation of companies in

training programs and enhancing the employability of students by providing them with practical skills aligned with industry needs.

Aware of the benefits of matching Spanish education with the country's socioeconomic needs, Fundación Bertelsmann has been working since 2014 to promote Dual VET as a quality educational option for the future. Together with the Spanish Confederation of Employers' Association (CEOE), the Spanish Chamber of Commerce and the Princess of Girona Foundation, Fundación Bertelsmann created in 2015 the Alianza para la FP Dual (Alliance

for Dual VET) a collaborative network of stakeholders involved in Dual VET, companies, schools, chambers of commerce, etc., committed to improving the employability of young people through quality dual training.

Since then, Fundación Bertelsmann has provided advice to educational centers and companies wishing to develop their Dual VET projects, promoted the creation of working groups to exchange ideas and best practices, and developed innovative projects and practical tools aimed at making Dual VET an attractive educational option for youngsters.

The work developed by Fundación Bertelsmann and other stakeholders has certainly contributed to positive results. The number of Dual VET students has been steadily increasing each year, going from 20,357 during the 2016-2017 school year to 45,613 during the 2021-2022 school year, more than double in just five years. This is certainly a progressive increase over time. We should look, however, at the broader picture: Dual VET students only account for 4.4% of the total number of VET students in 2023, certainly a low figure if compared to other European countries such as Germany, with 60% of VET students opting for the Dual option and with a youth unemployment rate as low as 6%, as seen in figure 1 above.

Slowly but surely, Spain is on the right track to reducing the youth unemployment rate through Dual VET. The data available leave no room for doubt:<sup>1</sup>

- 57% of Dual VET students were already employed one year after completing their studies, as opposed to 42% of traditional VET students.
- 76% of Dual VET students had a full-time, stable job one year after completing their studies, as opposed to 63% of traditional VET students.



- In sectors such as electricity, electronics, mechanics or STEM, among many others, salaries of those having completed Dual VET are higher than those of traditional VET students.

The incorporation of Dual VET into the current education reforms in Spain is already proving to be an effective and useful mechanism for combatting the imbalance between supply and demand and to reduce the youth unemployment rate. The social and economic transformations of today are leading to the emergence of new and more technical jobs. The urgent need for technical skills has accelerated over the past years. The rapid advance of technology, automation and artificial intelligence is already leading to a high demand for tech-related skills.

Dual VET can certainly help to solve the unemployment paradox for various reasons: companies are directly involved in the training process, ensuring that the skills taught are aligned with industry needs; it fosters a smooth transition into the workforce as students graduate with real work experience; and, if properly designed, it represents a system adaptable to changes in industry needs. Prioritizing Dual VET requires a joint, consensus-based effort from various stakeholders, governments, schools, companies, etc., due to its far-reaching benefits for all. Young generations, with hopes and expectations, see their personal and professional aspirations fulfilled as they obtain real on-the-job experience. Industry benefits by easily finding needed skills in the population. And society as a whole gains from reduced unemployment, which leads to more economic stability and social cohesion. Dual VET is, in sum, the necessary lever to solve Spain's unemployment paradox.

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*He holds a PhD in Political and Social Sciences from Pompeu Fabra University in Barcelona and has been a visiting scholar at Sciences-Po Paris and the University of Augsburg, where he developed his postdoc research.*



# GENERATION TIP ON Z

## THERE IS NO SUSTAINABLE FUTURE OF WORK IF YOUNG PEOPLE ARE LEFT BEHIND

BY MICHELE ZAGORDO

The debate on the future of work is gaining momentum on both sides of the Atlantic as several initiatives are animating the conversation.<sup>1</sup> The discussion not only focuses on the impact new technologies have on the future of work but also considers consequences for the future of social protection for all workers.

The debate is necessarily very technologically oriented, with a focus on the potential increase in labor productivity that new technologies can achieve, while also trying to gauge the impact on inequities, among and within countries, and on the need to teach new skills and improve existing skills.

The future of work is likely to bring significant economic and social challenges that will impact mostly young people. They should be offered “decent work”, as the 2019 Council Conclusions on Young People and the Future of Work stresses.<sup>2</sup> In line with the 2030 Agenda for Sustainable Development, in particular Sustainable Development Goal 8, as well as with Youth Goal 7, “decent work is to be treated as a legitimate aspiration of young people, starting with their very first remunerated professional experience.”<sup>3</sup>

But a key issue is too frequently overlooked in these discussions. That is the need to identify clear target groups for the various interventions and avoid a one-size-fits-all solution. Young people aged 15 to 24, whether employed, unemployed or so-called NEET (Not in Education, Employment and Training) youth, should be considered the priority group in these discussions, as they are likely to be in the workforce the longest. And they should be given a voice in the discussions and the establishment of the policies that will affect them.

The UN estimates that by 2030,<sup>4</sup> a staggering 60% of youths, equating to 830 million people, will lack the basic skills required by the labor market.<sup>5</sup> To address the widening skills gap, policymakers should more do more now to support the growth of next-generation workers and offer equal opportunities to access the labor market.

The EU Youth Strategy 2019-2027 stresses that “Europe cannot afford wasted talent, social exclusion or disengagement among its youth. Young people should not only be architects of their own lives, but also contribute to positive change in society.”<sup>6</sup>

Several factors have contributed to the widening skills gap and risk of wasting talent. Young people have been particularly affected by the COVID-19 pandemic, as was confirmed by

the International Labour Conference’s Global Call to Action for a human-centred recovery from the COVID-19 Crisis that is inclusive, sustainable and resilient.<sup>7</sup> “The crisis has profoundly disrupted the education, training and employment of young people, making it even harder for them to find a job, successfully transition from education and training to work, continue education or start a business.” Their rate of employment loss has been much higher than that of adults, and young people’s education has been interrupted.<sup>8</sup>

Young people seem, however, not to be always an active part of the discussion shaping the future of work. While there are examples of young people involvements, such as the EU Youth Dialogue<sup>9</sup> and the U.S.’s Pathways for Youth<sup>10</sup> and the Future Forum,<sup>11</sup> there is no consistent and coherent approach to allow young people’s voices to be heard.

Young people are a complex and mixed category encompassing several subgroups, one of which is NEET youth. The NEET concept has been widely used since 2010 as an indicator to inform youth-oriented policies on employability, education, training and social inclusion in the EU member states.<sup>12</sup> Conversely, young people in this category are sometimes described in the U.S. as “disconnected” youth.

The COVID-19 crisis reversed 15 years of progress in reducing youth NEET rates. On average in 2020, worldwide almost one in four (23.3 %) of all young people had NEET status.<sup>13</sup> The debate on the future of work needs to take this into account. No matter the definition used, NEETs/disconnected young people are definitively the ones most in need. The future of work debate and planning should dedicate particular attention to this subgroup.

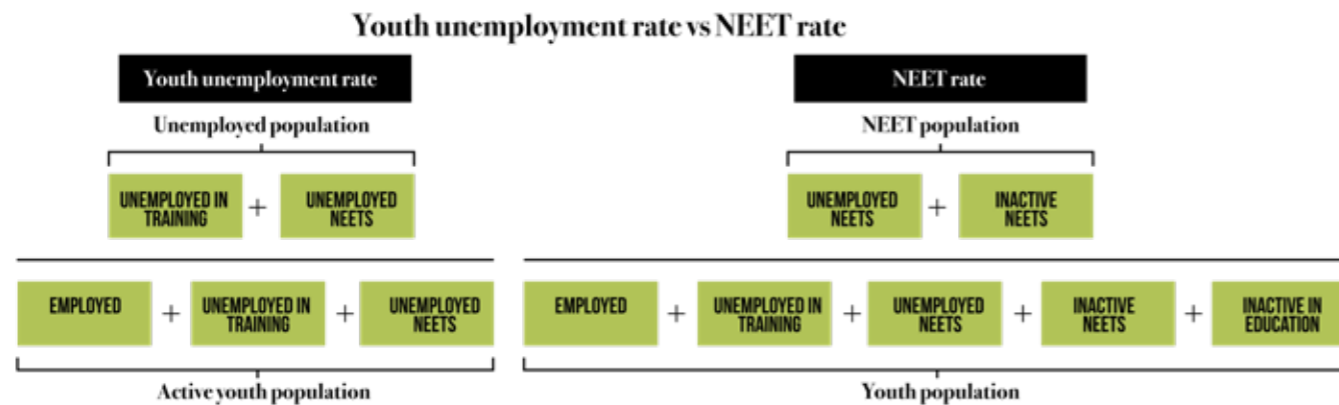
### THE NUMBERS SHOW THE NEED

Young people are a significant and vital part of the population in the EU and the U.S. In the U.S., in July 2023, there were 21.6 million young people (aged 16 to 24) in the workforce, of whom 2.059 million were unemployed.<sup>14</sup> In the same period, in the EU, the number of unemployed young people in the same age group stood at 2.683 million. The number of unemployed youths appears to have been somewhat reduced in recent years.<sup>15</sup>

Policymakers should focus on NEETs as well as unemployed young people. They are an untapped source of potential talent. This requires a focus on a broader set of indicators. While the most commonly used indicator to assess the youth situation in



the labor market is the youth unemployment rate, it does not provide as complete a picture as the NEET rate (see Figure 1), which includes inactive young people.



SOURCE: EUROPEAN COURT OF AUDITORS

Figure 1 - Youth employment rate vs NEET rate, Source European Court of Auditors, Special Report 05/2017.

In 2022, 14.5% of U.S. young people aged 15 to 29<sup>17</sup> were NEET, while in the EU 11.7% were.<sup>18</sup> Reducing this rate is one of the targets of the European Pillar of Social Rights, an EU policy initiative to bring back the social dimension of the EU, rebalance economic policies with social considerations, while at the same time addressing key issues related to changes in the world of work and society more generally, promoting higher social standards. The EU goal is to lower the rate of NEET young people aged 15-29 to 9% by 2030.

Unlike in the EU, U.S. youth unemployment rates and college attendance statistics get considerable media attention, but the NEET rate gets little to no attention.<sup>19</sup> This is a reflection of the fragmented nature of youth policy in the U.S. and the need for a federal office that serves a coordinating function. Instead of the kind of detailed information on NEET rates that Eurostat, the statistical office of the EU, provides, U.S. federal government data on NEET rates is limited and the ages measured are not consistent across agencies. The Federal Interagency Forum on Family and Child Statistics publishes a NEET rate for 16- to 19-year-olds.<sup>20</sup> The NEET rates published by the Department of Education are limited to 18- to 24-year-olds.<sup>21</sup> Notably, the Bureau of Labor Statistics at the Department of Labor does not publish NEET rates. The International Labour Organization (ILO), however, regularly publishes NEET data.

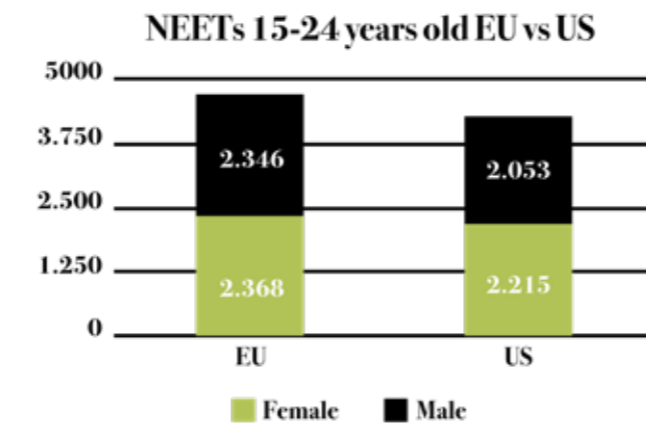


Figure 2 – Graph created by Author. Data from: Youth not in employment, education or training (NEET) by sex (thousands), Annual, EU vs U.S., 2022, ILO. See: <https://ilostat.ilo.org/da>

Figure 2 indicated that the number of NEETs in the U.S. (4.26 million) does not differ dramatically from that in the EU (4.71 million).

Both in Europe and in the U.S., this relevant component of the young population does not appear to be a key target group for decision-makers on the future of work, or at least not explicitly. The cost to the entire society of excluding NEET youth from the labor market and society as a whole, is enormous. And failing to prepare the future of work for them is to prepare for further failure.

#### BRINGING YOUNG PEOPLE TO THE TABLE

Coherent, consistent and comprehensive strategies to address the future of work for young people, particularly NEETs, are of utmost importance. Including the challenges young people face, and particularly the NEETs, into the future-of-work

decision-making is crucial. It is also crucial to hear their views and expectations about the proposed changes and find a way to enlist them in the discussion about the future of work.

There can be no sustainable future of work if a big proportion of the population, likely to be in the labor market the longest, is left out.

Without assistance, economically inactive young people might not gain critical job skills and never fully integrate into the wider economy or achieve their full earning potential. Many NEETs might also represent a potential source of social unrest if they feel, for a long time, neglected and rejected by society. Being excluded both from the labor market and the education system heightens the individual's risk of social exclusion and their likelihood of engaging in asocial behavior; this affects both the individual's well-being and their relationship with society.<sup>22</sup>

There are several ways to incorporate young people in general and NEETs in particular, in discussions, planning and policy decision-making.

- The integration process of young people should start with an assessment of what skills they really need, how they can attain them, and what it will cost them, business and government. Reliable and accurate data on the NEET population must be developed.

- Policies affecting young people should be anchored in the real needs and situations of young people, particularly NEETs. That requires continuous research and outreach to young people and youth organizations. The collection of disaggregated data (by gender, by economic status, by region, by education level, for instance) is of particular importance to foster understanding of the needs of different groups of young people, particularly those with fewer opportunities.

- Youth employment programs and initiatives to address the future of work should be an integral part of long-term national strategies, instead of the results of short-term, ad hoc interventions. For this to occur, political leaders should include a chapter on measures/policies to address the future of work for young people, and particularly NEETs, in their upcoming political program for 2024 election.

- Strategies and policies affecting the future of work should have a specific section on the impact on young people, particularly in case of structural reforms or measures supporting those reforms. Those strategies and policies should include perspectives from young people, with a focus on NEETs as a key group to address.

- Strategies and policies impacting the future of work should be accompanied by specific funding for measures financing the adaptation of young people to the future of work. Education, (re) integration into the labor market, reskilling and upskilling of young people should be key elements of those allocations.

- Young people have different needs, interests and wishes from other age-groups. As part of their policy campaign, leaders should identify the sectors where youth participation is likely to be crucial, such as digital, green and health care as indicated by the ILO, and base their policy decisions on this.<sup>23</sup>

Today more than ever it is urgent to define priorities to promptly address the risks and opportunities that the transformations of the future of work entail. Young people must be the priority immediately. Not focusing on them is too high a risk to take, and the cost of remedying this mistake would be exponentially higher. Young people need and deserve help, and the sooner it comes the better.

*This text expresses the personal opinion of the author and not that of European the Court of Auditors.*

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# THE FUTURE OF WORK IN THE TWIN TRANSITION TO GREEN AND DIGITAL

BY ELISABETH GIESEMANN

The concept that the digital and energy transitions go hand in hand is rapidly transforming the EU economy and labor markets. New technologies and new forms of work stemming from digitalization, as well as climate change and the effort to move to a low-carbon economy are leading the twin transition. Member states face the challenge of adapting their economies to meet sustainability standards and maintain prosperity for future generations. To achieve this, they should use digital innovation to reduce CO2 and move towards greater sustainability.<sup>1</sup>

In her 2020 speech on her first 100 days in office, European Commission President Ursula von der Leyen declared the twin transition to digital and green as “the driving force of this Commission”.<sup>2</sup> In her 2023 State of the Union address, she renewed her view that the green and digital transition go hand in hand.<sup>3</sup> The COVID-19 pandemic and the recent energy crisis due to the Russian invasion of Ukraine have further emphasized the importance of both transitions for the EU’s economic and energy sovereignty. The EU, most notably in its Green Deal and Digital Decade,<sup>4</sup> has already introduced important initiatives to guide movement towards these goals.<sup>5</sup>

## CHALLENGES FOR WORKERS IN THE TWIN TRANSITION

There is no single, pre-determined path for transformation. The impact of the transitions on employment levels and types of jobs is highly dependent on how technologies are deployed. Every dimension of the twin transition presents potential benefits and challenges for workers: new working conditions, new skills requirements, and access to social dialogue with social partners and unions. All this will change the shape of the labor market.

A successful twin transition will depend to a large extent on inclusive and well-designed policies that stimulate the economy and strengthen workers’ rights, so that everyone in the EU profits from the transition.

## RAPIDLY EVOLVING JOB MARKETS

Predictions about digitalization and sustainability have two things in common: uncertainty and ambiguity about how they will affect employment. New low- and zero-carbon technologies, such as photovoltaic and wind energy, require workers to learn specific skills and will make other jobs obsolete. Digitalization, as seen in artificial intelligence (AI) and robotics, will change the working lives of many, making

reskilling and on-the-job training essential.<sup>6</sup> The energy transition also demands new technological skills to implement new emission-saving technologies.

## SHORTAGES OF SKILLS AND WORKERS

To successfully roll out the energy transition, EU member states are in dire need of skilled workers. In industries such as solar power installation, heating engineering or construction, there is an estimated shortage of 200,000 workers in Germany alone.<sup>7</sup> The country also needs 700,000 workers in the technology sector. By 2030, Europe will require a minimum of 20 million professionals in information and communication technology (ICT) to facilitate the digital transformation of the European economy.<sup>8</sup> In 2022, only 9.4 million professionals worked in the sector.<sup>9</sup>

## GENDER INEQUALITY

There is a substantial gap between the participation of men and women in the digital economy and in the green job market. The European Commission calculated that the European economy lost €16.2 billion in productivity in 2018, two years before the pandemic, due to women leaving their digital jobs for social, cultural and individual reasons.<sup>10</sup> The energy industry also lacks female participation at all levels, particularly in STEM (science, technology, engineering and mathematics) professions and leadership positions.<sup>11</sup> Promoting gender equality can reduce the shortage of ICT workers with the added benefit of increasing the EU employment growth rate from 2.1% to an estimated 5% by 2050.<sup>12</sup>

## WORKERS’ RIGHTS

The twin transition may also contribute to increasing inequalities and labor market polarization due to unequal access to education and digital technology. While highly skilled and mobile workers are more likely to benefit from digitalization, low-skilled workers or workers in declining sectors face increasingly precarious working conditions, the threat of dismissal or exclusion from the labor market.<sup>13</sup>

## GLOBAL DIGITAL DIVIDE

The digital divide, another factor that will determine winners and losers as digitization becomes more entrenched, is more pronounced for low-income and low-skilled people and regions. This is a special concern since increased availability of digital





technology leads to increased usage of the technologies, as seen in the so-called rebound effect.

Digital technologies will support the ecological transition as they substitute carbon-intensive technology and extraction. Yet the production of digital technology, such as semiconductors and the infrastructure for photovoltaic systems, demands large amounts of energy. Societies in the Global South are affected more strongly by the negative consequences of the digital divide and the energy transition. Extraction of raw materials, particularly rare-earth metals for mobile phones or electric vehicles, often happens under harsh and exploitative working conditions. These practices are increasingly becoming burdensome with negative consequences for the environmental ecosystems and marginalized communities in the Global South.<sup>14</sup>

## POLICY RECOMMENDATIONS

### Ensure Education Access and Lifelong Learning

Workers and policymakers are motivated by the fear of possible redundancies resulting from new technology such as robotics, software applications and, most recently, AI.<sup>15</sup> AI is more likely to impact highly educated and older workers than previous technologies have.<sup>16</sup> EU policy, therefore, needs to focus on implementing new forms of integrated academic training and apprenticeship that prepare the workforce for the challenges of new, digital jobs and the green economy. Programs need to be developed to improve skills and reskill the incumbent workforce for the new digitalization of production processes and business models. Training is essential to ensure that all workers can transition to more sustainable and better-quality digital jobs and take advantage of the opportunities offered by advancing technologies.<sup>17</sup>

### Address Skills Shortage through Migration and Promotion of Gender Equality

To avoid delays in the twin transition caused by a shortage of skills, there needs to be a streamlined focus on bringing workers from non-EU countries into sectors relevant to the transitions. These sectors include energy and ITC. The European Green Deal, in fact, makes a direct reference to the relationship between climate change and migration.<sup>18</sup> Acknowledging the significant potential contribution of migrants to sectors affected by the transitions, particularly agriculture, energy, manufacturing and construction, will substantially enhance opportunities for the twin transition to succeed.

For this reason, the European Commission's Skills and Talent Package aims to increase the effectiveness of the EU's legal migration policy. To better integrate newly arrived workers into the labor market requires the provision of language courses and upskilling and reskilling opportunities. As part of the European Year of Skills 2023, the European Commission also plans to

adopt initiatives to enhance the recognition of and validation of skills acquired abroad, and a proposal to establish an EU Talent Pool to facilitate matching employers and migrants.<sup>19</sup> Effort should focus on recruiting women, currently underrepresented in the digital and green sectors. When formulating policies and initiatives targeted towards enhancing gender equality within the digital and green sector, policymakers must be aware of the diverse stages in women's lives that impact their career paths. Women still face significant barriers and discrimination in all stages of life: childhood, adolescence, initial entry into the workforce, motherhood and re-entry into the job market.<sup>20</sup> Gender equality in STEM can be achieved through education training initiatives, such as providing mentorships and traineeships in ICT. Finally, dismantling stereotypes to encourage and support women to assume leadership positions, particularly in technology companies, will advance the closing of the ICT gender gap.<sup>21</sup> Neglecting the untapped potential of more than half the population is wasteful. Gender inequality has large economic costs.

### Achieve a Just Transition through New Forms of Participation

While highly skilled and mobile workers are more likely to benefit from digitalization, low-skilled workers or those in declining sectors face increasingly precarious working conditions, and the threat of dismissal or exclusion from the labor market.<sup>22</sup>

To guarantee that people living in EU member states that rely on carbon-intensive industries are not left behind in the transition to a low-carbon continent, the European Green Deal introduced the Just Transition Mechanism. This includes a proposed Just Transition Fund that would provide €17.5 billion to support the most vulnerable regions and sectors affected by the transition.<sup>23</sup>

Yet, significant work still needs to be done to improve dialogue with social partners and at the macro-policy level. The current level of involvement of social partners and unions in policymaking connected to the twin transition is perceived as inadequate. Policy needs to be established to ensure a fair distribution of profits between businesses and workers. Additionally, the benefits of digitalization can be shared among the workforce by enhancing work-life balance and dedicating time to upskilling through, for instance, a four-day workweek and a "training Friday".<sup>24</sup> These goals involve investing, by member state governments, in job-rich and low-emission sectors and technologies while upholding human and labor rights and "decent work" principles.<sup>25</sup>

### Guarantee Fairness and Sustainability Globally

Policy on the twin transition needs to respond to imbalances resulting from the unequal distribution of costs and benefits of digital technologies and their effect on the world's natural resources.

A successful twin transition will depend to a large extent on inclusive and well-designed international dialogue on equal participation by the Global South so that workers' rights worldwide are strengthened. The EU institutions and member states must form equal partnerships with countries in the Global South to secure fair development of digital and green technologies.

Widespread legislation to counteract the linear production model for digital technologies is also needed. At present, there are concerns that the widespread and rapid dissemination of short-lived digital devices will accelerate the depletion of the rare-earth metals needed to make them and significantly exacerbate the growing problem of digital waste.<sup>26</sup>

In February 2022, the European Commission published the proposal for a Corporate Sustainability Due Diligence Directive (CSDDD), which aims to ensure that companies operating in the EU will be legally obliged to respect human rights and the environment in global value chains. Together with existing regulations and other regulatory initiatives, such as the Corporate Sustainability Reporting Directive (CSRD) and the EU Taxonomy Regulation, this represents another step towards sustainable economic activity under standardized European conditions.<sup>27</sup>

## THE FUTURE OF GREEN WORK

The twin transition is the future challenge that the EU must tackle to ensure economic prosperity, geopolitical sovereignty of its member states and global stability. To enable the converging green and digital transitions, policy decisions will need to address dynamics such as unequal access to digital education. These decisions will have a major impact on the global economy and labor market, and neglecting these dimensions may have serious negative environmental impacts and widen global and social inequalities. Ensuring a just and equitable transition policy requires addressing fair working conditions, equal participation and lifelong learning to prepare workers for labor-market changes and contribute to the twin transition.

*The author is writing in a personal capacity and any views expressed do not represent an official position of the organizations with which she is affiliated.*

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## CLEANTECH ENTREPRENEURSHIP EDUCATION: BUILDING A TRANSNATIONAL INITIATIVE

BY FRANCESCO MATTEUCCI

As climate change intensifies, there is an increasing need to bring to the market cleaner energy and climate technologies, so-called “cleantech”. This will have an impact not only on the environment but also on the economy and the whole of society. How this can unfold is the crucial question. Unfortunately, in today’s world where the only constant is change, the answer to this pressing issue is complex.

Currently, most early-stage cleantech needs to be rapidly deployed at a pilot scale before it can be upscaled. Financial investments must be accelerated, but enabling policies are needed for that, and they must be developed quickly and rapidly implemented.

At the same time, we need to increase students’ skills in translating invention to innovation and to step up training for scientific innovators and entrepreneurs.<sup>1,2</sup> In the knowledge-based economy, entrepreneurs—the individuals able to see market opportunities and act accordingly—are the main actors in the innovation process.<sup>3</sup> Training innovators means teaching both “hard” and “soft” skills. Innovation requires the ability to build a network, which requires entrepreneurs to become skilled in attracting knowledgeable people and other stakeholders. Building a community of innovation and a culture of risk are key to accelerating cleantech’s expansion.

Equally important to understand is that many future cleantech systems will be deep tech, scientific-driven innovation technologies.<sup>4</sup> Deep tech originates from a scientific idea but must eventually be translated into a product or a service. Entrepreneurs, therefore, should be taught to properly use technological resources to accelerate “lab” to “fab”. Deep tech usually takes 10 to 15 years and millions of euros to transform into a revenue-producing venture. To effectively train innovators and maximize their chances of success, an ecosystem to provide and satisfy different needs of ventures, including financial support and up-to-date policy analyses, is required.<sup>5</sup>

The transatlantic partners should prioritize such efforts to promote cleantech entrepreneurship by easing barriers to investment and promoting entrepreneurship education in Europe and the U.S.

### WHERE ARE WE NOW?

The development of renewable energy sources is expected to continue its rapid growth over the coming years. This is driven in part by cost competitiveness in the effort to have

renewables provide approximately 40% of global energy generation by 2030. All major economies are seeking to improve the competitiveness of their cleantech ventures.<sup>6</sup> Public and private investments in such ventures and renewable power plants have increased drastically in the last 10 years, as many countries adopted a smart policy mix to enable the green transition.<sup>7</sup>

As an example of public funding, the European Innovation Council (EIC) is investing approximately €1.5 billion per year in scientific innovation, from early-stage lab ideas to market-driven small- and medium-sized enterprises (SMEs), of which approximately 25% are in cleantech. This is part of the European Commission Horizon Europe Framework program.<sup>8</sup>

Skilled labor shortages are already plaguing the cleantech sector and require attention. Gaps are particularly evident in technical and STEM fields.<sup>9</sup>

### IT HAS BEEN ESTIMATED THAT:

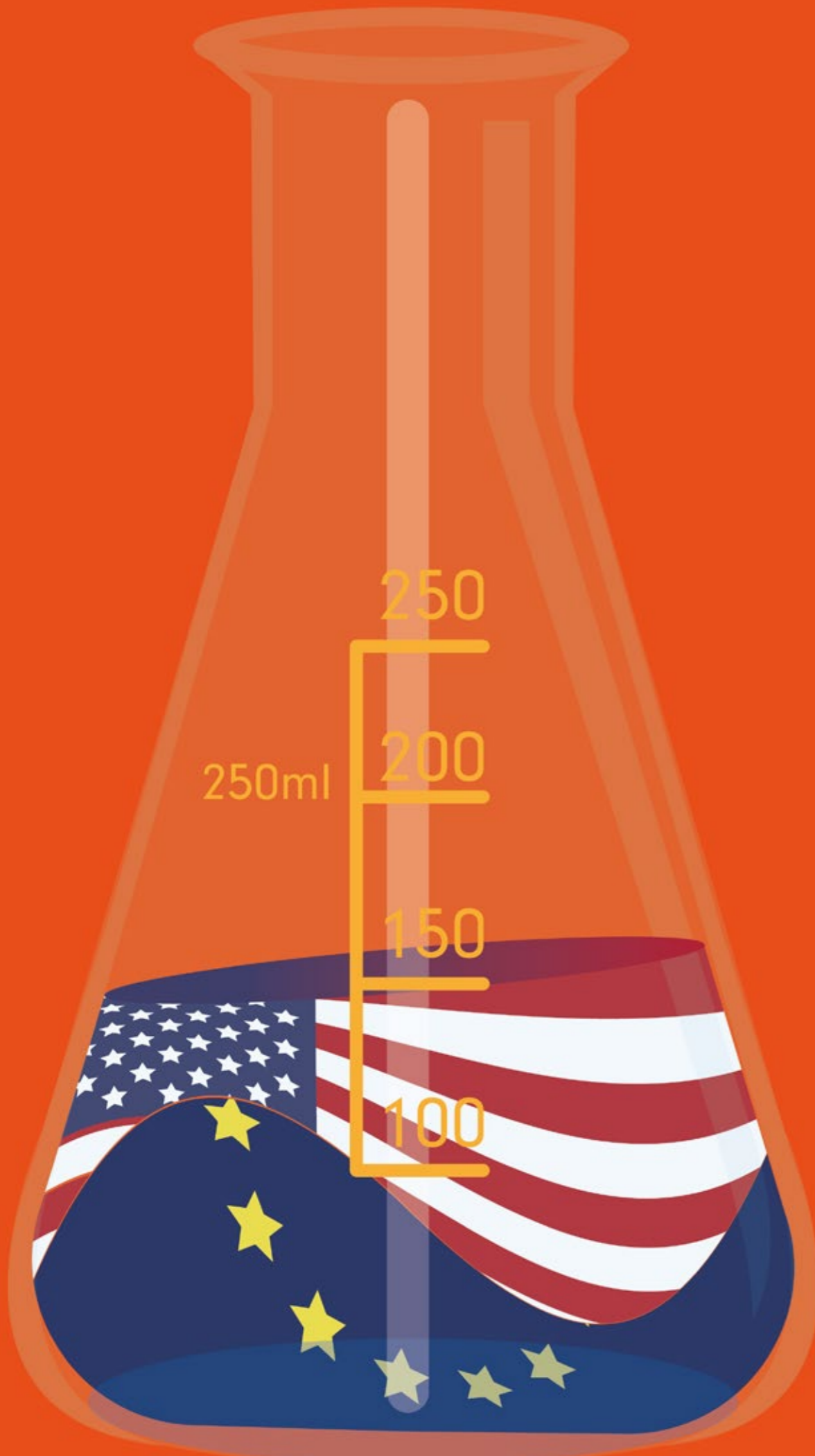
**A.** to realize the employment potential of EU’s low-carbon transition, large-scale investments of around €12 billion between 2015 and 2030 are needed for retraining (reskilling and upskilling)<sup>10</sup>

**B.** in the U.S., public and private investments promoted by the Inflation Reduction Act are expected to create more than 9 million cleantech jobs over the next decade, an average of nearly 1 million jobs each year<sup>11</sup>

Many government agencies, such as the Danish and Swedish education and economic ministries, regard education and innovation as an important means of promoting a stronger entrepreneurial culture, preventing unemployment and developing more rewarding jobs.<sup>12,13</sup> However, only a few countries, such as Norway and the United Kingdom, have established actual networks to exchange knowledge and experience for fostering education in entrepreneurship and cleantech.<sup>14</sup>

### WHERE SHOULD WE GO?

Establishing transatlantic collaboration on entrepreneurship education in cleantech would help to overcome the shortage of skilled people in the sector and help the younger generation bolster their entrepreneurial mindset. The lack of such a mindset is more prominent in the EU than in the U.S. A proposal for further transatlantic collaboration could be added to the agenda of Working Group 2 on Climate and Tech of the EU-US Trade and Technology Council.<sup>15</sup>





Building on existing programs makes sense. Knowledge-transfer could thrive, for example, in a forum such as Junior Achievement (JA) Worldwide, which is evaluating how to include entrepreneurship in cleantech training programs, or initiatives such as the Erasmus Mundus joint master's degree.<sup>16</sup> Another route would be to require such training programs in all PhD courses dealing with cleantech.

It is not necessary to reinvent the wheel. The dual knowledge teaching method combining academics with hands-on training should be used in cleantech education programs.<sup>17</sup> The idea has already gained political ground. The Biden administration, for example, recently expressed interest in increasing the use of apprenticeships for building a clean energy future.<sup>18</sup> This would accelerate the green transition by enabling shared experiences and best practices. It could also provide exposure in high schools, universities, and doctoral programs to entrepreneurial skills and the entrepreneurial mindset. It would serve as an alternative to the frequent focus on theory rather than practice. Finally, enabling researchers and aspiring innovators to better understand and gain direct experience with the complex process of taking innovation beyond invention is critical. Helping them develop this entrepreneurial mindset is in the "Next Generation Innovation Talents call" of the EIC's Work Programme 2023.<sup>19</sup>

To realize transatlantic collaboration on entrepreneurship education in cleantech, policymakers must engage with different stakeholders such as universities, SMEs, corporations and financial institutions. They will need to effectively demonstrate that collaboration would increase social and economic welfare, and accelerate the green transition. Policymakers must also stimulate building the foundation of a vibrant cleantech ecosystem. This is the pathway for the green transition. It is up to us to make it happen, and time is quickly running out.

*The views expressed in this essay are the sole responsibility of the author and do not necessarily reflect the views of the European Commission.*

**Francesco Matteucci** is an innovation manager with 20 years of experience spent as a researcher in materials science, as a Corporate R&D Manager within the field of technologies for renewable energy production and storage, and as an intermediary of knowledge trying to exploit the research results within the field of energy and environment. As R&D Corporate manager, he also cofounded and directed several start-ups and joint-labs managing public-private partnerships.

As a facilitator of knowledge exploitation (IoK), he co-managed publicly funded projects, as well as Emilia Romagna Climate-KIC Innovation Centre, Dhitech Living Lab on Nanotechnologies, Emilia-Romagna Greentech Clust-ER. Francesco acted as scientific expert within the Vanguard Initiative ADMA Pilot, reviewer of research projects, co-authored over 30 scientific papers, 5 patents, and was Visiting Professor at the University of Ferrara as well as speakers in many conferences and workshops.

Since October 2020 he works for the European Commission as EIC Programme Manager for advanced materials for energy & environmental sustainability of the European Innovation Council, Europe's flagship innovation programme to identify, develop and scale up breakthrough technologies and game changing innovations.



# PEOPLE AND PLACES LEFT BEHIND: POLICY RECOMMENDATIONS FOR A FUTURE THAT WORKS

BY HEATHER PAINTER



As leaders in the United States and Europe develop approaches to manage the future of work, they should prioritize economic development policies that target distressed regions and the people who call them home.

While distress can be measured multiple ways, one way to measure it is using prime-age employment rates, the number of individuals aged 25-54 who are working. For purposes of this piece, distressed areas are those with a disproportionately high share, compared to other areas, of prime-aged individuals who are out of the labor force. Unlike unemployment data, prime-age employment rates capture not just unemployed jobseekers, but also those not pursuing paid work at all, making it a more complete economic indicator.

According to the Organisation for Economic Co-operation and Development (OECD), the U.S. has a prime age-employment rate of 80.7% and the EU, a rate of 82.1% , per most recently collected data.<sup>1</sup> For the U.S., a rate this high has not been seen since 2001 and comes on the heels of historic and recent significant investment in communities through the American Rescue Plan and CARES Act COVID-19 recovery packages, as well as the CHIPS and Science Act and the Infrastructure Investment and Jobs Act.

While both rates are up considerably from sharp drops during the height of the COVID-19 pandemic, they paint an incomplete picture of the challenges facing specific EU member states, the U.S., states, regions, and most granularly, zip codes. For example, EU countries' prime-age employment rates range from a 73.3% in Italy to 89.4% in Slovenia. There are also considerable ranges within member states.<sup>2</sup> In the U.S., per the Economic Innovation Group (EIG), almost 48 million Americans, or 14.8 % of the population, live in economically distressed communities. These areas represent "a left-behind America that bear signs of profound disconnection from the country's overall economic success."<sup>3</sup> Here 34.5 % of prime-age adults are not working.<sup>4</sup>

Why should policymakers care, especially if the EU and U.S. as a whole are showing signs of improvement? First, paid employment generates both taxable income and additional consumer spending, which can help shore up government funding sources for needed projects and programs. Second, the unemployed often rely more heavily on state social programs, which can increase government costs.<sup>5</sup> Finally, unemployment and financial stress have been linked to rising rates of "deaths of despair", meaning deaths caused by overdose, alcohol-related diseases, and suicide.<sup>6</sup> In the U.S., life expectancy

has declined since 2014, and the largest contributing factor to rising mortality is these deaths of despair.<sup>7</sup> In a study of 16 wealthy nations, the U.S. was unique because life expectancy has been trending down.<sup>8</sup>

So, what can be done? Each region's circumstances differ and, accordingly, require tailored responses. However, four common and addressable problems experienced by persistently distressed regions are:

- lack of job opportunities with family-sustaining wages;
- lack of local grant writing capacity or funds;
- lack of applicable training and skills for workers; and
- lack of worker supports (e.g., childcare, family care responsibilities, workforce housing, transportation, benefits cliffs).<sup>9</sup>

The first two challenges above correspond with place-based economic development, approaches that aim to improve the well-being and quality life in a specific geographic area, such as a local labor market, city, region, or community, most commonly by increasing prime-age employment rates. The second two more closely correspond with people-based economic development, referring to resources provided to individuals or groups of individuals regardless of where they are located. While some economists and policymakers prefer a people or place-based approach and view them as competing or conflicting strategies, there are viable and worthwhile policy solutions in each category which can be combined.

This paper proposes place and people-based economic development policy recommendations that deserve additional consideration from U.S. policymakers and those across the Atlantic.

### **PLACE-BASED ECONOMIC DEVELOPMENT POLICY RECOMMENDATION: THE RECOMPETE ACT**

As the 117th Congress worked on legislative packages to bolster the U.S. economy and its economic competitiveness, Representative Derek Kilmer (D-WA-06) put forth the Rebuilding Economies and Creating Opportunities for More People to Excel (RECOMPETE) Act, a bipartisan, place-based economic development bill.<sup>10</sup> The RECOMPETE Act in pilot form was included in the CHIPS and Science Act of 2021 and funded at \$200 million in the FY2023 Omnibus appropriations bill. The U.S. Economic Development Administration (EDA) is implementing the program, which specifically targets distressed areas with high prime-age employment rates.<sup>11</sup>



Persistently distressed areas are less likely to have the capacity or local grant writers necessary to navigate the federal grant application process, and less likely to have local funding matches or cost-shares from local governments that are often needed to unlock federal grants. Similarly, they are less likely to have their long-term challenges addressed by short-term, ad hoc grants. Therefore, they can lose competitive grant processes to better-resourced but less high-need areas.<sup>12</sup>

To address the first barrier, the RECOMPETE Act pilot program was designed to help communities develop initial RECOMPETE plans. The first round of funding, in the strategy development grant phase (Phase I), provides communities with up-front technical assistance and initial funding so that communities can first develop locally tailored and data-driven plans to outline how they will reduce prime-age employment gaps, should they win a subsequent strategy implementation grant award (Phase II).

To address the second set of barriers, the RECOMPETE Act pilot program's strategy implementation grants (Phase II) provide significant, upfront, flexible and long-term support over multiple years. This will allow communities to address the multiple, primary challenges to job creation and retention. This can include lack of infrastructure, bottlenecks at entry-level positions due to insufficient job training opportunities, inadequate business investment, shortages of affordable or workforce housing, lack of affordable childcare, and a general mismatch between available skills and available jobs, among other causes. Solutions will look different in every community. But research has shown that investments in workforce outreach and training, infrastructure and housing development, job retention programs like childcare and transportation assistance, and resources for small businesses and entrepreneurs are among the most cost-effective ways to boost lasting employment and wage growth.<sup>13</sup>

The EDA recently closed Phase I applications for the RECOMPETE pilot program. The agency received 565 applications from 49 states, the highest volume of applications for any national grant process run by the agency in its history.<sup>14</sup> Congress is negotiating FY2024 funding levels for all federal government spending, including the RECOMPETE pilot program. For it, and other similar place-based economic development programs to achieve their potential of positively impacting the most needy regions, lawmakers must continue to adequately fund it.<sup>15</sup> As experts from the Brookings Institution recently wrote, adequate funding for the pilot will also allow better measurement of the program's effectiveness at improving employment and earnings in pilot areas.<sup>16</sup> Ideally, data on the best strategies to reduce prime-age employment rates from the RECOMPETE Act and other place-based programs in EU countries can be shared to continue to inform how policymakers can best support persistently distressed regions.

#### PEOPLE-BASED POLICY RECOMMENDATIONS: THE SKILLS INVESTMENT ACT, REBUILD SKILLS ACT AND TIME TAX

Workers need the right education and skills to get employed, and often they also need access to work-adjacent resources such as transportation and childcare to stay employed. For some, especially in the U.S., the cost of college and opportunity cost of lost wages puts higher education out of reach. For others, on both sides of the Atlantic, individuals may have trained for a specific job that proved vulnerable to outsourcing, was made obsolete by technology, or fell victim to regional decline due to broader economic forces, as in the Rust Belt and Ruhrgebeit, and in British and American mining towns.

While it is heartening to see some employer-financed "learn and earn" models surfacing in the U.S., where employers pay to train and retrain their employees, and are more popular especially in Germany and Austria, among other EU countries, these opportunities remain limited.

Accordingly, two bills in Congress related to people-based economic development are worth mentioning. The Skills Investment and Rebuild Skills acts should be considered in a forthcoming tax package or in the reauthorization of the Workforce Investment and Opportunity Act (WIOA) respectively.

First, the Skills Investment Act would allow individuals to use tax-advantaged savings accounts to pay for education and skills training programs throughout their lifetime, replacing current age-based restrictions that impede mid-career workers.<sup>17</sup> The bill also doubles the savings contribution limit. Finally, and importantly, it also provides a 25% tax credit to employers to incentivize their contributions to an employee's account. This would allow for the establishment of a kind of "lifelong learning account", a concept that France has already embarked on with the French Compte Personnel de Formation (CPF). Separately, the forthcoming Rebuild Skills Act, would provide a flexible skills training credit of up to \$3,000 per person facing long-term unemployment for the purpose of enrolling in an education or training program that provides in-demand skills.

Finally, people and place-based economic development strategies' success relies on adequate worker support, from workforce housing to transportation to childcare. Annie Lowrey, an American journalist, coined the term the "time tax" to refer to the time Americans spend each year fighting their own government's bureaucracy to attain services for which they are eligible.<sup>18</sup> U.S. President Joe Biden has issued a related executive order directing federal agencies to improve the customer experience for Americans interacting with high-impact service providers (e.g., Centers for Medicaid and Medicare Services, Department of Housing and Urban Development, Department of Veterans Affairs).<sup>19</sup> Members of Congress have also asked the Government Accountability

Office (GAO) to look into how federal programs can better serve the most economically disadvantaged.<sup>20</sup> Finally, states are experimenting with providing universal eligibilities across multiple social service benefits, and are studying the impact on an individual's ability to find work and stay employed. The idea behind it is that a person who can meet their short-term material needs is more able to focus on securing their long-term career. EU member states such as Estonia have paved the way for what streamlined and accessible benefits systems can look like.<sup>21</sup>

#### THE SOLUTIONS ARE EVIDENT

The challenges facing economically disadvantaged communities in the U.S., Europe and beyond are not intractable. There are many worthy place and people-based economic development policy solutions available on both sides of the Atlantic. For the future of work to work, people and places that have faced persistent distress should be front and center.

*The opinions expressed in this article are the author's alone. She has worked on several pieces of legislation mentioned in this article.*

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## PUTTING PHYSICAL HEALTH AT THE HEART OF WORKPLACE POLICYMAKING

BY JAMES DUNN

The future of work could be substantially different from today. From embracing the benefits (or being wary of the risks) of artificial intelligence (AI), to supporting young people in designing their future, the potential of transitioning to new models is exhilarating. As part of this transition, it is vital to address a growing cause for concern: the physical health of the workforce.

It is undeniable that the health of the Western workforce has deteriorated substantially in recent decades. The headlines are this: obesity has quadrupled since 1980; 70% of Americans and 55% of Europeans are overweight (36% and 25%, respectively, are obese).<sup>1</sup> After smoking, obesity is the world's leading cause of preventable deaths. Obesity increases the risk of diabetes, heart disease, most cancers, and numerous other diseases.

But what does this mean? The unhealthier the population, the fewer people are able to work. The fewer people in the workforce, the lower productivity, output, and economic performance. When the balance of productivity tilts too far, geopolitical shifts in industry occur. Think of the post-Brexit move of several industries from the UK from a combination of a reduced workforce and regulatory red tape. At the same time, the population of Western countries is aging. That will leave fewer people in the workforce, with lower productivity and economic output, before even factoring in a labor pool further reduced by preventable ill health.

It is uncomfortable to suggest that governments and employers should do more to improve public health when that contradicts personal choice. However, we are now close to a tipping point, and more must be done.

### HOW DID WE GET HERE?

To propose areas of future improvement, it is important to understand where we are, how we got here and why we are not yet at a tipping point. During World War II, rationing heavily restricted diets. War demanded industrial production, a critical employer for many countries, diminishing attention to food production. These trends continued into the 1950s and 1960s. And then, in the 1970s several major economies deindustrialized. Coal mines in Britain closed, and the European Economic Community (as the EU was then called) was established to protect the steel, agriculture, wine and coal industries, among others. While the collapse in heavy manufacturing presented major risks, it did have possible long-term benefits: reduced workplace injuries and limited exposure to chemicals, such as asbestos, that were considered safe.<sup>2</sup> In

theory, the workforce had the potential to become healthier if the right employment replaced heavy manufacturing.

The situation changed in 1975 when the rise of computing began. In the U.S., Microsoft was founded, and the internet soon followed. Over time, this created the demand for a more agile services economy. This meant that the working day was sedentary for a greater number of people. In 1970, only two in 10 Americans (and a comparable number of Europeans) were in jobs classified as “light activity”, or behind a desk. Today that figure is now closer to eight in 10 in some EU member states.<sup>3</sup> In the U.S., over 40% of adults sit more than 8 hours per day, with younger adults now reporting to be more inactive than ever before.<sup>4</sup>

The explosion in computing, the collapse of heavy industry, and the movement towards a more sedentary lifestyle continued throughout the 1980s, 1990s and 2000s. But another important shift was taking place during this time. Heavy manufacturing was declining in the U.S. and EU, but manufacturing of processed food was beginning. Processed food started to become commonplace, meaning that consumers were buying pre-made ingredients and foods. While undoubtedly convenient, the combination of a sedentary lifestyle paired with the consumption of unhealthier foods began a cruel cycle. Ultra-processed foods, commonly accepted as those with more than five ingredients, began to be accessible to the masses, though they were not classified as ultra-processed until 2009.<sup>5</sup>

At least two other relevant factors arose in the 2010s and 2020s: the rise of delivery services (enhanced by digital technologies) that rely on ultra-processed foods and the COVID-19 pandemic lockdowns.<sup>6</sup> In the UK, the U.S. and the EU, the number of people reporting as too sick to work increased massively post-pandemic.<sup>7</sup>

Government action to tackle obesity has not worked. Levels continue to rise. This is in part because U.S., European, and British authorities are reluctant to take away personal choice from individuals. These authorities tend to rely, as they did during the pandemic, on the “common sense” of the people. But this is not always the most effective approach and does not allow for long-term planning to improve the health of the workforce. Several measures are needed (see below) before the health of the workforce changes irreversibly.



## HOW GEOPOLITICS COMES INTO PLAY

There are two broader geopolitical points at play in the discussion around the health of the European and American workforce.

First, the U.S. and the EU are becoming more protectionist to secure the benefits of developing green technologies in their markets. This means granting significant tax breaks and incentives to companies willing to develop them and aggressively targeting rules of origin and tariffs. What does not receive enough attention is a trend by markets to try and bring back heavy-industry production facilities, or, in effect, to “re-industrialize”. This could mean more people who work and, potentially, more people in physically demanding, long-term jobs.

Second, reduced productivity and declining populations (in countries such as Italy and Japan) will lead to changes in balance of power. At the end of World War II, the global population was a little over 2 billion. By 2060, some projections have it nearing 10 billion.<sup>8</sup> In the 1950s, countries that had existing heavy manufacturing and supply chains were able to benefit from this and center themselves as global leaders. Now, other countries and regions have developed heavy industry and are powering it with increasingly young populations.<sup>9</sup> Some economies in Southeast Asia, South America and Africa are growing significantly and, as in Nigeria for example, are developing reputations as manufacturing and technological hubs. As they grow, these countries’ GDPs and productivity levels could well portend a shift in geopolitical power. It is vital for Western markets and governments to consider if they are prepared for this.

## POLICY RECOMMENDATIONS

What should be done? This paper has identified three critical factors causing the long-term decline of physical health in the workforce: sedentary jobs, sedentary lifestyle and a poor diet. But there are solutions. None of these will be easy to implement, but the limited action to date has failed.

## INCENTIVIZE REDUCING THE CONSUMPTION OF ULTRA-PROCESSED FOOD

In the U.S., 75% of the average diet is comprised of ultra-processed food. While the EU figure is lower, it is still high, at almost 60%; in the UK figure it is 64%. This is resulting in soaring childhood obesity (more than 30% in the U.S. and the UK, 22% in the EU). These foods contain additives and emulsifiers, are cheaper to produce and have a long shelf life. But they cannot be digested effectively and have poor macronutrient content. In short, they are unsuitable for a long-term diet. Higher taxation or a ban on such items could limit the amount of ultra-processed food that an individual consumer can buy.<sup>10</sup>

a. There is, of course, a significant socioeconomic consideration for those who use ultra-processed food. They are cheaper to produce and buy. In many markets, a bottle of water is more expensive than a bottle of soda. Organic fruit and vegetables are more expensive than a microwave meal, which is also easier to cook. The production of ultra-processed food could be offset if more land were given to agriculture, with a greater focus on producing organic food, and subsidies introduced to lower prices. Healthy eating is becoming the preserve of the rich.

b. Employers could take more responsibility for the health of their workforce. Many, such as Blackrock, EY and Deloitte, already provide mental health support and tools. These include mindfulness apps, allowing for movement breaks throughout the day, and opportunities for yoga memberships. Many also provide health insurance or rely on national health care systems. But this is all aimed at responding to or treating a condition, not preventing it. Employers can start providing healthy eating modules.<sup>11</sup> These modules provide macro-nutrient information for foods and healthy recipes for employees to make. Check-ins for staff can also be useful and may include annual physicals.

## INTRODUCE MOVEMENT INTO THE WORKPLACE

Numerous studies have proposed a daily step count of 10,000. Most Americans manage just 3,000 per day. A Japanese company selling pedometers put forward the higher figure; it is, therefore, not without prejudice. But more steps are undeniably better since increased activity leads to improved health.<sup>12</sup> For onsite workers, governments should support (and model) movement breaks that occur outside the lunch break. Many employers, including the UK and French civil services, run yoga classes, athletic events and similar activities, but they take place after work or during the lunch hour. Busy people may find the timing inconvenient. Healthy movement during the workday would boost productivity and reduce medical costs.

## COORDINATE A GLOBAL OBESITY CONFERENCE

This is not an issue for any one country. There are numerous industry-wide global platforms for cybersecurity, pandemic preparedness and malnutrition, among other critical issues of our time. Obesity and preventable disease, issues facing all major economies, should also be topics of discussion. Countries should share information on them and more effectively cooperate on tackling them. Given its success in coordinating international forums on Ukraine, cancer, COVID-19 and other issues, the EU could take the lead in organizing such an effort.

*The current approach is simply not working. We must act now before it is too late.*

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Irene Braam



Executive Director  
Bertelsmann Foundation

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The views expressed in these pieces do not necessarily represent or reflect the views of the Bertelsmann Foundation or the employees of the organization.



## END NOTES

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By *Joe Wilcox*:

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### **Between Infrastructures and Digital Skills for Africa: Is the EU Ready to Step in?**

By *Andrea Castagna*:

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### **Using Technology to Bring ‘Hidden Workers’ to Light**

By *Amir Magdy Kamel*:

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<sup>20</sup> As noted during workshops and presentations by policymakers and analysts in Washington, DC as part of this Bertelsmann Foundation Fellowship.

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### **Unlocking Third-Country Nationals’ Full Potential to Feed in the EU Future of Work**

By *Céline Chateau*:

<sup>1</sup> The term “third-country nationals” is used in the EU to designate non-EU nationals. EU citizens may move freely within the bloc, and their movements are not considered “migrations”.

<sup>2</sup> European Commission, “State of the Union Address 2022”, [https://ec.europa.eu/commission/presscorner/detail/ov/speech\\_22\\_5493](https://ec.europa.eu/commission/presscorner/detail/ov/speech_22_5493). The 2023 State of Union Speech restated the EU’s need for qualified migration.

<sup>3</sup> European Commission, “The Impact of Demographic Change in a changing environment”, 2023, [https://commission.europa.eu/system/files/2023-01/Demography\\_report\\_2022\\_0.pdf](https://commission.europa.eu/system/files/2023-01/Demography_report_2022_0.pdf)

<sup>4</sup> Organisation for Economic Co-operation and Development/European Union, “Recruiting Immigrant Workers: Europe 2016”, 2016, <https://doi.org/10.1787/9789264257290-en>.

<sup>5</sup> Organisation for Economic Co-operation and Development, “How to make Labour Migration Management Future-Ready?”, January 2020, <https://www.oecd.org/els/mig/migration-policy-debates-21.pdf>

<sup>6</sup> On the basis of Article 79(1) of the Treaty on the Functioning of the European Union, which states that “[T]he Union shall develop a common immigration policy aimed at ensuring, at all stages, the efficient management of migration flows, fair treatment of third-country nationals residing legally in Member States, and the prevention of, and enhanced measures to combat, illegal immigration and trafficking in human beings.”

<sup>7</sup> European Commission, “Fitness Check on EU Legislation on legal migration”, 2019, [https://home-affairs.ec.europa.eu/policies/migration-and-asylum/legal-migration-and-integration/legal-migration-fitness-check\\_en](https://home-affairs.ec.europa.eu/policies/migration-and-asylum/legal-migration-and-integration/legal-migration-fitness-check_en)

<sup>8</sup> Almost all EU member states are party to the Council of Europe and UNESCO-developed 1997 Convention on the Recognition of Qualifications concerning Higher Education in the European Region (Lisbon Recognition Convention) and its subsidiary texts, which provide a legal framework for the recognition of higher education qualifications and upper secondary education and training qualifications that give access to higher education. The Bologna Process was launched in 1999 as an intergovernmental initiative aimed at creating a European Higher Education Area by 2010 and making Europe a world leader in higher education. In the area of vocational education and training (VET), member states have committed to the Copenhagen Process for enhanced cooperation, which promotes mutual trust, transparency and the recognition of qualifications and competences.

<sup>9</sup> Council conclusions of May 16, 2023, adopted on the basis of the Commission Report to the Council on the implementation of the Council Recommendation of November 26, 2018 on promoting automatic mutual recognition of higher education and upper secondary education and training qualifications and the outcomes of learning periods abroad (COM(2023) 91 final).

<sup>10</sup> i.e., The European Qualifications Framework (EQF), developed by the EU as a translation tool to make national qualifications easier to understand and more comparable (Cedefop (2019)), ESCO (European Skills, Competences

and Occupations classification); see European Training Foundation, Qualifications and skills recognition: Increasing opportunities, building fairer societies, 2023, <https://www.etf.europa.eu/en/news-and-events/news/qualifications-and-skills-recognition-increasing-opportunities-building-fairer#:~:text=President%20von%20der%20Leyen%20said,attractive%20for%20skilled%20workers%E2%80%A6%E2%80%9D;https://ec.europa.eu/migrantskills/#/>

<sup>11</sup> The multilingual EU Skills Profile Tool for Third Country Nationals is intended for use by organizations offering assistance to third-country nationals. It helps to map the skills, qualifications and work experiences of the third-country nationals and to give them personalized advice on further steps, e.g., a referral to recognition of diplomas, skills validation, further training or employment support services.

<sup>12</sup> Directive 2005/36/EC of the European Parliament and of the Council of 7 September 2005 on the recognition of professional qualifications

<sup>13</sup> See, e.g., for Germany: [https://www.bmbf.de/bmbf/en/education/recognition-of-foreign-professional-qualifications/recognition-of-foreign-professional-qualifications\\_node.html](https://www.bmbf.de/bmbf/en/education/recognition-of-foreign-professional-qualifications/recognition-of-foreign-professional-qualifications_node.html); see also legislation of 10 MS mentioned in European Union Agency for Fundamental Rights (FRA), September 2023, “Promoting migrant integration – Strengthening EU law on long-term residence”.

<sup>14</sup> European Commission, “Action plan on Integration and Inclusion 2021-2027”, November 24, 2020, <https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A52020DC0758&qid=1632299185798>

<sup>15</sup> Apart from family members of EU citizens under the “free movement directive” (Directive 2004/38/EC), highly qualified third-country workers holding a Blue Card under Directive (EU) 2021/1883, intra-corporate transferees under Directive 2014/66/EU and, to a certain extent, students and researchers under Directive 2016/801 are entitled to intra-EU mobility.

<sup>16</sup> See Eurostat figures mentioned by the European Union Agency for Fundamental Rights (op. cit. note 12., p. 76). The European Commission’s 2020 Action plan on Integration and Inclusion 2021-2027 referred to 38.6% for 2019 (Eurostat), with overqualification being defined as “working in low- or medium-skilled occupations (ISCO 4-9) despite having a high level of education (ISCED 5-8)”. See also the 2015 International Organization for Migration (IOM) study on Recognition of Qualifications and Competences of Migrants, which noted “broad evidence of significant underutilization of immigrants’ skills across the EU”.

<sup>17</sup> E.g., the discrepancy between the level of supply and demand of labor in specific sectors/occupations and specifically for third-country nationals’ discrimination, language barriers, under-assessment of qualifications.

<sup>18</sup> See IOM (2015), op. cit., and, more convincingly, the International Labour Organization’s (ILO) 2020 report, How to Facilitate the Recognition of Skills of Migrant Workers, Guide for Employment Services Providers (first published in 2017) with evidence demonstrating the positive impact of recognition of skills and qualifications to address various labor market challenges, which bring substantial benefits for individuals, employers and national economies (based on Braňka, J., “Understanding the potential impact of skills recognition systems on labour markets”, ILO, 2016)

<sup>19</sup> E.g., lack of information, difficulty to gather documentation from country of origin, lengthy procedures and costs related to translations

<sup>20</sup> The European Parliament Research Service European Added Value Assessment (op. cit., note 17) reports that “among over-qualified [third-country nationals] with tertiary education, recognition of qualifications is the most commonly reported barrier to finding a suitable job – 40 % report facing this obstacle; in comparison, 21 % report facing the obstacle of language skills.” (Center for European Policy Studies, Annex 1, p. 50).

<sup>21</sup> See, e.g., recent study from the European Union Agency for Fundamental Rights, Promoting Migrant Integration – Strengthening EU Law On Long-Term Residence, September 2023.

<sup>22</sup> European Training Foundation, Qualifications and skills recognition: Increasing opportunities, building fairer

societies, July 21, 2023), <https://www.etf.europa.eu/en/news-and-events/news/qualifications-and-skills-recognition-increasing-opportunities-building-fairer#:~:text=President%20von%20der%20Leyen%20said,attractive%20for%20skilled%20workers%E2%80%A6%E2%80%9D>

<sup>23</sup> World Bank Development Report, Migrants, Refugees and Societies, 2023, in particular Chapter 6, on positive economic impacts, and the section on fiscal contributions, where it is shown that “on average, the net fiscal contributions of migrants and naturalized citizens in OECD countries are higher than those of native-born citizens.” Also, Figure 6.4, “Ratio of individual-level government revenue to expenditure (per capita), 2006–18 average”.

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<sup>25</sup> E.g., personal care workers in health service, drivers, transport and storage laborers, food processing workers. See JRC, Immigrant Key Workers: Their Contribution to Europe’s COVID-19 Response, April 23, 2020.

<sup>26</sup> Walizada, Ahmad, “Highlight 25/2022 – The positive impact of migration”, Master of Advanced Studies European and International Governance, Highlights, April 29, 2022, <https://www.meig.ch/highlight-25-2022-the-positive-impact-of-migration/>; IOM, “World Migration Report 2022”, 2022, <https://publications.iom.int/system/files/pdf/WMR-2022.pdf>, in particular Chapter 12 on “Reflections on migrants’ contributions in an era of increasing disruption and disinformation”.

<sup>27</sup> As the World Bank puts it, “skills recognition and skills building, recognition of degrees and skill certifications is important to make the best of labor migration”. World Bank, 2023, op.cit.

<sup>28</sup> Ukrainians who benefit from the Council Directive 2001/55/EC of July 20, 2001 on minimum standards for giving temporary protection in the event of a mass influx of displaced persons and on measures promoting a balance of efforts between Member States in receiving such persons and bearing the consequences thereof, activated for the first time in 2022 for Ukrainians only. Activation extended to 2024. Under this directive, member states have an obligation to allow those temporary refugees to work.

<sup>29</sup> E.g., <https://www.enic-naric.net/page-ukraine-2022>; pilot “talent pool” to facilitate Ukrainian refugees’ access to the EU labor market; Ukrainian version of the EU Skills Profile Tool for Third Country Nationals (TCNs) launched by the European Commission. See Howard Davies, “Policy Briefing - Recognition of professional qualifications”, European University Association, January 2023, [https://eua.eu/downloads/publications/policy%20briefing\\_updated%20qualifications%202023.pdf](https://eua.eu/downloads/publications/policy%20briefing_updated%20qualifications%202023.pdf)

<sup>30</sup> Recommendation (EU) 2022/554 on the recognition of qualifications for people fleeing Russia’s invasion of Ukraine, <https://www.europeansources.info/record/recommendation-eu-2022-554-on-the-recognition-of-qualifications-for-people-fleeing-russias-invasion-of-ukraine/>

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<sup>32</sup> European Commission, “Assessment of commission recommendation (EU) 2022/554 of 5 April 2022 on the recognition of qualifications for people fleeing Russia’s invasion of Ukraine”, 2023. [https://single-market-economy.ec.europa.eu/publications/assessment-commission-recommendation-eu-2022554-5-april-2022-recognition-qualifications-people\\_en](https://single-market-economy.ec.europa.eu/publications/assessment-commission-recommendation-eu-2022554-5-april-2022-recognition-qualifications-people_en). The recognition was surely made easier by the pre-existence in Ukraine of an advanced database on education qualifications. The challenge of missing evidence of qualifications turned out to be less important than during previous periods of arrivals of asylum seekers. Electronic tools and exchange of information appeared as crucial to support member states in the challenge of taking quick recognition decisions.

<sup>33</sup> Idem, p. 4

<sup>34</sup> IOM, 2015, op.cit.



<sup>35</sup> Action plan on Integration and Inclusion 2021-2027, op. cit.

<sup>36</sup> op. cit.

<sup>37</sup> Last draft dated December 3, 2023

<sup>38</sup> European Parliament, “Resolution of 25 November 2021 with recommendations to the Commission on legal migration policy and law (2020/2255(INL), 2021. The legislative initiative report on which the resolution is based was accompanied by a European Added Value Assessment study prepared by the European Parliament Research Service (Cecilia Navarra and Meenakshi Fernandes), which sees the promotion of recognition of third-country workers’ qualifications as one of the main policy options for EU action in legal migration. [https://www.europarl.europa.eu/RegData/etudes/STUD/2021/694211/EPRS\\_STU\(2021\)694211\\_EN.pdf](https://www.europarl.europa.eu/RegData/etudes/STUD/2021/694211/EPRS_STU(2021)694211_EN.pdf)

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<sup>40</sup> The IOM, for example, recommends that it is combined with some pre-screening processes including language or skills tests, which could be particularly important for the assessment of informal and non-formal learning as well as in cases where proof of formal qualifications may be unavailable or difficult to obtain (e.g., in the case of persons in need for international protection or not digitally literate). The IOM also sees a risk that the current extremely complex and highly fragmented processes for the recognition of diplomas and skills acquired in third countries, and poor-quality information on available mechanisms, could deter qualified candidates to enroll in the Talent Pool. Altogether, they see that “supporting the recognition of qualifications and skills will be an essential cornerstone of the EU Talent Pool to ensure a smooth labour market inclusion of third-country nationals. The EU Talent Pool could facilitate the early recognition of diplomas, qualifications and skills, for example, by embedding skills tests in the screening process that lead to fast-track processes of recognition of qualifications and skills, in coordination with relevant authorities involved in the recognition process in the EU Member States. Equally important is the consideration of mechanisms for the assessment and accreditation of non-formal and informal learning.” See IOM, “IOM Contribution to the EU Talent Pool Call for Evidence”, 2023, <https://eea.iom.int/sites/g/files/tmzbdl666/files/documents/2023-07/iom-call-for-evidence-eu-talent-pool-june-2023.pdf>; See also Organization for Economic Co-operation and Development, “How to make Labour Migration Management Future-Ready?”, 2020, op.cit., refers to points systems that “grant points for different skills, experiences and characteristics, and their interaction, [and] are a current example of a multifactor screening tool. For example, the points system in Canada considers the positive interaction of higher educational degrees with different levels of language skills.”

<sup>41</sup> Op. cit. note 12

<sup>42</sup> This would also end what can be seen as a discrimination in the different treatment given to persons holding the same degree.

<sup>43</sup> In this respect, the proposed recast of the Single Permit Directive is encouraging but will depend on the outcome of negotiations between the Council, which opposes reduction of time limits for the examination of applications, and the European Parliament, which strives to accelerate procedures (including recognition procedures). See Co-legislators’ respective mandates, [https://oeil.secure.europarl.europa.eu/oeil/popups/ficheprocedure.do?reference=2022/0131\(COD\)&l=en](https://oeil.secure.europarl.europa.eu/oeil/popups/ficheprocedure.do?reference=2022/0131(COD)&l=en)

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## Putting Immigrant-Origin Workers at the Center of the Future of Work Discussion in the United States

By *Jeanne Batalova*:

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## Addressing the Global Digital Skills Gap—U.S. and EU Member State Perspectives

By *Leighton Johnson*:

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### **Dual Vocational Training: A Key Educational Model to Solve the Unemployment Paradox in Spain**

By *Dr. Vicent Climent-Ferrando*:

<sup>1</sup> Available at: CaixaBank Dualiza hace una radiografía de la FP Dual: más inserción laboral, y mejores sueldos en grados superiores - CaixaBank Dualiza

### **There is No Sustainable Future of Work if Young People are Left Behind**

By *Michele Zagordo*:

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### **The Future of Work in the Twin Transition to Green and Digital**

By *Elisabeth Gieseemann*:

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### **Cleantech Entrepreneurship Education: Building a Transnational Initiative**

*By Francesco Matteucci:*

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### **People and Places Left Behind: Policy Recommendations for a Future that Works**

*By Heather Painter:*

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### **Putting Physical Health at the Heart of Workplace Policymaking**

*By James Dunn:*

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