

Shifting gears
Changing methods and mindsets to address long-term unemployment

### **Executive Report**

Government

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## Why focus on LTU?

While finding work in a competitive labor market is challenging, doing so after being unemployed for more than a year is exponentially more difficult, even in less constrained labor markets. Long-term unemployment (LTU) can negatively affect unemployed individuals and their families, as well as governments and tax payers. Because the long-term unemployed population and the issues related to their LTU status are diverse, no singular intervention can address the needs of all. However, new methods and mindsets can help governments better focus, prioritize and coordinate interventions and improve LTU outcomes.

## **Executive summary**

Seeking employment, particularly in a competitive labor market, can be a stressful and demanding process for anyone. However, those who have been unemployed for more than 12 months – the long-term unemployed – face even greater challenges. While long-term unemployment (LTU) obviously affects the unemployed and their families, it also has significant financial implications for governments and tax payers.

To better understand the scope of LTU and what is being done to address it, we surveyed 124 subject matter experts (SMEs) from public employment service (PES) and workforce development organizations representing 31 countries and multiple geographic jurisdictions. Additionally, to understand the magnitude and expected future trends of LTU, an economic analysis was conducted by Oxford Economics to project LTU rates for select countries and regions around the world.

## long-term unemployment (LTU)

Referring to people who have been unemployed for 12 months or more. Long-term unemployment rates are typically a proportion of the long-term unemployed among all unemployed. Lower duration limits (e.g., six months or more) are sometimes considered in national statistics on the subject.<sup>2</sup>



The global LTU struggle is projected to continue over the next five years.



A large majority of the long-term unemployed lack key skills currently in demand.



Public employment service organizations globally are focused on LTU.



Three opportunities can help improve outcomes for the long-term unemployed.

Our research reveals that PES and workforce development organizations globally have implemented multiple types of interventions, many of which have yielded positive results. They also plan to expand many of these interventions, though not necessarily those with the most impact. We also discovered that many organizations are uncertain about the impact and potential of technology-related interventions and ill-prepared to address implementation challenges. In addition, although organizations are engaging with ecosystem partners to implement interventions, there is significant room for improvement.

Looking forward, our research shows that, barring any unanticipated economic events or a significant shift in interventions, the LTU rate is unlikely to fall to prerecession levels in most countries within the next five years. As such, we suggest PES and workforce development organizations embrace new methods and mindsets to better address LTU. In this report, we explore current interventions, as well as what organizations have planned for the future. We also outline three opportunities to help organizations better focus, prioritize and coordinate interventions and to leverage technology to improve outcomes for the long-term unemployed.

## Why the long-term unemployed can't wait

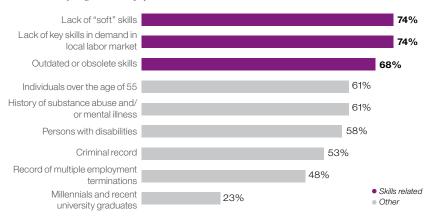
LTU impacts a broad and diverse group of individuals and has significant negative impacts on multiple stakeholder groups. Given the LTU rate in most regions is unlikely to improve in the near future, organizations need to focus today on determining the best strategies to address the issue.

### Who are the long-term unemployed?

There are various cohorts of the long-term unemployed. Some individuals are unemployed for long durations due to skill gap issues and others due to social and demographic factors unrelated to skills. According to our survey respondents, the top three characteristics of the long-term unemployed all involve skills (see Figure 1). Other leading characteristics include being over 55, having a history of substance abuse or mental illness, having a disability and having a criminal record. This broad range illustrates the need for a diverse set of interventions to address the needs of the various cohorts.

Although much emphasis has been placed on the issue of youth unemployment, less than a quarter of respondents identified being a millennial or recent university graduate as a characteristic of the long-term unemployed. Rather, it's more likely for a member of the LTU population to be over 55. According to a Pew Research study of first quarter 2012 data, older workers were less likely to lose their jobs but much more likely to be jobless for a year or more if they did.<sup>3</sup>

Figure 1
Characteristics of long-term unemployed individuals



Source: IBM Institute for Business Value Long-term Unemployment Survey 2014.

### Impacts of LTU

Economic impacts: In addition to lost wages during the actual period of unemployment, the long-term unemployed risk longer-term economic impacts. According to U.S. studies, earnings losses persist up to 15 to 20 years after a job loss during a recession, and the average lifetime earnings loss amounts to 20 percent. The cumulative loss of income increases as the period of unemployment continues. Additionally, the expected wages at reemployment also fall, leading to a permanent loss of future income. The problem is further exacerbated for youth that become long-term unemployed as life-long earning potential is impacted.

LTU also reduces the average probability of being rehired and hence increases the risks of hysteresis in unemployment. In fact, according to data from the U.S. Census Bureau from Q4 2009, the probability of being rehired in the next month for a person who was unemployed for 26 weeks or more is less than 10 percent, compared to over 30 percent for someone who was unemployed for less than four weeks.<sup>5</sup>

Health impacts: According to a 2013 U.S. Gallup poll, almost 20 percent of survey respondents unemployed for a year or more said they currently had or were being treated for depression – almost double the rate among those unemployed for five weeks or less. <sup>6</sup> And a 2011 NPR report revealed that 56 percent of the long-term unemployed or underemployed surveyed put off needed health care, almost twice the percentage of full-time workers. <sup>7</sup>

Impact on governments and tax payers: Governments and taxpayers assume significant costs associated with paying emergency and extended unemployment benefits for the long-term unemployed, while lost tax revenues impact the ability of governments to fund public services. According to a U.S. Congressional Budget Office estimate, paying emergency and extended unemployment benefits cost taxpayers approximately US\$520 billion in the years 2007 to 2012.8 In the United Kingdom, from 2011 to 2012,  $\Sigma$ 2.5 billion was spent on out-of-work benefits for those under 25. An additional  $\Sigma$ 6 billion was spent on other benefits and tax credits for this group.9

*Broader societal impacts:* Unemployed workers become more likely to leave the labor force and retire, enroll in disability programs or simply become "discouraged workers" as unemployment continues. The exit to disability is most worrisome because it tends to be permanent. Research also suggests LTU can have negative impacts on human and social capital and families and children in affected communities. Additionally, communities with higher shares of long-term unemployed tend to have higher rates of crime and violence.<sup>10</sup>

### Trends and future outlook

Source: "Long-term unemployment in 30 countries." Oxford Economics. 2014.

Historically, LTU rates have varied greatly across regions, but they tend to be higher in Europe, possibly reflecting the degree of labor market inflexibility in the region (see Figure 2). However, the recent global financial crisis has influenced the number of long-term unemployed in most countries. In particular, the United States has experienced a significant rise in LTU since 2007. Looking to the future, regional forecasts vary greatly but Europe's struggle is expected to continue over the next several years. The long-term unemployed are much less likely to be hired, as there is evidence that skills degradation, loss of motivation and other factors can result in some never re-entering employment, thus permanently increasing the LTU rate. 12

Figure 2 Regional LTU rates History and forecast of regional LTU rates Percent long-term unemployed among total unemployed 70 4 Forecast 60 Peripheral Eurozone 50 Core Eurozone Eastern European Union Asia Pacific 30 Western European Union 20 North America 10 2004 2006 2008 2010 2012 2016 2018 2014

## What's being done

LTU is a priority among PES and workforce development organizations, and the wide variety of interventions implemented have had varying levels of success. While organizations indicate they are leveraging partnerships to address the issue, significant room for improvement exists.

### Commitment and uncertainty

More than 80 percent of our survey respondents indicated that helping the long-term unemployed find full-time employment was a priority (see Figure 3). However, while 100 percent of respondents were knowledgeable of the total unemployment rates in their region, more than a third indicated they did not know the LTU rate.

There is no consistent or common view among respondents regarding LTU's magnitude in the next five years: 44 percent believe the LTU rate will increase, 32 percent believe it will decrease and 24 percent believe it will not change.

### Current interventions and impact

Policies, classroom training programs and job-matching technology solutions were identified as the leading interventions implemented (see Figure 4). Analytics solutions to identify at-risk individuals and apprenticeship programs rounded out the top five.

Apprenticeship programs were identified by respondents as the most impactful intervention, despite ranking fifth in number of organizations that leverage this approach (32 percent). In addition, a majority of respondents also indicated they saw positive results from policies, analytics solutions to identify at-risk individuals and classroom training programs.

Figure 3

LTU focus and awareness levels among organizations



Helping the long-term unemployed find full-time employment is a specific priority of the organization



Do not know the LTU rate for the area over which their organization has reach/jurisdiction

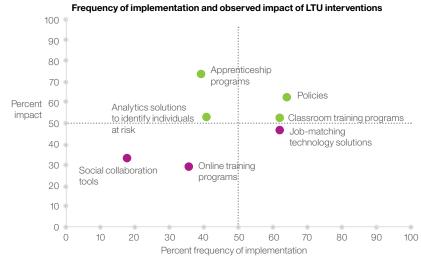
Source: IBM Institute for Business Value Long-term Unemployment Survey 2014.

"There are a lot of potentially valuable strategies to assist the long-term unemployed, but there is not enough systematic evidence about which of these might be most effective for the various categories of job seekers.

There is an urgent need to develop cost-effective solutions."

**Dr. Carl Van Horn,** Distinguished Professor of Public Policy and Director, John J. Heldrich Center for Workforce Development, Rutgers University

Figure 4
Implementation and impact of LTU interventions



Source: IBM Institute for Business Value Long-term Unemployment Survey 2014.

Regarding success of technology-related interventions (i.e., job-matching technology solutions, social media collaboration tools and online training programs), many respondents appear to be uncertain, with a significant number rating the impact as "neutral." The greatest uncertainty exists around online training programs and social collaboration tools, which 61 and 56 percent of respondents ranked as "neutral," respectively.

While much is being done to address LTU, current interventions and strategies alone are not likely to change future outcomes.

## Designs for the future

While respondent organizations plan to expand interventions and partner more in the future, they may not be targeting the right interventions or partners. In addition, most organizations are not well equipped to face the challenges of implementing innovative technology solutions.

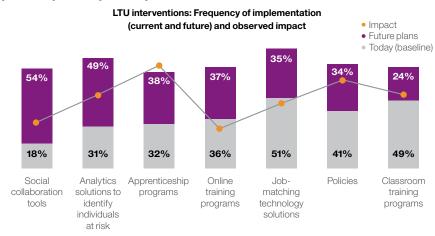
### **Planned interventions**

We discovered that respondents plan to increase interventions in a number of areas; however, many of their future plans are not aligned with those interventions identified as having the greatest impact. The most significant planned increases are in the areas of social collaboration tools (e.g., enabling collaboration between the long-term unemployed, employers, social workers, non-profit organizations, government departments, etc.) and analytics solutions to identify individuals at risk of becoming long-term unemployed.

Respondents had mixed views on implementing social media collaboration tools. While a majority have future plans to implement social collaboration tools, 29 percent have no intention of implementing them (the second highest ranking among all interventions). Additionally, only a third rated this intervention as being impactful, and more than half were unsure of the impact. This was the second lowest rated intervention in terms of observed impact.

And although apprentice programs were rated as the most impactful intervention, only 38 percent of respondents intend to implement them in the future, while 30 percent have no intention to do so. Conversely, 37 percent of respondents intend to implement online training programs in the future, despite their being rated the least impactful intervention.

Figure 5
Implementation plans versus perceived impact



Source: IBM Institute for Business Value Long-term Unemployment Survey 2014.

### Future plans for partnering

Respondents have been collaborating with a broad range of ecosystem partners, with other government agencies taking the lead (70 percent). Less than half of the respondents (48 percent) believe they collaborate effectively and efficiently with education, social services and other partnering organizations.

Respondents intend to increase partnerships most with colleges and universities in the next five years; however, it's not clear if higher education partners are up to the challenge of addressing the core issues of the long-term unemployed. While skills-related issues are those most associated with members of the long-term unemployed, only 54 percent of our

respondents believe higher education institutions are adequately preparing students for the workforce. Additionally, only 43 percent believe secondary schools are adequately preparing students for the workforce.

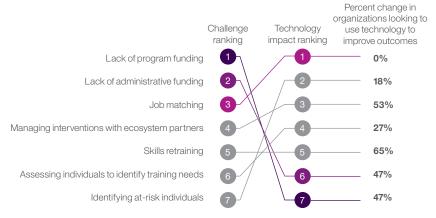
SMEs from higher education echo these sentiments: Findings from a 2014 survey conducted by the IBM Institute for Business Value on the challenges facing higher education institutions revealed that less than half (48 percent) of respondents from public and private colleges and universities and only 21 percent of corporate recruiters believe that higher education institutions are preparing students with the skills they need for the workforce. Additionally, findings from this study indicate that "soft skills" are most in demand by employers but most lacking in students coming out of higher education programs today.<sup>13</sup>

### Perceived challenges and plans for technology use

The survey results reveal that SMEs from PES and workforce development organizations believe technology can assist their organizations in addressing many of the challenges associated with addressing LTU. However, once again, the areas where organizations intend to increase use do not correspond with the areas identified as having the greatest impact (see Figure 6).

Our respondents view lack of program and administrative funding and job matching as most pressing in addressing the LTU issue. Interestingly, while only 49 percent indicated confidence in their ability to identify individuals at risk of LTU, this received the lowest ranking in terms of challenges. Additionally, only 48 percent believe they partner efficiently and effectively with ecosystem partners; however, managing interventions with ecosystem partners was the fourth-ranked challenge, coming in behind funding and job matching.

Figure 6
Disconnects: Areas where organizations intend to increase the use of technology and perceived value



Source: IBM Institute for Business Value Long-term Unemployment Survey 2014.

According to our survey, technology is leveraged today primarily for job matching (58 percent), identifying at-risk individuals (51 percent) and assessing individuals to identify specific training and developmental needs (49 percent). In the next five years, respondents expect to increase the use of technology in many areas, including skills retraining (65 percent increase), managing interventions with ecosystem partners (53 percent increase) and addressing the lack of both program and administrative funding (47 percent increase in both areas).

According to respondents, job matching and identifying at-risk individuals are the areas in which technology has the most potential to improve outcomes. However, most respondents have planned little to no increases in the use of technology in these areas. Job matching was the third highest-rated activity in terms of challenges, behind lack of program and administrative funding.

Respondents recognize that technology implementation challenges exist today, and most appear to be ill-prepared to address them. Legal, security and privacy concerns; lack of skilled resources and technical expertise; other competing priorities; and lack of governance for sharing data across enterprise boundaries and with external partners were the topranking challenges identified. While largely incremental improvement is expected in most areas in the next five years, respondents expressed significant optimism in their organizations' abilities to address challenges related to governance for data sharing and the appropriate use of data.

While respondents indicate they plan to increase and expand interventions and partnerships, there are certainly opportunities to better focus efforts and leverage technology to more successfully address LTU.

# Case study: Ecosystem partners work together to help the long-term unemployed<sup>15</sup>

The WorkPlace, a regional workforce development board in the U.S. state of Connecticut, plans and coordinates regional workforce development policy and programs to strengthen the workforce for employers. To help address LTU, it established Platform to Employment (P2E), a public-private partnership that provides businesses a risk-free opportunity to evaluate and consider hiring the long-term unemployed during an eight-week work experience program. During this period, wages are subsidized with private investment funds, and workers are placed on the payroll of The WorkPlace. The hope is that satisfactory performance will result in a company offering full-time employment. Given its success, P2E has been expanded nationally to 17 cities as of April 2015.

## Improving outcomes for the long-term unemployed

We suggest three opportunities to improve outcomes for the long-term unemployed:

### 1. Focus on tailored and proven interventions

Tailor interventions to target the specific needs of long-term unemployed individuals. A 2013 Organization for Economic Cooperation and Development (OECD) study found that more than half of PES organizations help all members of the long-term unemployed in the same way. <sup>14</sup> The long-term unemployed population is diverse, and interventions must be tailored to meet specific needs.

Tailored interventions require insights into the individuals within the LTU population, as well as ecosystem partners, to deliver an array of interventions. Of particular importance are social services organizations, non-governmental organizations (NGOs) and other non-traditional partners to develop strategies and interventions for individuals where social determinants are a key factor of LTU status. Technology solutions (e.g., analytics and advanced case management) can assist in providing the necessary insights and identifying and managing interventions.

Explore and exploit interventions that have demonstrated value in practice. In addition, implement benefits realization plans to continuously monitor and evaluate the impact of interventions to enable more informed decision making in making portfolio investment decisions.

### 2. Pivot from transactions to holistic strategies for sustainable employment

A focus on simple job matching is short-sighted. We suggest a shift in focus from one-time job matching to strategies aimed at providing individuals with paths to full, sustainable employment.

Just as no singular intervention can address the needs of all long-term unemployed individuals, no singular organization possesses all the various resources and capabilities necessary to deliver interventions. Focus on building and expanding relationships with ecosystem partners that extend your capability to deliver holistic strategies. In particular, target social services organizations focused on strategies and interventions for individuals where social determinants are a key factor to LTU status and employers for collaboration in job matching and sponsoring apprenticeship programs. In addition, expand relationships with employers to better understand industry needs, improve and tailor programs, enable job matching, and implement best practices in hiring and recruiting the long-term unemployed.

Look for opportunities to bring industry and higher education partners together to increase the relevance of academic programs, address skills-related gaps, and expand and promote opportunities for life-long learning and skill development. Additionally, partner with organizations that can help address the most pressing challenges in implementing technology solutions (e.g., enabling data sharing for improved and shared insights, addressing technical skill and expertise gaps).

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## Case study: Leveraging analytics to better tailor employment services<sup>16</sup>

The Dutch Institute for Employee Benefit Schemes (UWV) is an autonomous administrative authority commissioned by the Netherlands Ministry of Social Affairs and Employment. UWV implemented The Work Profiler – an instrument that aids in providing tailored services to clients on unemployment benefits. A digital diagnostic tool, The Work Profiler evaluates a job seeker's probability of returning to work within a year, as well potential obstacles, allowing UWV to provide tailored services based on each individual's challenges. The Work Profiler continues to evolve – the evaluation questionnaire has expanded from 20 items to 55, providing more insights – and an upgraded version of the tool is expected in 2017.

### 3. Exploit technology for high-value opportunities

Respondents identified predictive analytics, advanced case management and social collaboration tools as having the greatest potential in assisting organizations in addressing the issue of LTU. These capabilities align to the most pressing challenges identified by respondents and can enable the LTU population insights required to tailor interventions. Leverage these technologies where capabilities best match the most pressing LTU issues in your region.

Capability	Priority LTU challenges
Predictive analytics	Job matching, identifying individuals at risk, assisting case workers in identifying tailored interventions for individuals based on their specific needs
Advanced case management	Job matching, managing interventions with ecosystem partners, assessing individuals to identify training needs
Social collaboration	Managing interventions with ecosystem partners, assessing individuals to identify training needs, collaborating with case workers that have successfully serviced members of the long-term unemployed with similar barriers

## Ready or not? Ask yourself these questions:

- How confident are you in your organization's knowledge and insights of the long-term unemployed and their specific needs in your region?
- Are you able to effectively and efficiently tailor interventions to meet the needs of individual
  members of the long-term unemployed population? What opportunities exist to leverage
  technology to assist in providing insights on the long-term unemployed and identifying and
  managing interventions?
- How informed, engaged and coordinated are your ecosystem partners in understanding and addressing the long-term unemployed in your region? What opportunities exist to leverage technology solutions to improve the efficiency and effectiveness of partner interactions?
- What are your organization's most pressing challenges in addressing LTU in your region?
   What opportunities exist to leverage existing or create new partnerships?
- How confident are you in evaluating the impact of the interventions your organization has implemented? What opportunities exist to gain greater insights to enable more informed decision making in making portfolio decisions?

### For more information

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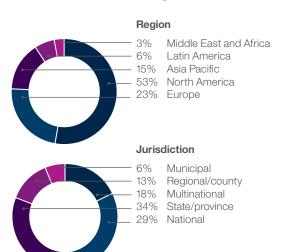
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### Study approach and methodology

In the fall of 2014, the IBM Institute for Business Value surveyed 124 subject matter experts from PES and workforce development organizations representing 31 countries and multiple geographic jurisdictions.

Additionally, to understand the magnitude and expected future trends of LTU, an economic analysis was conducted by Oxford Economics to project LTU rates for select countries and regions around the world.



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### Notes and sources

- 1 OECD Factbook 2013: Economic, Environmental and Social Statistics. OECD iLibrary. Accessed March 11, 2015. http://www.oecd-ilibrary.org/sites/factbook-2013-en/ 07/02/02/index.html?contentType=&itemId=/content/chapter/factbook-2013-58-en&containerItemId=/content/serial/18147364&accessItemIds=&mimeType=text/html
- 2 Ibid.
- 3 "Addendum A Year or More: The High Cost of Long-Term Unemployment." The Pew Charitable Trusts. May 2012. http://www.pewtrusts.org/~/media/Assets/2012/05/Long\_ Term\_Unemployment\_May2012\_Addendum.pdf
- 4 Dao, Mai Dao, and Prakash Loungani. "The Human Cost of Recessions: Assessing It, Reducing It." IMF Staff Position Note. November 11, 2010.
- 5 Ibid.
- 6 Crabtree, Steve. "In U.S., Depression Rates Higher for Long-Term Unemployed." Gallup. June 9, 2014. http://www.gallup.com/poll/171044/depression-rates-higher-among-long-term-unemployed.aspx
- 7 Geewax, Marilyn. "The impacts of long-term unemployment." NPR Special Series, Still no job: Over a year without work. December 12, 2011. NPR website. http://www.npr.org/2011/12/09/143438731/the-impacts-of-long-term-unemployment

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- 8 Longley, Robert. "Unemployment Benefits Cost Taxpayers \$520 Billion." US Government Info. About.com. December 3, 2012. http://usgovinfo.about.com/b/2012/12/03/unemployment-benefits-cost-taxpayers-520-billion.htm
- 9 Cook, Graeme. "No more NEETS, A plan for all young people to be learning or earning." Institute for Public Policy Research. November 2013. http://www.ippr.org/images/media/files/publication/2013/11/no-more-neets\_Nov2013\_11516.pdf
- 10 Nichols, Austin; Josh Mitchell; and Stephan Lindner. "Consequences of Long-Term Unemployment." The Urban Institute. July 2013. http://www.urban.org/uploadedpdf/ 412887-consequences-of-long-term-unemployment.pdf
- 11 "Long-term unemployment in 30 countries." Oxford Economics. 2014.
- 12 Ibid.
- 13 IBM Institute for Business Value Higher Education Survey 2015. For more information, read the IBM Institute for Business Value report to be published in summer 2015.
- 14 "Tackling Long-Term Unemployment Amongst Vulnerable Groups." OECD. June 13, 2013. http://www.oecd.org/cfe/leed/Tackling%20Long\_Term%20unemployment\_%20WP\_covers.pdf
- 15 The Platform To Employment website, accessed February 11, 2015. http://www.platformtoemployment.com; "About us." The Work Place website, accessed April 15, 2015. http://www.workplace.org/about
- 16 Wijnhoven, Martijn, and Harriët Havinga. "The Work Profiler: A digital instrument for selection and diagnosis of the unemployed." The Sage Journals. http://lec.sagepub.com/ content/29/6-7/740.full

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