



Policy Brief on Entrepreneurship for People with Disabilities

Entrepreneurial Activities in Europe



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KEY MESSAGES

- It is estimated that 16% of the working age population in the EU has some form of permanent or temporary disability, and the number of people with some form of disability is likely to increase as the population ages.
- Disabilities vary widely in type, severity, stability, duration and time of onset. These characteristics influence individual capacities and willingness to become entrepreneurs and to sustain such a status. Self-employment is appropriate for many in this population because it can provide more flexibility than paid employment in terms of workload, work schedule and work location, which can allow for better management of disability and lifestyle.
- Efforts are needed to increase awareness about the desirability and feasibility of entrepreneurship by people experiencing disabilities, both among disabled and non-disabled populations.
- There is some evidence that targeted entrepreneurship training and start-up support programmes can be effective for disabled people, but they are expensive to deliver and the size of the target group will not always justify separate provision.
- There is strong potential to adapt existing training and start-up programmes to the needs of the disabled. Business advisors should be ready to recommend self-employment as a career option to the disabled, longer support should be available if necessary, adapted formats (such as Braille) should be used, and language should be adapted to the realities of the clients. Partnerships between business support organisations and specialist disabled support organisations can also help.
- The benefits trap problem should be addressed by ensuring that the welfare system does not cut benefits too quickly on transition to entrepreneurship or discriminate unfairly against those disabled people who chose to become entrepreneurs.
- The use of assistive technologies and improvements in IT and Internet accessibility for disabled business users should be encouraged. The use of assistive technologies for entrepreneurs (brain-computer interfaces, computer readers for blind people, etc.) can be favoured through grants, loans and training in their use. The integration of technological interfaces for disabled people in key accounting, taxation and other business management software can be encouraged. Better interfaces for disabled people on Internet websites are also needed, starting with improvements in accessibility of online government services, such as business registration and tax filing, and promotion of standards for the development of private websites that are friendly to disabled people.

■ DISABILITY IN THE EUROPEAN UNION

Disability impacts a large number of people – approximately 16% of the working age population in the EU is afflicted with a long-standing health problem or disability (European Commission, 2007). And this number will grow as the population ages in industrialised countries due to the associated increased susceptibility to mental and physical disorders (Lutz et al., 2011; Pascarelli et al., 2001). Disabilities are extremely diverse and are not a fixed characteristic of individuals. Many disabilities are invisible to the eye yet popular stereotypes of disabled people as permanent wheelchair users or as blind from birth persist.

Disability affects a wide range of socioeconomic outcomes, including labour market participation. People with disabilities face many barriers in the labour market and disability is consistently found to have a negative effect on labour market outcomes, including employment rates and earnings (Jones, 2008; Berthoud, 2008; Meager and Higgins, 2011; Lechner and Vazquez-Alvarez, 2011). Variations in disability (i.e. type, severity, quantity) influence labour market participation rates, types of occupation and earnings (Jones, 2008, 2011; Berthoud, 2008; Meager and Higgins, 2011). Locomotor impairments exert a substantial negative impact on employment prospects (Berthoud, 2008) as does mental health challenges and learning

difficulties (Berthoud, 2008; Meager and Higgins, 2011). Employer discrimination is a strong influence on the supply of jobs for disabled people (Meager and Higgins, 2011), although employer perceptions about individuals' capacity to work may diverge considerably from their actual capacity to work.

The risk of poverty in the EU is significantly higher for disabled people than for people without disabilities – 21.1% of disabled people face that risk, compared to 14.9% of people without disabilities (Hauben et al., 2012). The main reason for this disparity can be found in the low employment rates of disabled people, which are a cause for and/or a consequence of their social exclusion (Greve, 2009; Hauben et al., 2012).

The European Union has taken a strong position to support the active participation of people with disabilities in society and the economy. This is evident in the Europe 2020 Strategy (http://ec.europa.eu/europe2020/index_en.htm), which aims to create smart, sustainable and inclusive growth to build a society that includes everyone. In addition, the EU has developed a disability strategy (European Commission, 2010), which outlines actions to address specific barriers to full participation in society for people with disabilities (see Box 1 for more information).

Box 1 European Disability Strategy 2010–20

The EU and its Member States have been given a strong mandate to address the social and economic situation of people with disabilities by several charters, treaties and conventions, including:

- The Charter of Fundamental Rights of the European Union (http://www.europarl.europa.eu/charter/pdf/text_en.pdf), which states the need to respect and protect human dignity, ensure the integration of people with disabilities in the community (Article 26) and prohibit discrimination on the basis of disability (Article 21);
- The Treaty on the Functioning of the European Union (<http://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:12012E/TXT>), which requires the Union to fight discrimination based on disability when drafting and implementing policies and adopting legislation (Articles 10 and 19); and
- The United Nations Convention on the Rights of Persons with Disabilities (<http://www.un.org/disabilities/convention/conventionfull.shtml>), which is a legally binding instrument that protects and safeguards human rights and fundamental freedoms of persons with disabilities.

Following this mandate, the EU developed this strategy to empower people with disabilities to enjoy full rights and benefits from participating in society. The strategy focuses on eliminating barriers for people with disabilities in eight action areas: Accessibility, Participation, Equality, Employment, Education and training, Social protection, Health, and External action (i.e. actions outside of the EU). To reduce barriers in these areas, a four-pronged strategy has been developed to raise awareness; provide financial resources to support and research programmes; improve data collection and monitoring; and implement the UN-required governance mechanisms across the Commission and with Member States.

Entrepreneurship is indirectly supported by this strategy through the reduction of barriers under the 'Participation' and 'Employment' themes.

For more information, please refer to: <http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=COM:2010:0636:FIN:EN:PDF>

■ DEFINING DISABILITY

Definitions of disability are shaped by two contrasting concepts: the medical model of disability and the social model of disability. In short, the medical model treats disability as a characteristic of the person and restrictions in activity are explained in terms of individuals' bodily capabilities, with impairments treated implicitly as a form of negative human capital. In contrast, the social model of disability, pioneered by Oliver (1990) assumes that people with impairments are disabled by societal attitudes, institutions and environmental barriers rather than individual characteristics. This model distinguishes 'impairment' (i.e. a limitation of the mind and body) from 'disability' (i.e. social exclusion) (Shakespeare, 2006). These distinctions are important because they influence the definition of 'disabled' in different contexts, especially within the context of eligibility for support in public support and active labour market programmes.

There is no single definition of disability. The World Health Organisation (WHO) International Classification of Functioning, Disability and Health (<http://www.who.int/classifications/icf/en> and <http://www.who.int/classifications/icf/training/icfbeginners-guide.pdf>) defines 'disabilities' as an umbrella term referring to impairments, activity limitations, and participation restrictions:

- An impairment is a problem in body function or structure, including physical impairments (e.g. dysfunction of the musculoskeletal, neurological, cardiac, circulatory and respiratory body systems); mental illness or disorder (e.g. schizophrenia, neuroses and psychotic conditions, anxiety and emotional

disorders, phobias, depression); cognitive impairments (e.g. brain injuries, dementia); sensory impairments (e.g. sight loss or blindness); and intellectual or developmental impairments (e.g. below average general intellectual function).

- An activity limitation is a difficulty encountered by an individual in executing a task or action.
- A participation restriction is a problem experienced by an individual in involvement in life situations.

Impairments, limitations and restrictions vary in terms of numerous characteristics, i.e. type, severity, stability, duration and time of onset. They may be stable, constituting a permanent condition, be slowly degenerative or impose episodic, fluctuating or recurring restrictions on activities (Boyd, 2012). Longitudinal survey panel data from the United Kingdom suggests that the status of being 'disabled' is, for most, a temporary one (Burchardt, 2000). The long-term disabled constitute a relatively small proportion of working age people who experience disability; 27% of those who reported a disability in the UK indicated that they were impacted by the disability for seven consecutive years (the length of the study) (Burchardt, 2000).

Individuals may suffer from multiple conditions or impairments. The onset of impairments also varies between individuals. Some are born with an impairment while others acquire them during childhood or adult life as a consequence of accident, ill

health or ageing. Impairment might occur suddenly or entail a gradual deterioration in health over time. Evidence from the UK indicates that only 11% of the disabled adult population is born with their disability, 12% acquire it in childhood, and 75% become disabled during their working life (Burchardt, 2003). This highlights that no two experiences of disability are the same; nor are disabled people equally disadvantaged in the labour market.

Disability is therefore a complex phenomenon involving interaction between a person's body and the society in which they

live. Diversity in impairment and disability should discourage the use of a simple binary division between 'the disabled' and 'the non-disabled' for two reasons. First, the two populations are fluid rather than fixed. A significant proportion of people are affected by disability at some point during their working lives. Second, disabled people are a highly differentiated group, varying not only in terms of impairment characteristics but also in terms of other personal and household characteristics (i.e. gender, ethnicity, age, education, family structure) and socioeconomic circumstances that influence labour market participation rates (e.g. educational attainment).

■ SELF-EMPLOYMENT ACTIVITIES OF PEOPLE WITH DISABILITIES

Data on labour market activities of people with disabilities are limited. Available data are quite dated and comparability across Member States can be problematic due to the different definitions of disability used in different labour force surveys (Greve, 2009). Nonetheless, the available data suggest that people with disabilities are more likely to be unemployed or inactive (Pagán, 2009; Greve, 2009; Applica/CESEP/European Centre, 2007). Those who are working are often employed in low-skilled, low-paying occupations (Meager and Higgins, 2011).

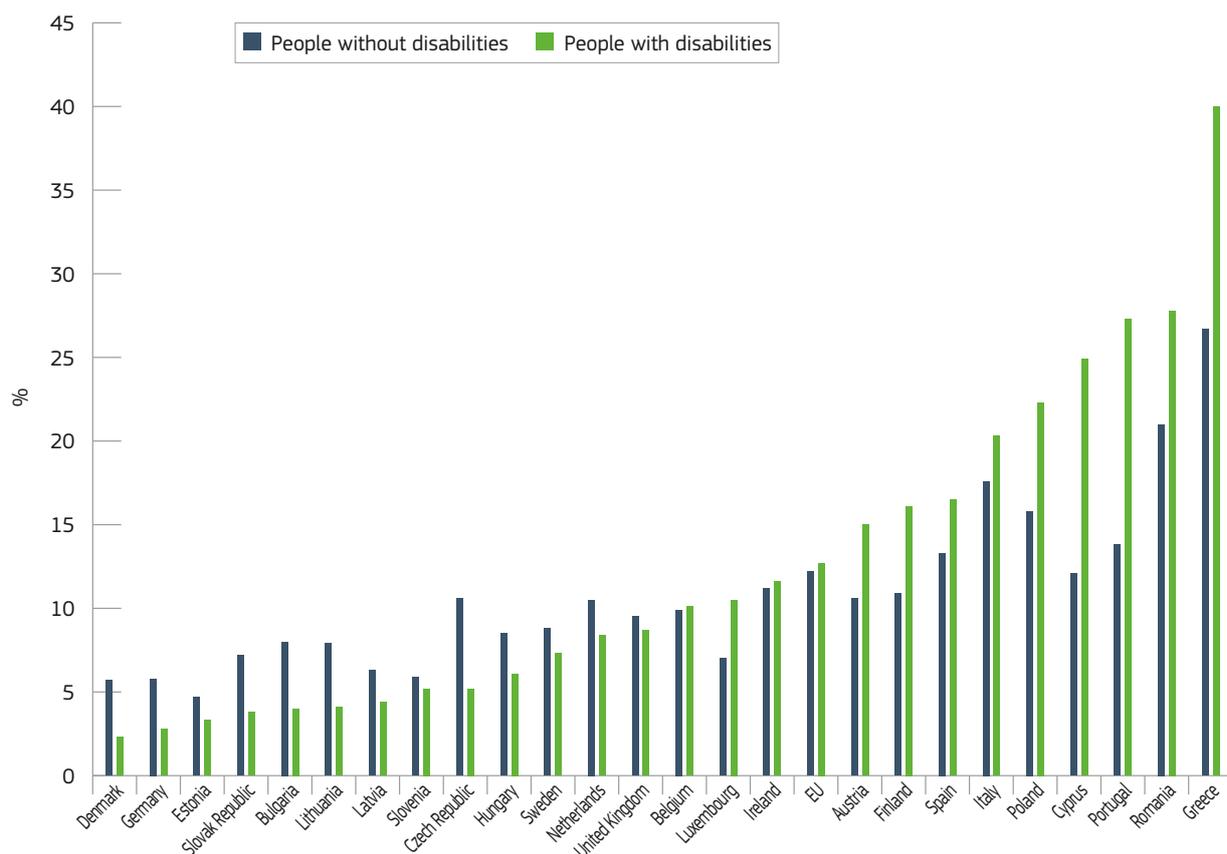
Data from the European Union Statistics on Income and Living Conditions (EU-SILC) suggest that across the EU, people with disabilities are as likely as those without disabilities to be self-employed. However, people with disabilities are more likely to be inactive in the labour market. Between 22% (Austria) and 78% (Poland) of the population with identified disabilities are not active in the labour market (Applica/CESEP/European Centre, 2007). This variation can be explained by several factors, including the generosity of disability benefits and the ease of accessing them, the extent to which people with disabilities are included or excluded from society and education, employer discrimination, demographic factors and the incidence of severe disabilities.

There is large variation in self-employment rates of people with disabilities across Member States. The self-employment rates of people with disabilities are relatively low in many north-eastern EU countries and higher in southern EU countries (see Figure 1). For example, the self-employment rates for people with disabilities in Bulgaria, the Czech Republic, Denmark,

Germany, Estonia, Latvia, Lithuania, Slovenia and Slovakia were below the 5% level in 2007, while the rates exceed the 15% level in Greece, Italy, Cyprus, Poland, Portugal and Romania. Caution is needed in interpreting these data because the differences in self-employment rates across countries are influenced by a number of factors, including variation in the definition of disability used in collecting the statistics.

However, these data are largely consistent with many studies that measure self-employment rates across a small number of countries and for specific disabilities (e.g. Blanck et al., 2000; Boylan and Burchardt, 2002; Meager and Higgins, 2011). For example, a study of 13 EU Member States using the European Community Household Panel data for the period 1995–2001 found that self-employment rates among disabled people were higher than among people without disabilities (Pagán, 2009). This study found that the self-employment rates for people with a disability varied across countries and by gender. Men with disabilities were 10.5 percentage points (p.p.) more likely to be self-employed in Greece than those without disabilities, 8.6 p.p. more likely in Portugal and 8.1 p.p. more likely in Ireland. In Germany, Denmark and the Netherlands the rates were the same for disabled and non-disabled men. The male non-disabled self-employment rate was higher than the male disabled self-employment rate (3.0 p.p. higher) only in Belgium. For females, those with disabilities were 13.5 p.p. more likely to be self-employed in Greece, 10.3 p.p. more likely in Portugal and 8.2 p.p. more likely in Austria. There was no difference in self-employment rates for women with and without disabilities in Belgium, Denmark, Germany, the Netherlands and Finland.

Figure 1. Self-employment rates by disability status, 2007



Source: Special tabulations of EU-SILC data.

There are also differences in self-employment activities based on the type and severity of impairment or disability. For example, self-employment rates were higher among people who were severely limited in their daily activities than among those reporting some or no limitation in daily activities (Pagán, 2009; Jones, 2011). There is some evidence from the UK to suggest that men and women with musculoskeletal problems, and women with mental health problems, are particularly likely to be self-employed, while men with sensory impairments are

relatively unlikely to be self-employed (Boylan and Burchardt, 2002). Data from the UK also suggest that disabled entrepreneurs are more likely to work alone, rather than employ others. Nearly 80% of the self-employed with disabilities have no employees compared to 74% of those without disabilities and non-work-limited disabled men (Jones and Latreille, 2011). Moreover, people with disabilities are more likely to operate as a home-based business (East Midlands Development Agency – EMDA, 2009).

■ THE BENEFITS OF ENTREPRENEURSHIP FOR PEOPLE WITH DISABILITIES

People can be attracted to self-employment for any number of reasons. While some enter self-employment out of necessity, many seek to take advantage of an opportunity, gain independence and autonomy, improve their work-life balance, increase their satisfaction for work activities and attempt to increase their income and other material benefits.

While these reasons may also be a significant influence for entrepreneurs with disabilities, they are also likely motivated by different factors. One of the greatest benefits is that

self-employment provides an entry into the labour market as employer discrimination is frequently reported (Blanck et al., 2000; Boylan and Burchardt, 2002; Hagner and Davis, 2002; EMDA, 2009). Employer discrimination is often highest for those impairments or limitations that are subject to greater prejudice by employers such as those with mental and physical disabilities (Pagán, 2009). For these people, self-employment might offer the only opportunity for active labour market participation and with it, improved income and living standard.

Another important advantage of self-employment for those with disabilities is that it provides a better adjustment between disability status and working life through more flexibility in work pacing, hours worked and location of work (Prescott-Clarke, 1990; Callahan et al., 2002; Doyel, 2002; Pagán, 2009; Jones and Latreille, 2011;

Meager and Higgins, 2011). Thus, self-employment can provide a sense of self-empowerment because entrepreneurship can provide a person with the opportunity to take control of their disability and labour market participation, and be socially and economically active to the extent possible for their situation.

Inspiring entrepreneurs: Veronica Hedenmark, Sweden

Veronica Hedenmark is an entrepreneur from Gothenburg, Sweden. She has founded three companies, VH Assistants, VH Action and VH Kids, which all specialise in providing personal assistance for children, youth and adults with disabilities.

Veronica was born with *Osteogenesis Imperfecta*, which is a congenital bone disorder characterised by brittle bones. By the time that she had turned 9 years old, she had already suffered 152 bone fractures. Despite her condition, Veronica had a very social upbringing and enjoyed attending public school. However, upon graduating from high school, Veronica watched all of her friends move away to attend university or to work in foreign countries as *au pairs*. She was left behind, unsure of how to take the next step in her life. Veronica was left confused and insulted when the Social Insurance Office offered her an early retirement pension, implying that she would never be able to work. Rather than accepting it, she became more determined to remain an active participant in society. Her boyfriend helped her understand the difference between having a disability and being disabled, and this changed her perspective and outlook on life. The immediate result was a desire to start and build a company.

In 1996 she founded VH Assistants to help and inspire others that had disabilities. With the success of this company, she subsequently founded VH Action and VH Kids to expand the scale and scope of her work. Today the companies have more than 600 employees across Sweden.

In addition to running successful businesses, Veronica is a successful advocate for people with disabilities and is a sought-after speaker. In 2008 she was appointed ambassadress of the Swedish Minister for Enterprise and was a finalist for the *Göranpriset* Prize. She won the Compass Rose in 2009, the King's award for young leaders and was named by Business World magazine as one of the 100 Most Powerful leaders under the age of 40.

Inspiring entrepreneurs: Alan Broadbent, Spain

Mr Broadbent lives in Barcelona, Spain and operates a successful business that provides travel-related services for people with disabilities. Mr Broadbent was diagnosed with Multiple Sclerosis in 2000 and has a disability rating of 40% (Government of Catalunya). Multiple sclerosis is an inflammatory disease in which the covers of nerve cells in the brain and spinal cord are damaged, disrupting communication within the nervous system. This can impact an individual's mobility and could also result in mental and psychiatric problems. As he and his family adjusted to this condition, Alan founded his company in 2004 as a result of the challenges that he now faced pursuing his love of travel. The company's primary service is to provide wheelchair- and scooter-accessible airport and cruise port transfers in Barcelona, Girona and Reus.

His travel company also provides wheelchair excursions for Mediterranean cruise ship passengers. The company partners with major cruise lines to offer cruise passengers with mobility challenges the opportunity to enjoy shore excursions in modern fully adapted accessible vehicles with English speaking driver/guides. Personal tour guides are also available for major tour sites and museums. Alan has also written a book, *Barcelona, a Wheelchair Users Guide*.

In addition to running his businesses, Mr. Broadbent is an active advocate for people with disabilities and is a renowned international speaker. He is one of the founders of the Global Network for Entrepreneurs with Disabilities, which acts as a support network and information source (<http://entrepreneurswithdisabilities.org>).

■ THE CHALLENGES FACED BY PEOPLE WITH DISABILITIES WHEN STARTING A BUSINESS

In addition to facing the general challenges to business start-up that all entrepreneurs face, entrepreneurs with disabilities are likely to face specific barriers to entering and sustaining entrepreneurship activities. Some of these barriers, arguably, are very deep-rooted social-structural constraints that impose severe limits on life chances for certain groups of disabled people. These barriers include:

- *Lack of confidence and limited aspirations* – people with disabilities may have difficulty identifying a business opportunity, developing this business idea and engaging with the available support infrastructure in a meaningful way, which contributes to low levels of confidence related to business start-up (Enabled4Enterprise, 2008; EMDA, 2009). This is further compounded by the unsupportive role of family and friends who often discourage start-up. This challenge is especially relevant for those with mental health challenges.
- *The benefits trap* – surveys indicate that there is often a fear of losing the security of regular benefit income when other income is generated (Boylan and Burchardt, 2002; Doyel, 2002; EMDA, 2009). Awareness of eligibility for benefits is incomplete among the population of people with disabilities and contributes to perceptions of self-employment as ‘risky’.
- *Lack of relevant business knowledge and skills* – people with disabilities often lack specialist business management, legal and financial skills and knowledge due to limited relevant education and employment experience (Enabled4Enterprise, 2008).
- *Access to start-up capital* – people with disabilities often experience difficulties financing new start-ups due to limited personal financial resources (savings, home ownership), which, in turn, are partly due to poor education and the concentration of disabled employees in low-paid occupations; poor credit rating after long-term benefit receipt; disinterest/discrimination on the part of banks; lack of accessible information on sources of grants and loans (Boylan and Burchardt, 2002; EMDA, 2009).
- *Consumer discrimination* – self-employment can be deterred by customer discrimination, reducing the demand for goods and services produced, as well as the rewards to self-employment (Boylan and Burchardt, 2002; Jones and Latreille, 2011).
- *Increased labour costs* – some entrepreneurs with disabilities need to hire assistants to help them undertake tasks that many people without disabilities may be able to do on their own (e.g. moving merchandise, inputting data into computer software), which increases their labour costs and puts them at a competitive disadvantage (Roni, 2009).

- *Lack of appropriate business support services* – this barrier has a number of dimensions due to the individual nature that disabilities have (Boylan and Burchardt, 2002; Doyel, 2002; Pavey, 2006; Enabled4Enterprise, 2008; EMDA, 2009). First, business advisers are often reluctant to recommend self-employment as a career option for disabled people and sometimes actively attempt to dissuade them. Such views might be a consequence of advisers’ inadequate or stereotypical understandings of the activity restrictions arising from specific conditions and/or misperceptions of support recipients’ capabilities as well as a genuine regard for the risks disabled people face in starting and running businesses.

Second, and crucially, training is not always tailored to individual needs and therefore of limited value to particular programme recipients. For some, support might need to be provided over an extended period of time for recipients with recurring conditions or particular stresses. There is a perception among some support recipients that funders face pressures to move quickly onto the next case rather than provide longer-term support to those assisted (a ‘tick-box culture’).

Third, support services may not be available in particular formats (e.g. Braille), which makes the support service inaccessible for certain segments of the population of people with disabilities. This likely will also impact the awareness level of available supports.

Fourth, premises where support is provided may not be accessible for individuals with conditions and impairments that impact their mobility. Moreover, this barrier can be increased by challenges related to transport to and from support centres for those with mobility challenges.

Fifth, support programmes may use language that is off-putting to people with disabilities. For example, entrepreneurs who experience disability often have lower growth aspirations and may not identify with terms such as ‘entrepreneur’ because they do not see themselves as exploiting an opportunity or being innovative.

Sixth, the diversity of impairment and disability means that some disabled entrepreneurs might not perceive themselves as ‘disabled’ and prefer to be supported under mainstream, rather than disability-specific, services.

There is evidence that particular groups of disabled people face multiple sources of disadvantage in European labour markets (Greve, 2009). Disability is more likely to affect vulnerable subgroups within society, for example, the old and the poor (World Health Organisation/World Bank, 2011) and people who experience disability may face multiple forms of social exclusion and sources of labour market disadvantage (Berthoud,

2008). Women, older people and ethnic minority and migrant people who experience a disability are likely to face greater levels of labour market disadvantage. Disability-related barriers

to entrepreneurship might, therefore, be compounded by gender, ethnicity and age barriers as well as deprived socioeconomic contexts.

Inspiring entrepreneurs: Yiota Michaelidou, Cyprus

Yiota Michaelidou is an entrepreneur in Limassol, Cyprus. She operates a baking and confectionery workshop called Paradosiakes Dimiourgies that produces traditional Cypriot-baked goods.

Yiota started her career as a kindergarten teacher but attended night classes in bakery and confectionery for pleasure. Soon after starting her career, she had an opportunity to put more time into baking while she was at home raising her two children. It was around this time that Yiota began showing symptoms of Stargardt's Disease, a form of macular retinopathy, a progressive eye disease that affects central vision. In recent years it has drastically reduced her vision to the point where she can only read large print or read with the use of a closed-circuit television. She also uses special magnification software to operate her computer. However, this does not impact her mobility greatly, except in unfamiliar environments with bright daylight.

Despite the onset of Stargardt's Disease, Yiota continued to pursue her love of baking and sought employment at a confectionery shop. She was successful in finding employment opportunities but never stayed long because she felt mistreated due to her disability. This gave her the idea of starting her own business.

She had a workshop constructed in her parents' house to meet health and safety requirements, as well as her vision needs. For example, the stove and mixing bowl have large numbers and are contrasting colours. This new workshop started as a trial business, serving two hotels, a kindergarten and a few individuals. At busy periods, Yiota's mother provided assistance, along with other women that worked on an hourly basis.

Impressed with the start-up operation, a social worker suggested that Yiota attend business and computer training courses to help her expand her business. Yiota underwent a needs assessment and participated in small business training for persons with disabilities offered by the Ministry of Labour and Social Insurance. One of the first steps that she took in launching her business was to apply for a grant so that she can invest in two industrial freezers, allowing her to store large quantities of frozen products in order to serve more customers. Yiota continues to grow her business and is working on a cookbook with traditional delicacies of Cyprus, for persons with vision impairment.

■ FACILITATING ENTREPRENEURSHIP WITH TECHNOLOGY

Technology can help people with disabilities maintain an active, independent lifestyle and to participate fully in society (Sans-Bobi et al., 2012). Within this context, these technologies are referred to as assistive technologies, which are products that increase, maintain, or improve functional capabilities of people with disabilities. These technologies are wide-ranging and include, for example, artificial limbs, retina implants and specialised computer software. The history of assistive technology dates back to the early 1890s when the first hearing aid was patented (Miltimore, 1892). In 1936, the first artificial speech synthesizer was developed by H. W. Dudley for Bell Laboratories (Green and Blair, 2011). Bell Laboratories also developed the first speech recognition system in 1952. In 1975 Kurzweil Technology invented the first optical character recognition (OCR) technology, which allows the translation of written text into digital language (Green and Blair, 2011).

Current research and development related to assistive technologies concentrates on, for example, gesture-based input devices for interaction with information systems (Vatavu et al., 2009; Christiansen et al., 2011), cloud-based assistive technologies (e.g. screen readers or screen magnifiers) that allow disabled people location-independent access to computer systems (Hill,

2011; Caldwell, 2011) and brain-computer interfaces that allow the operation of computer systems or the control of artificial limbs with one's mind (McCullagh et al., 2010; Wolpaw and Wolpaw, 2012; Carmena, 2012). While the first two technologies already have been successfully commercialised the latter is still to be explored extensively.

Assistive technologies are evolving at a rapid pace. Although they are not directly aimed at supporting entrepreneurship, these technologies can help someone in business creation in three broad ways. First, improving an individual's ability to participate in society increases their self-esteem and confidence, increasing the likelihood of starting a business (Seelman, 2008). Collecting and managing information is critical for full participation in today's society and various assistive technologies enable people with different kinds of disabilities to have access to computer systems. Blind people can use Braille keyboards or touch screens to scan digital information. The latter requires the application of screen reader software that is capable of reading out loud all of the information displayed on the screen. People with physical disabilities, who are not able to operate computer systems by mouse and keyboard devices, can use wands and sticks to simulate keyboard functionalities or trackballs to

simulate mouse functionalities. Sip-and-puff systems allow users to communicate with computer systems by using air pressure on a straw, tube or wand (Microsoft Accessibility, 2013). A promising technology, especially for physically disabled people, is the execution of computer actions and commands by speech or eye tracking. This allows a more convenient and efficient way to scan and gather information for people with certain disabilities. Research is continuously evolving these techniques to provide more accurate solutions to end users (Paek et al., 2007; Beelders and Blignaut, 2010).

Second, assistive technologies can help people with disabilities interact with customers and develop relationships with suppliers, business partners and financiers. Communication can occur through different channels and the most disseminated channels are e-mail, telephone or voicemail, face-to-face conversation, fax and letter (Guffey and Loewy, 2008). Depending on one's disability, an individual will prefer one channel to the other. For instance, a physically disabled entrepreneur using a wheelchair may prefer e-mail or phone calls over face-to-face conversations if they require the disabled entrepreneur to visit the business partner in an unknown and possibly inaccessible area or building.

Third, technologies can help entrepreneurs with disabilities to manage and control their business processes. In addition to the information and communication issues already discussed, the achievement of business objectives needs continuous planning and monitoring. Much work is still needed in this area because many business process management applications or enterprise resource planning systems are incompatible with many accessible technologies (Vaziri and De Oliveira, 2012).

In addition to assistive technologies, information technologies (IT) can facilitate entrepreneurship for people with a disability. IT-accessibility became an important topic in the late 1990s, when the US government amended section 508 of the Rehabilitation Act of 1973 (Thatcher et al., 2006; Kline, 2011), which now requires all IT purchased by the US government to comply with specific accessibility standards. This was followed by similar action by other governments (Kline, 2011).

For example, the German government passed an equality act in 2002, which summons the public sector to provide only accessible websites and software applications (German Federal Ministry of Justice, 2007).

Recent efforts on IT-accessibility focus on the generation and acknowledgement of common international standards like Web Content Accessibility Guidelines 2.0 (WCAG, 2008; Kline, 2011), which is a major prerequisite for the operation of many assistive technologies. Even though EU policies were able to embody laws that compel and standards that support public institutions to provide IT-accessibility (United Nations, 2008; The National Archives, 1995; German Federal Ministry of Justice, 2007; WCAG, 2008; Kline, 2011; W3C, 2006), several studies on web accessibility in the EU found that very few public sector websites meet these international standards. For example, a study conducted in 2009 tested the conformance level of 102 public sector websites and found that none of them met the WCAG standard (Cullen et al., 2009). An earlier study conducted by the Disability Rights Commission in 2004 investigated 1 000 private and public websites and found that 81 % of the investigated websites did not fulfil basic accessibility requirements (Disability Rights Commission, 2004). These results have a major impact on the individual person, information society and business organisational perspective for disabled people. They illustrate that current IT-accessibility is insufficient and thereby does not support the inclusion of people with disabilities in online activities.

Given the prominence of the Internet in today's society and business environment, improving the accessibility of IT remains a priority for the industry and government. Computer software and the Internet are also increasingly essential for small businesses to help entrepreneurs manage tasks such as communication, inventory management and accounting. Furthermore, many interactions between small businesses and governments are now online. For example, in many EU countries business registration and the filing of taxes can be completed online. Governments and business support agencies also provide a wealth of business support services and information through online portals.

■ POLICY SUPPORT FOR ENTREPRENEURSHIP FOR PEOPLE WITH DISABILITIES

Entrepreneurship can play a role in supporting participation in the labour market and society for people with disabilities. While entrepreneurship is not for everyone and may not be feasible for those with severe or multiple disabilities, it is a feasible option for many people with disabilities.

The approach taken to support labour market participation for people with disabilities in the EU tends to favour increasing participation through employment rather than self-employment or business creation. A common approach in the EU is to use

employment quotas that require public and private organisations to employ a certain number or proportion of people with disabilities; however, a number of countries such as Denmark, Estonia, Latvia, the Netherlands, Finland, Sweden and the United Kingdom do not use this approach (Greve, 2009).

Recognising the range of disabilities and impairments, there are several examples of policy actions that support self-employment and business creation for people with disabilities. This includes the incorporation of self-employment in general

active labour market programmes (e.g. Ridley et al., 2005) as well as schemes that are dedicated to supporting people with disabilities in business creation. The priority areas for policy development are discussed below.

1. Increase awareness about the feasibility of entrepreneurship

Goal

Relatively high self-employment rates for people with disabilities in the EU suggest that there is an interest in entrepreneurship and self-employment among this population. However, this number in real terms is quite small because of the large number of inactive people. Many people with disabilities are held back due to a lack of awareness, lack of emotional support from family and friends, low self-confidence and discouragement from business advisors. Promoting the feasibility of entrepreneurship for people with disabilities will increase awareness of entrepreneurship as a potential labour market activity, not only for people with disabilities but also for others who have an important role in supporting them. The aim of awareness creation should be to increase knowledge of self-employment and small business ownership as a career option and the potential benefits that it can offer. But it is equally important to increase awareness of the challenges and risks that need to be considered so that individuals can decide whether it is appropriate activity given their circumstances.

Approach

Promotion of entrepreneurship activities for people with disabilities should aim to reach three target groups: people with disabilities; their role models and support networks such as family and friends; and business advisors. One method of increasing awareness of entrepreneurship among people with disabilities is to raise the profile of entrepreneurship and self-employment in labour market support programmes. Many labour market programmes for people with disabilities focus exclusively on job placement, often within the public sector, and ignore, or even discourage self-employment (Boylan and Burchardt, 2002; Doyel, 2002; Pavey, 2006; Enabled4Enterprise,

2008; EMDA, 2009). It is important to provide enterprise awareness training for advisers whose responsibilities include supporting disabled individuals. This should be disability-specific training rather than simply generic diversity training. This type of training should seek to educate advisers on the possibilities self-employment might afford disabled people as a work option and must also cover the challenges and risks. In addition, it should seek to overcome adviser reluctance to recommend self-employment as a viable option. Increasing adviser confidence to provide support to disabled entrepreneurs might, indirectly, increase the confidence of the target group of entrepreneurs.

Policymakers can also promote business creation for people with disabilities using role models with disabilities. It is important to showcase these inspiring examples for potential entrepreneurs with disabilities to demonstrate that business creation and self-employment can be achievable. These role models should also be included in broader promotional campaigns related to entrepreneurship and self-employment to show that self-employment is not an atypical activity for people with disabilities. This is important not only to individuals with disabilities but also for addressing negative stereotypes and attitudes in society.

Another approach to increasing awareness is to promote entrepreneurship through high profile awards for entrepreneurs with disabilities. This provides public recognition for success and in some cases financial rewards are provided to support further business development. Awards are also an effective method of attracting media attention to showcase success stories, increase awareness of the potential for entrepreneurship among people with disabilities and inspire potential entrepreneurs. An example of award programme is the Stelios Award for Disabled Entrepreneurs (United Kingdom) which are administered in partnership with Leonard Cheshire Disability charity (<http://www.stelios.com/entrepreneurship/award-for-disabled-entrepreneurs-in-the-uk.html>). The awards receive considerable media attention and provide financial rewards to help entrepreneurs grow their business. The European Commission is also active in this area, operating the European Enterprise Promotion Awards (see Box 2) and sponsoring the First European Award for Social Entrepreneurship and Disability (<http://www.csr-d.eu/social-entrepreneurship-and-disability-award>).

Box 2 European Enterprise Promotion Awards

Target group: The European Commission, DG Enterprise and Industry operates the European Enterprise Promotion Awards, which provide awards to entrepreneurs in six categories and a Jury's Grand Prize for the entry that is deemed to be the most creative and inspiring entrepreneurship initiative in Europe. One of the six categories is for 'responsible and inclusive entrepreneurship', which recognises regional or local actions promoting corporate social responsibility and sustainable business practices. This includes support for people with disabilities and the 2012 winner of this category was a project called 'Disabled at Work' that was operated by a group of 16 organisations from Turkey and the Netherlands. It provides training and mentoring for people with disabilities that seek to enter the workforce, either as an employee or through self-employment. The 2013 winner in the inclusive entrepreneurship category was 'Integration of Disabled People' in the Slovak Republic, which provides driving training for people with disabilities.

Intervention type: Awards and recognition programme across the EU.

Objectives: The objectives of the European Enterprise Promotion Awards are to identify and recognise successful activities and initiatives undertaken to promote enterprise and entrepreneurship; showcase and share examples of best entrepreneurship policies and practices; create a greater awareness of the role entrepreneurs play in society; and to encourage and inspire potential entrepreneurs.

Entry requirements: Entries are made to national juries that each represent a Member State. Eligible entities can be national organisations, towns, cities, regions and communities as well as public-private partnerships between public authorities and entrepreneurs, educational programmes and business organisations. International initiatives are eligible as long as they are nominated jointly by all countries involved.

Description: The competition has two stages. Applicants must first compete at the national level, where each country selects two entries to be nominated for the EU competition. From these entries, a shortlist of nominees is chosen by the European jury. Nominees for 2013 were selected based on the following criteria: (i) originality and feasibility; (ii) the impact that they have on the local economy; (iii) the improvement of local stakeholder relations; and (iv) the transferability of the project to other regions in Europe. All nominees from the national and European competitions were invited to attend an awards ceremony.

To raise awareness about the European Enterprise Awards, the European Commission works in partnership with several European umbrella organisations, including the Assembly of European Regions, Committee of the Regions, Eurocities, European Association of Economic Development Agencies, Eurochambres and the European Association of Craft, Small and Medium-Sized Enterprises. Each organisation promotes the awards and nominees through their networks and communication channels.

Results achieved: Since the awards started in 2006, nearly 2 400 projects have participated in national competitions for a chance to compete in the European Enterprise Promotion Awards. More than 30 projects have won awards and been showcased across the EU to inspire others and to spread good practices. Together, nominated projects have created more than 10 000 new companies.

For further information, please refer to: <http://ec.europa.eu/enterprise/policies/sme/best-practices/european-enterprise-awards>

2. Develop entrepreneurship skills

Goal

Many people with disabilities have difficulty accessing education and the labour market and, consequently, many have little work experience and very few have experience with entrepreneurship. As a result, few people with disabilities have had the opportunity to develop the skill-set needed to successfully start and run a business. Supporting the acquisition of entrepreneurship skills can help overcome this lack of experience. The goal of entrepreneurship training for people with a disability is no different than it is for the mainstream population – to increase awareness of the potential of entrepreneurship, to deliver the skills that will increase the chances of successfully starting and operating a business and to develop an entrepreneurial mind-set.

Approach

Polymakers can take two approaches to facilitate the development of entrepreneurial skill-sets for people with disabilities. One approach is to provide more support to people with disabilities in the education system. People with disabilities are only half as likely to complete vocational training or higher education as people without disabilities and one of the principal barriers is the lack, or inaccessibility, of assistive technologies which are rehabilitative, adaptive and assistive devices that enable disabled people to perform particular tasks (e.g. enabling mobility, allowing the use of specific artefacts such as furniture and computer keyboards, facilitating communications) (Hanafin et al., 2007; Nochajski et al., 1999). Improving the availability and accessibility of these technologies is a first step to increasing educational attainment that will lead to increased skill levels and other individual benefits such as

higher self-confidence. This can have a positive influence for entrepreneurship activities as higher educational attainment for people with disabilities leads to better labour market outcomes, including self-employment (Zwerling et al., 2002; Christ and Stodden, 2005).

Policymakers can also examine the wide variety of existing non-financial supports to ensure that they are accessible for people with disabilities. This includes ensuring that the content can be accessed in non-standard formats and that programmes allow for some flexibility in their delivery.

Alternatively, tailored programmes for entrepreneurship training can be developed such as 'Ready to Start' in the United Kingdom (see Box 3). This approach can overcome the challenge of developing training programmes that address the heterogeneity of impairment characteristics (type, severity, stability, duration and time of onset). This

type of intensive, tailored, one-to-one, or small group support provision, has demonstrated the most successful outcomes (Arnold and Ipsen, 2005; Enabled4Enterprise, 2009a, b; EMDA, 2009; Dotson et al., 2013). Tailored approaches need to assess individuals' business potential, ensure the feasibility of the business idea, address skill and knowledge deficiencies with business education, training and technical support, support the development of a realistic business plan and support adjustments as the business is realised (Arnold and Ipsen, 2005). While effective, such tailored approaches are highly resource intensive and can therefore be difficult to launch. An effective approach to overcome this challenge is for policymakers to work with specialised organisations who are already active in supporting people with disabilities. In addition to leveraging external knowledge and support, this will improve outreach to the target clients and allows policymakers to benefit from the credibility and experience of existing organisations.

Box 3 Ready to Start, United Kingdom

Target group: Ready to Start supported people with any form of disability.

Intervention type: It supported business start-up with skills training and individual business advisory services, matched with direct financial support.

Description: The project operated between 2006 and 2009 and aimed to support 600 participants start businesses. A team of regional coordinators recruited clients and developed relationships with partner organisations to gain their support and to seek client referrals. Partner organisations provided mentoring and training, as well as one-to-one advice on non-business matters including benefits, housing and self-management. Regional coordinators oversaw the support delivery to ensure that clients received the full range of support services needed and organised face-to-face and virtual networking events. After the project started, direct financial support was added in the form of a small development fund. It aimed to help participants purchase equipment, insurance and marketing materials, computer refurbishment and assistive technologies and membership of the Federation of Small Businesses or similar trade bodies to provide continuing support and networking opportunities.

The project was organised and operated by the Leonard Cheshire Disability charity and much of the financial support was provided by Barclays Bank. Additional funding and support was provided by the Prince's Trust and other partner organisations such as Action for Blind People and Business Link London were crucial in recruiting and referring clients. These two organisations were responsible for recruiting 43% of the clients. Other partner organisations were important partners for delivering training and advisory services, including Destiny, Northern Pintetree Trust and Meganexus.

Results achieved: The project recruited 1 382 potential entrepreneurs with disabilities and of these, 735 established new businesses. Participant surveys indicate that 82% of clients found the support to be useful, 75% said they were satisfied with programme management and delivery and 93% stated they wanted it to continue. Participants reported that the development fund was the most useful element of the support, followed by the mentoring offer. Project evaluations estimate that the project saved the UK Treasury GBP 3.5 million (approximately EUR 4.3 million) in benefit payments.

Lessons for other initiatives: The project was successful because it provided intensive support that was tailored to individual needs. However, this required a large amount of financial and human resources. The charity was able to leverage a combination of public and private sector funds and strategically partner with complementary organisations to recruit participants and deliver the services. The project serves as a good example of how complementary, non-competitive relationships across a network of partners can successfully reach clients and deliver a service to a very narrow target base across a wide geographic area.

For more information, please refer to: <http://www.leonardcheshire.org/what-we-do/past-projects#.U6fzmRBLoyY>

3. Support the development, acquisition and use of assistive technologies

Goal

Assistive technology can be life changing for people with disabilities. They are becoming more sophisticated, increasingly portable, less expensive and easier to use, and as result, hold greater potential for improving the inclusion of people with disabilities in economic activities and in entrepreneurship (Angelocci et al., 2008). Policymakers can play a significant role in supporting the development of these technologies to ensure continual improvement and support people with disabilities in acquiring and using these technologies.

Approach

Existing European policy currently supports the development of assistive technologies for a wide range of applications

such as, ambient living, accessible transport and accessible computer-interaction. To further support technological development in these areas, governments can take two actions. First they can continue to support research in these areas through research grants and R & D incentives. In particular, more incentives could be provided to develop assistive technologies that relate to business software and business organisational tools.

Second, actions can be taken to improve standardisation in the assistive technology market. Common standards are needed to reduce complexity and incompatibility of accessible technologies. The implementation of obligatory standards has had a positive impact in the United States (Stack et al., 2009) and as noted earlier, there is much room for improvement in this regard in the EU. To address this, the European Commission is supporting a number of projects such as Cloud4all (see Box 4), which promotes the development of assistive technologies related to information technologies.

Box 4 Cloud4all

Intervention type: Cloud4all is a project that aims to advance the development of assistive technologies to allow people with disabilities to better use information technologies such as computers and the Internet.

Objectives: People with disabilities often require assistive technologies to interact with computers and other information technologies. One of the challenges faced by people with disabilities is that each time they use a new piece of equipment or technology, the assistive technology must be downloaded, installed and configured prior to use. This can be a major barrier for disabled people, for example when interacting with a public computer. Cloud4all provides solutions to store assistive technologies and user profiles in a cloud for location-independent access (Cloud4all, 2013a).

Description: Cloud4all is an international project funded by the seventh framework programme (FP7) of the European Union that advances the concept of the Global Public Inclusive Infrastructure (GPII) by improving the ability for assistive technologies to work across platforms, technologies and applications (Cloud4all, 2013). The GPII is a project of 'Raising the Floor', a consortium of academic, industry and non-governmental organisations and individuals. The initiative applies a consortium as legal form, composed of 27 members representing various types of public and private organisations from different European countries. The project coordinator is Fundosa Technosite S.A. in Spain and it has the following objectives (Cloud4all, 2013):

- Simple, instant accessibility for all;
- Access anywhere, from any device;
- Better connect supply and demand; and
- Provide an affordable method that offers the diversity of needs.

Total costs of the project amount to approximately EUR 13.1 million, of which EUR 7.6 million are received from the European Commission (European Commission, 2012).

Results expected: Cloud4all will allow the development of usable and accessible interfaces for people that face challenges using information technology products due to disability, literacy or age-related barriers. The development of Cloud4all will also have significant impacts for suppliers of assistive technologies and accessible information and communication technologies by providing an accessible platform for their products and services (Cloud4all, 2013a).

In addition to supporting the development of these technologies, policymakers can also support the acquisition and use of assistive technologies by entrepreneurs with disabilities. This is often done by providing direct financial support, such as a grant, that assists in the acquisition of special equipment and technologies needed when starting a business. One example of this approach can be found in Greece where the European Social Fund supports a self-employment scheme for the vulnerable unemployed, which provides grants to cover business start-up costs for unemployed people from vulnerable groups. Unemployed people with disabilities are also eligible to receive additional grants to cover up to 90% of the cost of adapting their workplace to their disability. For more information on this scheme, please refer to OECD/The European Commission (2013).

This approach is also used in Austria. Labour market policy related to disability in Austria focuses on vocational training

and job placement initiative. As part of these employment initiatives, the grants are provided by the Federal Social Welfare Office to support people with disabilities in obtaining employment or entering self-employment (as well as offering incentives to businesses to hire people with disabilities). The support for self-employment includes an ongoing subsidy to address disability-related performance constraints. This subsidy covers the purchase of machinery, equipment or technologies that address workplace (i.e. mobility-related), technical and ergonomic challenges. It covers a minimum of half of the costs and can be accessed on an ongoing basis.

Policy can also support training so that people with disabilities know how to properly use assistive technologies and information and communication technologies so that they can maximise participation in society and the labour market. One approach is computer training offered by the Latvian Society for the Blind (see Box 5).

Box 5 Latvian Society for the Blind

Target group: The Latvian Society for the Blind provides training and rehabilitation support for those who are fully or partially visually impaired.

Intervention type: This organisation provides vocational and computer training.

Objectives: The goals of the society are (i) to cooperate with the Latvian parliament, government, local institutions and non-governmental organisations to promote issues and concerns for visually impaired people; (ii) to raise awareness among the general public about the causes and consequences of blindness, promoting methods of overcoming challenges to achieve success in education, professional career, social and private life; (iii) to provide occupational training, rehabilitation and integration into the labour market; and (iv) to provide assistance in obtaining assistive devices such as white canes, magnifiers, talking watches, and other technologies.

Description: The Latvian Society for the Blind Rehabilitation Centre was established in 1993 and works in co-operation with the Latvian state employment office to provide rehabilitation services for people with visual impairments. The services include mobility training, Braille reading and writing, housekeeping, cooking and more. These are provided in two programmes of either 50 or 400 hours, depending on the needs of the individual. This support includes occupational training to help participants learn skills that can be used in employment to help them start their own business. There are currently two types of training provided, wickerwork and massage. Starting in 1998, the Rehabilitation Centre started providing computer training. There are 10 places per course, of which four are reserved for people that are fully blind. The course helps participants learn how to use synthesised speech tools, screen magnifiers and other technologies that allow them to use computers.

Results achieved: To date, 61 visually impaired people have received training in wickerwork and 75% work as self-employed craftspeople. An additional 61 people were trained in massage and nearly all continue to work in this field.

For more information, please refer to: <http://www.lnbc.lv>

4. Ensure access to appropriate financial support

Goal

Access to finance for business start-up is often cited as one of the greatest barriers to business start-up and this challenge can be even greater for entrepreneurs with disabilities. Many potential entrepreneurs with disabilities have little work experience and as a result often have low levels of savings and collateral. It can also be more difficult for them to obtain external financing because they can have difficulty accessing information on financing and sources of investment. At the same time, they may have a greater need for external financing because they may have higher costs during business start-up due to a need to purchase technology or equipment related to their disability or a need to hire additional help to do tasks that many entrepreneurs can do themselves. Public policy should aim to ensure that entrepreneurs with disabilities can access financing for business creation. In most instances there will not be a sufficient base of potential entrepreneurs with disabilities to warrant the creation of a specialised micro-finance scheme for entrepreneurs with disabilities. Instead, policymakers should aim to open up access to mainstream financing schemes to entrepreneurs with disabilities. In addition, policymakers should also ensure that funding is available to help people with disabilities acquire and learn to use specialised equipment that will facilitate business creation and management.

Approach

A good place for policymakers to start when looking to improve access to finance for potential entrepreneurs with disabilities is to ensure that existing financial supports are accessible and available to people with disabilities. This includes ensuring that information on sources of financing is available in accessible formats and the financing programmes do not discriminate based on disability.

Second, policymakers can help bridge the gap between potential entrepreneurs and investors by helping disabled entrepreneurs

become investment-ready and by facilitating access to investors with networking events, 'pitching events' and business competitions. The aim is to help entrepreneurs understand how the financial industry operates and the requirements for receiving investment. Policymakers can go even further by bringing investors and entrepreneurs together in special events. Face-to-face contact is important to build networks and relationships, and entrepreneurs can use the opportunity to 'sell' their entrepreneurial project. An example of such an approach is 'Enabled4Growth' which was a small project in London, United Kingdom, that aimed to support disabled entrepreneurs in accessing finance to expand their business. While it did not directly provide funding for the participants, it provided training entrepreneurs on how to be investment-ready, to help with funding applications and to host networking events where entrepreneurs could meet investors.

A third approach is to increase the availability of direct financing, either as small grants or repayable loans. There are a very small number of policy schemes in the EU that provide targeted financial support for entrepreneurs with disabilities but a lesson to bear in mind when designing targeted financial support is that financial support for business start-up is more effective when delivered in parallel with skills training. An example of this approach is 'Looking for another sense for entrepreneurship' in the Slovak Republic, which provides training and funding through a business plan competition. See Box 6 for more details.

Financial support might also extend to the issue of benefits. In particular, policymakers should ensure that those moving from labour market inactivity, and a high reliance on various forms of disability-related benefit, are not disadvantaged or discouraged by a benefit system that either responds too quickly to cut benefits before the transition to entrepreneurship has generated any economic gain or by one that adapts too slowly where the attempt at entrepreneurship proves unsuccessful. The benefit system should be flexible enough to encourage individuals to create new firms but also to support those unable to make them work. This flexibility should be communicated effectively to those at whom the system is targeted, so unjustified fears are mitigated, reducing a key barrier to business start-up.

Box 6 Looking for another sense ('Hľadáme ďalší zmysel – PRE PODNIKANIE'), Slovak Republic

Target group: 'Looking for another sense' is a project for deaf entrepreneurs aged 18 to 55.

Intervention type: The project provides information, business consultancy and direct financial support.

Objectives: The project aims to help provide training and labour market support for deaf people in the Slovak Republic because education opportunities and labour market support is limited to a small number of schools that offer specific training for a limited number of careers such as hairdressing, tailoring, carpentry or goldsmithing. Many skilled deaf people are long-term unemployed and have difficulty accessing labour market information and appropriate training.

Description: The project is organised and implemented by the Endowment Fund Telekom at the Pontis Foundation, which is largely funded by private donors but it also receives some government support. It offers self-employment training and access to established entrepreneurs through an online forum, as well as other services such as sign language translators and training. In 2012, EUR 50 000 was allocated to support deaf entrepreneurs on the programme.

Every year, 20 deaf people who are interested in self-employment are selected by an independent committee for a free week-long course on business start-up. The course consists of 45 teaching hours that include short lectures, discussions and case studies of successful entrepreneurs. During this training, participants learn about basic business finance, marketing and regulation. The course is offered for free; participants only pay for travel expenses incurred to reach the training session.

Following the course, participants are eligible to receive additional mentoring support at no cost. This includes support in the development of a business plan and business advisory services during the first 12 months of business operation. Participants are eligible to receive a grant of up to EUR 3 320 to support their business start-up by applying to an independent committee and successfully defending their business plan. The project also provides networking opportunities for participants to meet and develop partnerships with other entrepreneurs. Finally, the project also offers free advertising space on an online portal.

Results achieved: Since the project started in 2008, more than 48 deaf entrepreneurs have successfully started their own businesses, creating jobs for an 50 additional people with hearing impairments. Approximately half of these businesses continue to operate. One of the most successful supported start-ups is Deaf Kebab, a kebab restaurant where customers order using sign language. Deaf Kebab currently has four franchises and employees more than 10 employees with hearing impairments. Other supported businesses operate in a wide variety of sectors, including parachute repairs. The online web portal has also expanded to become a broader online business support resource for deaf entrepreneurs and now includes pertinent business information and a business advisory forum.

Lessons for other initiatives: The success of the project is due to an integrated support package that provides entrepreneurship training before start-up and builds on this initial skill-set after business start-up through targeted business advisory services and networking support. In addition, a competitive mechanism is used to award financial support which acts as an incentive for participants and awards funding where it is most likely to be used successfully. Another feature that complements the support for the entrepreneur is the support that the online portal provides in reaching the market. This support is intensive and costly. One of the ongoing challenges that the project faces is the need to find financial donors to ensure that the support is provided free-of-charge to clients.

For more information, please refer to: <http://www.nepocujucipodnikatelia.sk/grantovy-program/o-programe>

5. Continue to improve Internet and IT accessibility

Goal

The Internet and mobile communication technologies have become an integral part of society as they are now primary methods of communication and accessing information. However the benefits are not shared by all because many people with disabilities have difficulty using many of these new technologies because they are often developed on different platforms that are incompatible with assistive technologies. Policymakers can do more to support the development and implementation of accessibility standards that would improve access to these technologies for people with disabilities.

Approach

The EU has made a commitment towards improving Internet and IT accessibility by signing the Convention on the Rights of Persons with Disabilities (United Nations, 2008). In addition, many EU countries passed laws and policies regarding the accessibility of websites and software applications for the public and private sector (W3C, 2006). However, evidence suggests that there is still a long way to go towards achieving the stated objectives in this regard.

The first area of action for policymakers is to improve the IT-accessibility of public websites. The European Union supports Member States in these improving the accessibility of their websites with projects such as the Digital Agenda for Europe, which aims to achieve full accessibility of public sector websites by 2015 (European Commission, 2013). This is critical for people with disabilities who are considering self-employment because many public services are now online. For example, information on business start-up and self-employment is disseminated through websites along with links to other supports. Moreover, improving the accessibility of public websites will help people with disabilities comply with obligations such as business registration and filing taxes. Improving the accessibility of public websites is also a necessary step for governments to take before considering measures to improve accessibility for the private sector.

Another important area for action is to harmonise the standards and obligations in IT-accessibility across the EU. The Internet holds great potential for entrepreneurs with disabilities because it can help them overcome challenges related to communication and mobility. However, the vast majority of websites are not in accessible formats and are not compatible with assistive technologies. To make a significant impact in this area, large international efforts are required. There are a small number of projects such as Veritas (see Box 7) that attempt to bring public and private stakeholders together to address these issues.

Box 7 Virtual and augmented environments and realistic user interactions to achieve embedded accessibility designs (Veritas), Germany

One of the significant challenges in the development of accessible technologies is the uncertainty of needs and requirements by the end-users. In many cases major modifications occur after the product is developed, which adds a significant cost to the process. The goal of Veritas project, which ran between 2010 to 2013, was to reduce the need for major modifications after product development by identifying and comprehending user requirements more accurately and increasing the use of standard technology platforms (Veritas, 2013).

The initiative was a consortium, composed of 31 organisations from across the EU. The project is coordinated by Fraunhofer Corporation in Germany. The total costs of this project were approximately EUR 11.7 million and it received EUR 8.0 million from the European Commission's Community Research and Development Information Service (European Commission, 2013b).

Veritas bridged the gap between clients and technology producers by increasing access to information on the development of information and communication technologies (ICT) and non-ICT products, concerning application areas such as: home, workplace and entertainment. In addition, it aimed to better understand the requirements of these applications needed by people with disabilities and ensure that developers and producers have this information (Dangelmaier, 2010). For example, the project developed several pilot applications that allow designers to better address the needs of various disabilities in their products, including applications for automotive and motorcycle design, virtual simulators for home and office spaces and simulators for healthcare products. In addition, Veritas advanced work in the entertainment field by developing multi-modal interfacing tools that enable the conversion of the game content into information that is easily perceivable by users with disabilities. Moreover, virtual reality technology was developed for games with therapeutic value for older people (i.e. exercising cognitive and motor abilities) (Dangelmaier, 2010).

The project also aimed to provide a common platform for these technologies so that fewer modifications are needed once the technologies are developed. This can also significantly enhance the dissemination of assistive technologies and new services across the EU. People with disabilities will benefit from larger supplies of assistive technologies and innovative services regarding their self-employment activities (Dangelmaier, 2010).

For more information, please refer to: <http://veritas-project.eu/about-2>

■ CONCLUSIONS

Approximately 16% of the working age population in the EU is impacted by disability and this proportion is likely to increase as the population ages. Therefore, the issue of social and economic participation of people with disabilities will become increasingly important policy issue over the next decade and entrepreneurship can be part of the solution for some members of this population. People with disabilities are disproportionately inactive in the labour market in all Member States (Applica/CESEP/European Centre, 2007), but there is evidence to suggest that people with disabilities that participate in the labour market are just as likely as those without disabilities to be self-employed. Self-employment can facilitate active social and economic participation and give control to the individual over their participation. Entrepreneurship can allow flexibility in workload, work hours and work location, providing more flexibility in coping with disability than can be often found in paid employment.

While business creation and self-employment are not suitable for all people with disabilities, there are several ways in which policymakers can improve their support for entrepreneurship for people with disabilities. A first approach is to review current business start-up support offerings to ensure that it is available in accessible formats and to educate business advisors on the potential and risks that business start-up and self-employment have for people with disabilities. It is a realistic career option for many and they should not be discouraged based on disability alone. An important element of improving information on business start-up for people with disabilities is to increase the amount of information available on the impact of business creation and self-employment income on benefit payments received by individuals. Many people with disabilities receive different forms of public support including disability insurance payments, housing allowances, minimum income supports, etc. and it is important for their decision to start a business.

A second area of action for governments is to support the development and adoption of assistive technologies. Development of

these technologies is vitally important for much of this population to more fully participate in daily life. Policymakers can support these development efforts directly with funding and tax incentives and offer financial incentives and support for individuals to encourage the adoption of these technologies. International cooperation is important in this field and governments should seek partnerships with other governments, international organisations and the business sector to ensure common standards and platforms.

Third, there is a limited evidence base that supports the development of targeted training and support that is tailored to the needs and challenges of entrepreneurs and potential entrepreneurs with various disabilities. There are three important considerations for this policy approach. First, the size of the potential client group is nearly always very small given the heterogeneity of impairment characteristics (e.g. type, severity, stability, duration and time of onset). Consequently, policy may need to support entrepreneurs with diverse impairment characteristics in different ways and over varying timescales. Intensive, tailored, one-to-one, or small group support provision, likely produces the most successful outcomes (Arnold and Ipsen, 2005; Enabled4Enterprise, 2009a, b; EMDA, 2009; Dotson et al., 2013) but such tailored approaches are highly resource intensive. Partnerships with specialist organisations are often essential to the success of targeted approaches because they already have credible relationships with the target clients and policymakers can leverage existing resources to make tailored approaches more cost-effective.

Finally, governments should be doing more to ensure that all public websites are accessible. With the Internet becoming the primary way in which governments and citizens interact, much more can be done to improve the accessibility of online business services such as business registration, tax filing and business information resources.

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This policy brief was produced by the OECD and the European Commission on entrepreneurship by people with disabilities. It presents data on the scale of self-employment and entrepreneurship activities undertaken by people with disabilities and discusses the barriers to entrepreneurship that are unique to people with disabilities. The policy brief also discusses policy approaches to support entrepreneurship for people with disabilities, including increasing awareness about the feasibility of entrepreneurship; developing entrepreneurship skills; supporting the development, acquisition and use of assistive technologies; ensuring access to appropriate financial support; and, improving Internet and IT accessibility. The brief provides examples of successful policy approaches used in the EU as well as inspiring stories about entrepreneurs with disabilities.

This policy brief is part of a series of documents produced by the OECD and the European Commission on inclusive entrepreneurship. The series includes policy briefs on youth entrepreneurship, senior entrepreneurship, social entrepreneurship, evaluation of inclusive entrepreneurship programmes, access to business start-up finance for inclusive entrepreneurship and entrepreneurship by the disabled as well as a report on 'The Missing Entrepreneurs'. All these documents are available in English, French and German. They are available at <http://www.oecd.org/cfe/leed/inclusive-entrepreneurship.htm>

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