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# Work and economic resilience review



A review of current thinking about the nature of  
work and economic resilience



Anne Green , Tasos Kitsos and Rebecca Riley

# A REVIEW OF CURRENT THINKING ABOUT THE NATURE OF WORK AND ECONOMIC RESILIENCE

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## 1. INTRODUCTION

Projects funded by the Friends Provident Foundation contribute variously to proposing new solutions (innovation), gathering evidence to support and inform practice (intelligence), creating or maintaining key organisations that are important for building local economic resilience (institutions) and exploring or piloting ways of influencing corporate, regulatory or policy players (influencing). They address issues such as tax, financial systems, institutional structures such as Local Economic Partnerships (LEPs), economic policy and achieving resilient local economies through achieving a better match with the needs of citizens.

The review is structured as follows. This first section provides an overview of key changes in the world of work and associated current debates as a precursor to a discussion of economic resilience and an outline of the Friends Provident Foundation programme on economic resilience. The second section presents the main features of four key drivers shaping the future of work: technology, demography and society, economic and geopolitical factors and environmental/ green issues. The third section explores the connectivity between the future of work and economic resilience and sets out a framework connecting the labour market and local economic resilience. The fourth section discusses implications for Friends Provident Foundation activity.

### 1.1 Overview of key changes in the world of work and current debates

While not necessarily central to each funded project structural changes in the nature of work and their manifestations have implications for most of the projects funded by the Friends Provident Foundation. With the employment rate at a new high in the UK following recovery from the Great Recession, attention has shifted away from a primary concern with the 'quantity of work' to issues concerning the 'quality of work'. Key issues in public debates include concerns with productivity and skills, technological innovation, changing consumer preferences and societal pressures. Business models and wider governmental policies and regulations all impact on the nature of work in the workplace and on individuals seeking to enter the workforce.

Recently the publication of the Taylor Review of Modern Working Practices (Taylor et al., 2017) in July 2017 brought many related issues to the fore including aspects of:

- *the quality of work* - e.g. wages, employment quality, education and training, working conditions, work-life balance and consultative participation and collective representation;

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- *the evolution of the labour market* – including the rise of so-called ‘atypical’ work forms such as part-time working, self-employment, agency work, temporary work, zero hours contracts, multi-jobs and gig economy work;
- *flexibility* – the pros and cons of flexibility and the extent to which flexible working models are one-sided (i.e. unduly favouring the employer) (see Rubery et al., 2016); and
- *responsible business* – recognising that the tone about the nature of work is set at the top of an organisation and that issues of transparency and employee participation are important.

Specific challenges that are pertinent to the nature of work in the UK at the current time are:

- in-work poverty
- poor real wage growth
- poor productivity (vis-à-vis competitors)
- jobs and skills profile mismatches
- online platform jobs – the sharing economy and the gig economy
- work-life balance – in the context of an ageing population, aspirations of different population sub-groups, etc.
- automation and technological change
- different local opportunity structures across geographical areas.

## 1.2 Economic resilience

### *Introduction to conceptualisation*

Resilience is a term derived from the Latin word *resilire* which means *to spring back* – i.e. the ability to withstand a shock and return to a previous state. The term is widely used across a range of disciplines in the physical, natural and social sciences. Brand and Jax (2007) identify ten different definitions in ecological and social sciences, while Maru (2010) finds at least eight different interpretations in psychology, social studies, ecology and social-ecological studies. Early studies on economic aspects of resilience include focused on the importance of environmental factors to economic development (see Levin et al., 1988; Perrings, 1994, 1998; Arrow et al., 1995; Farber, 1995). Subsequently many studies using different definitions of resilience have emerged, with three main approaches to conceptualising resilience apparent from a review of the literature:

- 1) a return to a *single equilibrium* (i.e. to the original position)
- 2) a *multiple-equilibria* approach (i.e. where conditions can project a system to different points of equilibrium)
- 3) an *evolutionary* process where resilience is the capacity of a system to adapt (Fingleton et al., 2012; Hill et al., 2010; Martin, 2012; Martin and Sunley, 2015; Pendall et al., 2010; Reggiani et al., 2002; Simmie and Martin, 2010).

Equilibrium based approaches focus on the return of an area to a pre-defined path. On the other hand, evolutionary approaches stress the non-linearity of relationships and the importance of capacity to change/adapt in the face of adversity. An example of the latter is offered by Martin and Sunley (2015: 13):

*“the capacity of a regional or local economy to withstand or recover from market, competitive and environmental shocks to its developmental growth path, if necessary by undergoing adaptive changes to its economic structures and its social and institutional arrangements, so as to maintain or restore its previous developmental path, or transit to a new sustainable path characterized by a fuller and more productive use of its physical, human and environmental resources.”*

In parallel with economic resilience come definitions of *community or social resilience*. These are more holistic approaches considering community as a social-ecological system and focusing on sustainable solutions and outcomes of inclusive growth. They adopt a systems approach. These definitions are closer to the evolutionary perspectives and are widely used by organisations such as the Resilience Alliance and the MacArthur Foundation.

These different conceptualisations may be thought of as representing a continuum and are often informed by the pragmatism of operationalisation. Operationally, most studies of economic resilience focus on labour market and/or growth measures such as the rate of employment/unemployment, GVA etc. More equilibrium approaches tend to examine resilience econometrically and in a static framework whilst more evolutionary approaches adopt more dynamic frameworks often complemented by qualitative information.

In examining economic resilience, a number of factors emerge across different levels:

- national
- sub-national
- individual.

### *Scales of interest*

At *national level* Duval et al. (2007) examine 20 OECD countries and suggest that their varying response to crises is due to different resilience capacities related to differences in the policies, regulations and institutions in labour, product and financial markets. For example, they find that countries with labour and product market rigidities are subject to prolonged but reduced initial impact of a crisis' output gap whilst flexibility in financial markets reduces the persistence of these output gaps but increases their impact.

At *sub-national level*, a number of studies identify factors affecting local and regional resilience. These factors include the level of qualifications, demographics, leadership; pre-existing conditions and specialisation/ diversity of industrial structure (Beer and Clower, 2014; Di Caro, 2017; Kitsos and Bishop, 2016; Lee, 2014; Martin, 2012). The findings of these studies suggest that places with greater shares of the population with degree level qualifications, younger populations, better leadership and diversified local economies are more likely to mitigate the negative effects of an economic crisis.

At *individual level* there are a limited number of studies examining the individual characteristics that may influence resilience to external shocks. This could be indicative of the lack of data sources. Most of the studies at this level examine psychological resilience against shocks. Exceptions to this are the studies of Doran and Fingleton (2015; 2016) who find that individual characteristics such as qualification level, age and gender affect how resilient they are in terms of keeping or losing their jobs. In addition, they find that beyond these individual characteristics, geography is a significant factor.

### *Overview of the nature of resilience studies*

The vast majority of resilience studies focuses upon the binary outcome of whether people are employed (this is whether they have done any paid work during the reference period) or not, rather than any qualitative aspects such as the match between occupation and qualifications, the precariousness of employment etc. – i.e. the qualitative aspects of employment tend not to be well-represented. There is a significant lack of understanding whether the return of employment rates to pre-crisis levels also applies to the nature and conditions of work.

The only exceptions to this appear to be studies which examine *the regulatory framework of labour markets* and their resilience performance. Hijzen et al. (2017: 6) for example find that:

*A better co-ordination of collective bargaining arrangements across sectors or firms can help to reduce the impact of an adverse shock on unemployment in the short term by facilitating adjustments in wages and working time, so that layoffs can be avoided. The importance of collective bargaining per se, as measured by the share of workers covered in the total economy, is not associated with resilience.”* (Hijzen et al., 2017, p.6).

These findings build on OECD's (2012) Employment Outlook which offers two broad insights:

- structural policies and institutions matter for labour market resilience: they can moderate the labour market impact of economic shocks and also mitigate the impact of changes in labour earnings on household disposable income;
- policies and institutions that are conducive to good structural labour market outcomes are also good for labour market resilience.

Hence it appears that *labour market institutions* are a significant determinant of resilience, while individual characteristics such as qualifications and some types of flexibility are important in mitigating adversity. What is less apparent though are the *mechanisms* through which these labour market institutions can impact on the nature of work and how this, in turn, affects future adaptive capacity and resilience performance. This is a potential topic for inclusion in a research programme. The nexus and interaction between individual and place level characteristics is also to some extent unclear – e.g. highly skilled individuals are more economically resilient and potentially more geographically mobile, but does this mean higher resilience performance for the area they reside or higher outmigration in the event of a crisis? These relationships need to be identified and understood in order to reveal the resilience generating mechanisms at the individual, local and national level.<sup>2</sup> Likewise this is a potential topic for the programme to focus on.

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<sup>2</sup> This raises the issue of geographical mobility of individuals and associated implications for people and places.

### 1.3 The Friends Provident Foundation programme on economic resilience and its foundations

The Friends Provident Foundation bases its understanding of resilience on work commissioned from the New Economics Foundation on 'Mapping Economic Resilience' (Greenham et al., 2013). The conceptual definition of economic resilience used here is 'the capacity of an economic system to adapt in response to both short-term shocks and long-term changes in ecological, social and economic conditions with the aim of supporting the community to thrive whilst using its fair share of ecological resources'. Economic resilience requires the ability to:

- absorb shocks and retain basic system functionality;
- self-organise (social institutions and networks);
- innovate and learn in response to disturbances.

This definition of resilience is based on the concept of *dynamic adaptation*, which explicitly incorporates values of social justice and sustainability.

A resilient economy is one which:

- produces goods and services at an appropriate scale to support a balanced and diverse local and regional economy
- supports investment in social and financial capital which aims to address poverty and inequalities
- supports individuals and groups to experiment, develop and strengthen their adaptive capacities (i.e. self-organising, innovation and learning)
- comprises structures (enterprises, public organisations and government) that support people to live the lives that bring them well-being

There is also a concern with improving existing economic structures.

The 'Mapping Economic Resilience' report (Greenham et al., 2013) highlights seven key concepts from the literature on resilience of relevance to building resilient economies: (a) social qualities, (b) interdependence and localisation, (c) diversity, (d) innovation, (e) governance, (f) feedback loops, (g) ecosystem services. Relatedly, it goes on to highlight seven characteristics of a resilient local economy: (i) responsible business, (ii) positive local money and resource flows, (iii) the asset base and enabling environment, (iv) responsive public sector, (v) active citizens, (vi) interdependence, (vii) environmental sustainability.

Research funded by the Friends Provident Foundation on 'Creating Good City Economies in the UK' outlined ten steps to a good city economy: (1) system changing, (2) a revolution in grassroots enterprise, (3) anchor institutions embedded in and working for the local economy, (4) enabling and empathetic local leadership, (5) true corporate social responsibility, (6) assets owned by and working for the community, (7) co-produced local economic development, (8) true devolution and a new social contract, (9) finance that serves people and place, (10) a more effective set of measurements of a successful economy. Arguably, however, measurement alone is insufficient; rather there is a need to monitor inputs and outputs and to record outcomes to ascertain what works in a dynamic framework.

## 2. DRIVERS OF CHANGE IN THE FUTURE OF WORK

### 2.1 Introduction to drivers of change in work and employment and their likely consequences

The future of work is a wide-ranging topic. Approaches to examining the future of work range from developing projections of employment in the short- and medium-term based on detailed and comprehensive models with disaggregations by industry, occupation and gender (such as *Working Futures*<sup>3</sup>) to developing scenarios describing complex and consistent visions of possible futures in the longer-term (for example see Störmer et al., 2014<sup>4</sup>). Other studies focus on particular trends and drivers of change.

There have been important *changes in work and employment over the medium-term*. For instance, in a 2013 study the Chartered Institute of Personnel and Development highlighted long-term trends that had shaped the UK labour market, workforce and workplace over the last 30 years. These included:

- de-industrialisation and the rise of knowledge-based services;
- the rise of the hourglass economy – with an a changing occupational structure characterised by a growth in high-skilled and low-skilled occupations and a reduction in mid-skilled occupations;
- technological change and globalisation;
- demographic change – an ageing population and migration;
- increased female labour market participation;
- increased educational participation;
- the decline of collective workplace institutions;
- greater diversity in employment relationships; and
- an increase in intensity of work.

The following sub-sections highlight four key drivers<sup>5</sup> of change in the world of work which have implications both for the nature of future work and for economic resilience:

- 1) technology
- 2) demography and society
- 3) economic and geopolitical factors
- 4) environmental and green issues.

### 2.2 Technology

The reach of technological change – and particularly information technology - extends across virtually all sectors. Although whether or not it will lead to a substantial change in the number of jobs is contested, it is a potentially powerful disruptor to labour market dynamics, so impacting on the nature and experience of work (including work intensity, human relationships and work-life balance [discussed in the following sub-section]) and having implications for

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<sup>3</sup> See <https://www.gov.uk/government/publications/uk-labour-market-projections-2014-to-2024>

<sup>4</sup> See [https://www.gov.uk/government/uploads/system/uploads/attachment\\_data/file/303334/er84-the-future-of-work-evidence-report.pdf](https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/303334/er84-the-future-of-work-evidence-report.pdf)

<sup>5</sup> Drivers of change – including key disruptive forces – could be configured in other ways, but the four drivers highlighted here are drawn from those highlighted in a range of studies.



economic resilience. From a positive perspective technology can be used to help raise productivity, improve job quality, diversify employment and drive employment growth, while also distributing work more widely geographically. However, it can also lead to various jobs and skills becoming redundant. While technological change is a complex topic, two broad trends are highlighted here and their implications for skills are discussed.

The first concerns *automation* and the *digitalisation* of production, the use of *big data*, the *convergence of technologies* and the growing use of *artificial intelligence and robots*. In a study considering the potential effects of artificial intelligence (AI) and robotics on the labour market based on official data, a survey of UK business leaders and interviews with employers from different industries, Delloit and Wallace-Stevens (2017) suggest that low-skilled work is most at risk, with technologies phasing out mundane jobs leaving a greater onus on more human-centric roles. Bakhshi et al. (2017), using an innovative methodology involving machine learning and human judgement to estimate how technological (and non-technological) trends are likely to affect the demand for different skills (and consequently employment) over the period to 2030, highlighted that jobs made up of routine tasks are most at risk of decline whereas occupations requiring interpersonal and cognitive skills are likely to grow. Combining the probabilities from this study of the change in demand for different detailed occupations with city-level labour market information, the Centre for Cities (2018) have estimated likely job increases and decreases for different cities over the period to 2030. Cities outside southern England are most exposed to risk of job loss (with Mansfield, Sunderland, Wakefield and Stoke recording the largest shares of jobs most likely to shrink), whereas cities like Oxford, Cambridge, Reading and London are least at risk. Yet various studies also highlight that technological change and AI can provide open up new opportunities to re-engineer processes, develop new services and rework organisations (Wisskirhcn et al., 2017; Manyika et al., 2017). Delloit and Wallace-Stevens (2017) also suggest that there is a need for an ethical framework to guide the behaviour of AI and robotics engineers. To enhance economic resilience and promote inclusive growth there is a need for the ongoing development of a complementary mix of digital and non-digital skills over the life course. The fact that technology is changing how people learn means that digital skills are most likely to be acquired through non-formal and informal learning (CEDEFOP, 2017) and this needs to be recognised in how individuals are incentivised and funded to learn.

A second key development underpinned by technological change is the development of the '*gig economy*' and the broader '*sharing economy*'. Balaram et al. (2017) explain that in recent years the trend of using online platforms to source small, sometimes on-demand, jobs (i.e. the so-called 'gig economy') has accelerated. There are ongoing concerns about whether gig work can provide the same level of social and economic security as traditional employment and here Balaram et al. (2017) argue that more expansive change is needed to transform the labour market in ways that enable workers to reap more of the benefits of innovation, including through shared regulation of the gig economy. There is a diversity of participants and tasks on offer, and concomitant concerns about working conditions and pay. However, such working arrangements present a valuable opportunity for people with health conditions, care responsibilities and complex work barriers to find work (Dobson, 2017). Moreover, individuals and local areas can use technology to facilitate access to shared resources, so building economic resilience (Wosskow, 2014; Boyle, 2013; Gorenflo et al., 2013).

## 2.3 Demography and society

Five drivers of change related to demography and society are highlighted here.

The first is the medium-term increase in the numbers and share of *women in employment*. While women have increased their representation in professional and managerial occupations it remains the case that there are gendered patterns of employment. The growth of women in employment in turn has implications for the distribution of paid work (and of non-work activities) within and across households. The number of earners in a household and the nature and distribution of 'good jobs' across households has implications for economic resilience given connections between labour market change (including patterns of sectoral growth and decline) and poverty outcomes at household level (Sissons et al., 2017).

A second driver is growing ethnic *diversity* of the population and workforce (Owen et al., 2015). Diversity may help contribute to innovation and economic resilience, but to achieve this it is important that employment opportunities are opened up to workers from non-traditional sub-groups. Relatedly, some sectors (e.g. food processing) and occupations (e.g. warehouse operatives) are 'migrant dense'<sup>6</sup> and in the short- and medium-term may be vulnerable to supply-side shocks associated with reshaping of the immigration system in the context of Brexit. New business models may be required in some cases (Clarke, 2016).

Thirdly, the *ageing of the population*, the removal of the default retirement age and pressures for 'longer working lives' have with implications for working practices, career structures and management of health conditions, etc. The experience of work of older workers and their returns from paid work, which in turn feed into economic resilience at individual and household level, will to some extent depend on how successful vocational education and training is in supporting active ageing (CEDEFOP, 2017). Also crucial is the role of employers and businesses in retaining, retraining and recruiting older staff (Department for Work and Pensions, 2017). However, the older workforce is heterogeneous, and for some older people there are limited labour market opportunities. Pension reforms also impinge on their circumstances and there is a growing shift towards self-responsibility, self-governance and self-care as responsibility is shifted towards the individual (Powell and Taylor, 2016). Having a locally responsive skills system is an important factor here, yet evidence suggests that local authorities find it 'very' or 'fairly' difficult to alter national commissioning to meet local needs for employment and skills support (Centre for Economic and Social Inclusion, 2014).

Fourthly, cohort and *cultural factors* also impact on *values and aspirations*, including what people prioritise in jobs and the balance between formal and informal working. Using long-term data on work orientation and perceptions of job quality McKay and Simpson (2016) highlight an increase in the number of people reporting that they have a 'good' job<sup>7</sup> but note that while 92% of people think that job security is either important, or very important, only 65% agree they actually have this in their job.<sup>8</sup> There is a reported increase in stress levels. Work is valued beyond financial benefits: 62% of respondents say they would enjoy having a job

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<sup>6</sup> i.e. have a disproportionately large share of migrant workers.

<sup>7</sup> Defined here as one with at least four positive attributes such as being interesting, helping others and/or society, and offering chances for advancement

<sup>8</sup> Insecure working arrangements include temporary work such as fixed-term contracts and employment via agencies, zero-hours/ on-call contracts, part-time work and self-employment.

even if they did not need the money, up from 49% in 2005, but social class and education make a difference to financial motivations to work, with 63% of those in professional or managerial occupations disagreeing that a job is solely about the money earned, while the same is true for only 34% of those in routine or semi-routine occupations.

A fifth driver is *work-life balance*. This links to the issue above that work is not solely about financial reward and also to the changing profile of the workforce (both more older workers and the attitudes of millennials with their prioritisation of personal development and flexible working [Berry and McDaniel, 2018]). Flexible working may have positive impacts for employees (although there are important differences by type of flexible working and by sub-groups of workers [see Wheatley, 2017]) and employers, but there can be disadvantages too – especially of flexibility is one-sided. This suggests that developing structures and practices for flexibility that enhances rather than detracts from economic resilience is important.

## **2.4 Economic and geopolitical factors**

Changing *economic conditions* at supra-national, national and local levels and macro-economic policy have implications for resilience and the nature of work. Economic downturns tend to impact most markedly on young people and the least skilled, with these groups suffering higher unemployment rates. Local areas with higher than average employment in declining sectors are also vulnerable. Currency fluctuations and changes in interest rates are likely to impact on the fortunes of some sectors more than others.

*Where businesses choose to locate different functions* at global, national and sub-national scales has implications for local opportunity structures and the quantity and types of jobs available. So trends in off-shoring (and on-shoring) are relevant here, as is local embeddedness of firms. The UK has a relatively high-employment low-productivity economy relative to competitors and addressing the so-called productivity puzzle<sup>9</sup> is a key policy issue, which in turn has implications for the demand and supply of skills and the nature of work.

*Geopolitical factors* also impact on employment in the UK. Over recent decades there has been particular emphasis on growth in Asian markets. More recently in the UK context attention has focused on the possible implications of *Brexit*. Impacts are likely to be differentiated sectorally and locally, although different studies show different results. For instance, Clayton and Overman (2017) predict that cities with large shares of employment in private-sector knowledge-intensive services, predominantly in southern England, are most negatively affected due to the increase trade costs linked to Brexit. Conversely analyses by Chen et al. (2017) suggest that it is many of the UK's economically weaker regions which are especially exposed to Brexit.

## **2.5 Environmental/ green issues**

The growing *degradation of natural resources and of ecosystems* has implications for use of energy and materials globally and have raised the profile of green issues and environmental concerns more generally. Local areas characterised by high levels of energy/ natural resource consumption face not only high costs as prices of such inputs rise but also are vulnerable to

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<sup>9</sup> See <https://visual.ons.gov.uk/productivity-puzzle/>

shocks. This suggests that embedding sustainability principles in individual and firm behaviour is important for resilience.

In recent years there has been growing interest in the *green/ low carbon economy*. The size of the low carbon economy and progress towards it are in large part determined by regulatory change, incentives and financial investment in technological development - as exemplified by recent UK Government investment in programmes at universities to develop electric vehicle battery technologies<sup>10</sup>, associated with the development of highly skilled jobs. At a more local and individual level activities to promote low carbon principles and improve resilience include initiatives to improve the energy efficiency of the local housing stock (both in terms of new build and refurbishing existing stock) – and utilising procurement clauses to ensure that local people benefit from construction and associated jobs.<sup>11</sup> (See also Cominetti [2012] and Galgoczi. [2012] for further information about low carbon jobs in cities and types of public policy for moving towards the low carbon economy.)

As intimated above, the green economy, *green technologies and green skills* are diverse. The green economy and technologies encompass large scale investments in wind and tidal energy, as well as bioenergy, domestic and small-scale energy systems, green construction techniques, etc. Likewise there are several definitions of green skills,<sup>12</sup> but in broad terms these can be defined as those skills needed to adapt products, services and processes to climate change and the related environmental requirements and regulations. Hence, these are part of several different occupations. A common feature, however, is that investment in vocational training in colleges and universities has an important role to play in helping the transition towards a low carbon economy at local and national levels (Aldridge and Simons, 2016; CEDEFOP, OECD, 2015).

An allied concept is the '*circular economy*': an economy that considers the challenge of resource depletion and acts to close the loop between resources extraction, production and disposal (Voulvoulis, 2015), so keeping products and resources in use for longer through recovery, repair, remanufacturing and recycling. From a local economic resilience perspective action can be taken by firms and communities at local level, with potential for job creation (Morgan and Mitchell, 2015).

## 2.6 Overview

It is clear that there is a diverse range of drivers impacting on local economic resilience. In some instances they act in opposing directions whereas in others they reinforce each other. Importantly, the drivers are interlinked – for instance, economic factors, technology, environmental drivers and societal and attitudinal change can present opportunities to operate together for resilience and inclusive growth at local level.

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<sup>10</sup> See <https://www.autocar.co.uk/car-news/new-cars/uk-government-establishes-%C2%A365m-ev-battery-research-institute>

<sup>11</sup> As exemplified by the Welsh Government's Warm Homes Programme which provided funding for energy efficiency improvements to low income households and those living in deprived communities across Wales, so addressing climate change objectives and issues of fuel poverty, as well as contributing to local economic regeneration (see <http://gov.wales/topics/environmentcountryside/energy/efficiency/warm-homes/?lang=en>).

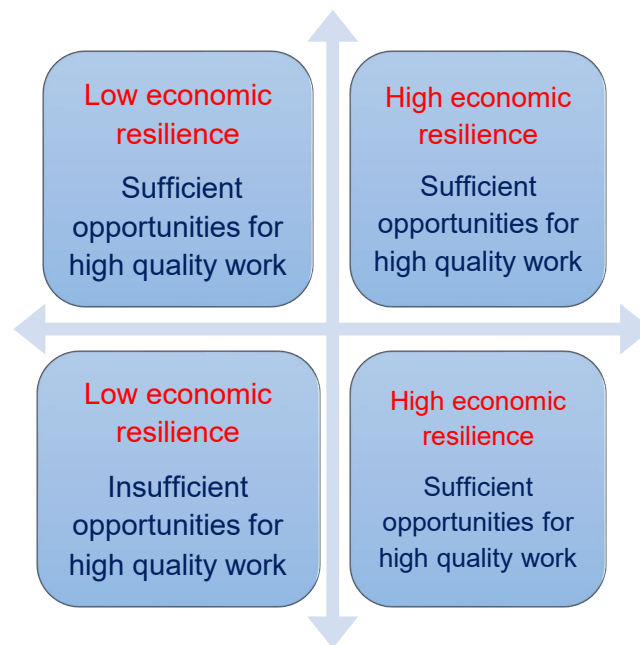
<sup>12</sup> See [http://www.oecd.org/cfe/leed/Greener%20skills\\_Highlights%20WEB.pdf](http://www.oecd.org/cfe/leed/Greener%20skills_Highlights%20WEB.pdf)

### 3. CONNECTIVITY BETWEEN THE FUTURE OF WORK AND ECONOMIC RESILIENCE

#### 3.1 Introduction to organising thinking

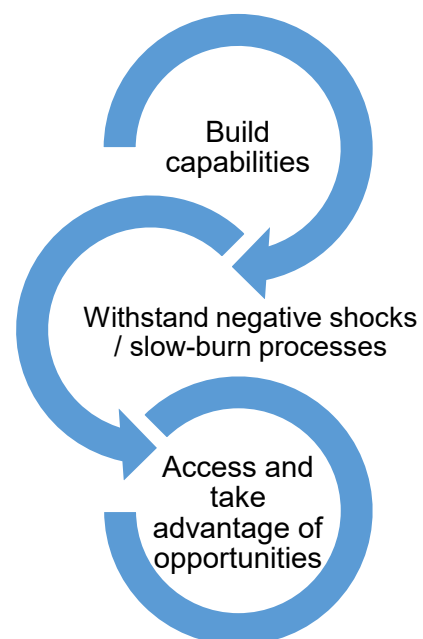
A simple schema for positioning 'economic resilience' and 'work' is presented in Figure 1. A local area may be conceptualised as being in one of four positions differentiated on the two dimensions of economic resilience (on the horizontal axis) and work quality (on the vertical axis). The policy objective then is to move towards, and maintain, a position in the upper right-hand quadrant, which is characterised by high economic resilience and a thick labour market offering a sustainable sufficiency of high quality employment opportunities.

**Figure 1: Economic resilience and the quantity and quality of work**



To move towards and maintain such a position it is important to build the resilience capability of individuals, institutions and local areas and to shape the profile of labour demand such that they are able to withstand shocks and negative slow-burn processes and to take advantage of positive opportunities (as shown in the diagram on the right). Institutions and policy actors have a role setting structures and taking policy actions to facilitate this.

Learning from the experience of high-skill ecosystems, characterised by a dynamic positive interdependence between firms, institutions and other actors, together delivering local skills needed by a diverse range of employers providing a range of good quality jobs is pertinent here (Finegold, 1999).



Finegold (1999) identified four requirements of high-skill ecosystems, drawing on experience in California:

- a catalyst for their start;
- continual nourishment;
- a supportive host environment; and
- a high degree of interdependence amongst the stakeholders and partners in the system.

As reported in Green et al. (2017), for local skills ecosystems to work effectively the evidence suggests that:

- a broad range of stakeholders and partners need to be involved;
- employer engagement has to be achieved;
- with formal, intentional initiatives, codification of policy aims and agreement about actors' roles, responsibilities and resource inputs is important;
- opportunities for frequent informal and formal co-operation, exchange and networking need to exist; and
- knowledgeable and entrepreneurial intermediaries are needed to engage and coordinate the stakeholders and partners.

Although in practice what exists is likely to differ between local areas, these factors and structures are likely to be important in understanding and developing skills demand, supply, development and utilisation, but also local economic resilience. Local capacity and expertise, autonomy and flexibility to identify and respond to local needs and strong local partnerships are needed to help shape structures and provide a conducive environment for policy intervention.

The next sub-section draws on these ideas and a review of the literature on labour market change and drivers of change to present a framework that connects the labour market and local economic resilience, with the aim of helping to support Friends Provident Foundation thinking and possible project funding in this field.

### **3.2 A framework connecting the labour market and local economic resilience**

Figure 1 sets out a *framework* indicating how labour enabling factors and institutions (including government [at national and local levels], businesses, employer organisations, third sector stakeholders, etc.) influence the shape of the labour market – with a distinction made between demand-side and supply-side factors and, in turn, local economic resilience. Local contextual factors are important for the experience and future trajectories of local economies – with key features of enabling factors and institutions and of labour demand and supply varying between local areas. Local economies sit within the broader macroeconomic context (at national and supra-national levels).

**Figure 1: A labour market and local economic resilience framework**

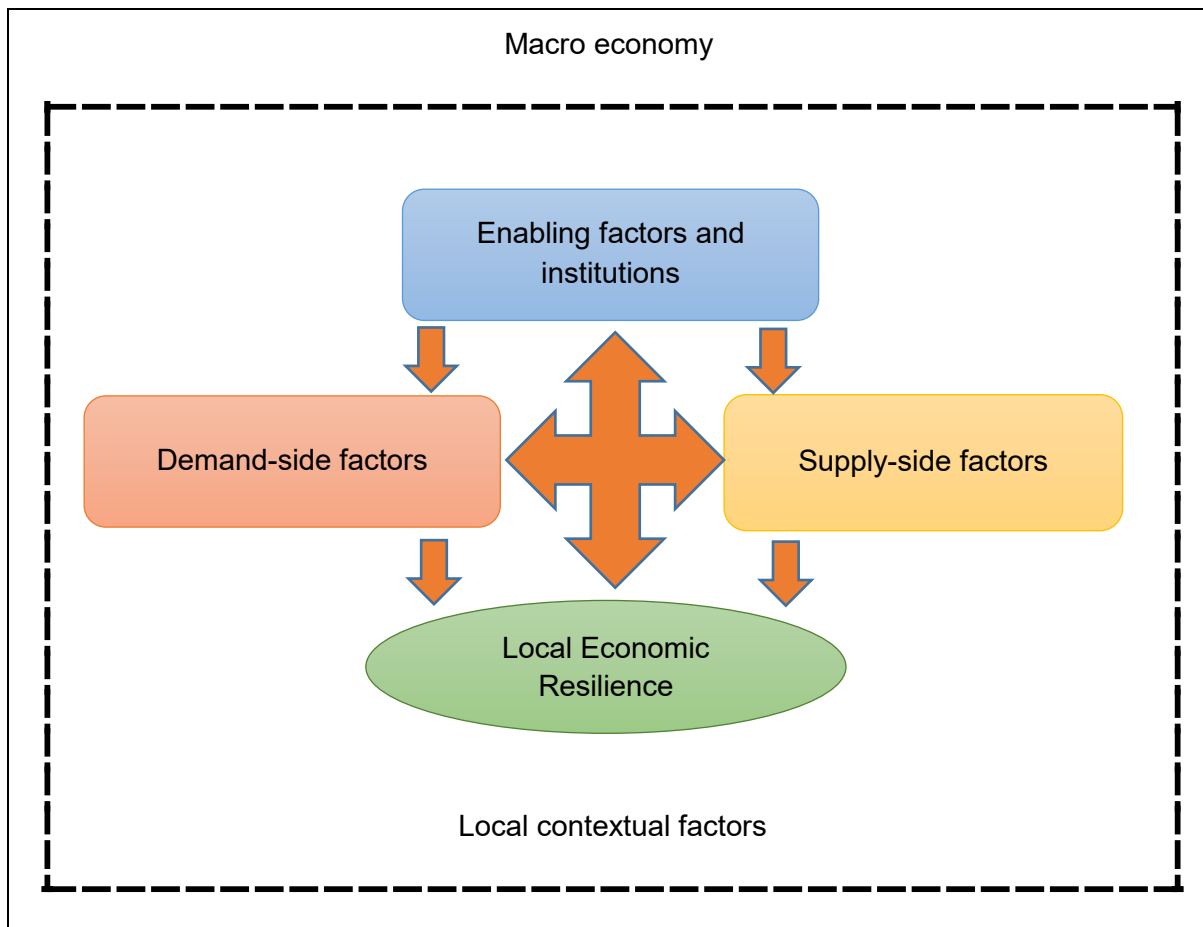


Table 1 provides further details of *enabling factors and institutions*. These may be considered as ‘upstream factors’ (with potential for) influencing both the demand-side and supply-side of the labour market, and so local economic resilience.

Three key features of the *demand-side* are highlighted:

- 1) good jobs – in recognition of current debate on this theme;
- 2) responsible business – highlighting the centrality of employers in shaping individuals’ experience of work and the potential for local economic resilience; and
- 3) a balanced (local) economy – which lies at the heart of the Friends Provident Foundation economic resilience programme.

On the *supply-side* three features are distinguished:

- 1) personal attributes, qualifications and skills which influence resilience at individual level;
- 2) access to resources; and
- 3) enterprising behaviours which are associated with resilience.

At the foot of Table 1 the importance of *theories of change* and of *monitoring* interventions and *measuring* their *impact* is highlighted.

**Table 1: Further details of the labour market and local economic resilience framework**

<p><b>Enabling factors and institutions</b></p> <p>(i.e. local and national government, businesses, employer organisations, trade unions, education and training providers, national and local government, third sector, etc.)</p> <ul style="list-style-type: none"> <li>- providing leadership</li> <li>- linking demand- and supply-sides in a virtuous circle</li> <li>- providing opportunities for participation and co-design in order that people are supported to live the lives that bring them well-being</li> <li>- creating opportunities for new models challenging conventional economic models and financial systems</li> </ul>	
<p><b>Demand-side</b></p>	<p><b>Supply-side</b></p>
<p><i>Good jobs:</i></p> <ul style="list-style-type: none"> <li>- pay</li> <li>- security</li> <li>- health and safety</li> <li>- two-way flexibility (i.e. working for employers and employees [to facilitate work-life balance])</li> <li>- opportunities for progression (i.e. opportunity structures)</li> <li>- job design</li> <li>- worker autonomy</li> </ul>	<p><i>Personal attributes, qualifications and skills:</i></p> <ul style="list-style-type: none"> <li>- demographic characteristics (age, gender, ethnicity, citizenship, etc.)</li> <li>- essential attributes (e.g. social skills, motivation, positive attitude to work)</li> <li>- personal competencies (e.g. proactivity, diligence, self-motivation)</li> <li>- formal qualifications</li> <li>- transferable skills</li> <li>- labour market and job seeking knowledge</li> </ul>
<p><i>Responsible business:</i></p> <ul style="list-style-type: none"> <li>- firm ethos</li> <li>- business model</li> <li>- wage setting mechanisms</li> <li>- remuneration (i.e. living wages)</li> <li>- terms and conditions of work</li> <li>- working practices (link to job security)</li> <li>- corporate social responsibility</li> <li>- worker participation</li> <li>- local embeddedness</li> </ul>	<p><i>Access to resources:</i></p> <ul style="list-style-type: none"> <li>- access to food, energy (link to poverty)</li> <li>- household circumstances</li> <li>- access to resources for caring</li> <li>- household work culture</li> <li>- access to transport</li> <li>- access to financial capital</li> <li>- access to social and capital</li> <li>- access to cultural capital</li> <li>- access to IT</li> <li>- resources for de-risking transitions</li> </ul>
<p><i>Balanced (local) economy – providing resilience and a range of opportunity structures:</i></p> <ul style="list-style-type: none"> <li>- diverse range of enterprises</li> <li>- mix of sectors</li> <li>- range of occupations</li> <li>- links between local businesses and links with businesses outside the local area</li> </ul>	<p><i>Enterprising behaviours:</i></p> <ul style="list-style-type: none"> <li>- what looking for in a job</li> <li>- attitude to risk</li> <li>- career management and adaptability</li> <li>- networking</li> <li>- perseverance</li> <li>- functional mobility</li> <li>- geographical mobility</li> </ul>
<p><b>Measuring what works</b></p> <ul style="list-style-type: none"> <li>- setting out a theory of change for demand-side and supply-side interventions <ul style="list-style-type: none"> <li>- monitoring of key contextual indicators of demand and supply <ul style="list-style-type: none"> <li>- measuring outputs and outcomes</li> </ul> </li> </ul> </li> <li>- development of impact framework to ascertain ‘what works’</li> </ul>	



Tables 2 and 3 consider the demand-side and the supply-side, respectively, outlining key drivers of change shaping the future of work (as set out in section 2) as they impinge on local economic resilience (in the four bottom panels of each table), together with enabling factors (in the top right-hand panel of each table) which foster local economic resilience. *A Friends Provident Foundation programme of research on the future of work and local economic resilience could focus on how enabling factors and institutions can interact/ help shape drivers of change in such a way as to enhance the possibility of positive outcomes.*

**Table 2: Enabling factors and drivers of change: demand side**

<p><b>DEMAND-SIDE</b></p> <p><b>Good jobs</b></p> <p><b>Responsible business</b></p> <p><b>Balanced local economy</b></p>	<p><b>Enabling factors and institutions</b></p> <ul style="list-style-type: none"> <li>- <i>National regulation</i>: statutory wage floors, health &amp; safety, environmental standards, worker protection, etc.</li> <li>- <i>Voluntary real living wage</i>: business case</li> <li>- <i>(Local) Employer Charters</i>: promoting good practice</li> <li>- <i>Inclusive growth principles</i> for local economic development</li> <li>- Investment in <i>demand-side</i> peer learning <i>initiatives</i></li> <li>- <i>Business support</i> to support 'good' productivity growth</li> <li>- <i>High performance working practices</i></li> <li>- <i>Local procurement policies</i></li> <li>- <i>Investment in skills</i> to support local growth</li> </ul>
<p><b>Technology</b></p> <ul style="list-style-type: none"> <li>• development of new jobs</li> <li>• changing occupational structure (including polarisation) and the nature of existing job tasks – with implications for skills requirements, including a platform of basic digital/ technological skills and more specialist technological skills</li> <li>• facilitating flexible working practices</li> <li>• growth of online platforms</li> <li>• changing geography of work/ functional division of labour</li> </ul>	
<p><b>Demography and society</b></p> <ul style="list-style-type: none"> <li>• changing markets reflecting changing composition of the population – in terms of age and ethnic diversity</li> <li>• longer working lives and associated concerns with cost of care</li> <li>• changes in cultural norms and what individuals value from work</li> <li>• changes in nature of work (e.g. flexible/ portfolio working) and supportive infrastructure</li> </ul>	
<p><b>Economic and geopolitical factors</b></p> <ul style="list-style-type: none"> <li>• real wage stagnation</li> <li>• rise of in-work poverty (with links to regulation and worker protection)</li> <li>• policy concerns with low productivity</li> <li>• Brexit – local and sectoral impacts of demand for labour</li> </ul>	
<p><b>Environmental and green issues</b></p> <ul style="list-style-type: none"> <li>• new environmentally-friendly production methods – new materials and new skills</li> <li>• stimulating innovation to foster circular economy</li> <li>• aims to reduce carbon footprint has implications for journeys-to-work</li> <li>• energy costs for businesses</li> </ul>	

**Table 3: Enabling factors and drivers of change: supply side**

<p><b>SUPPLY-SIDE</b></p> <p><b>Personal attributes, qualifications and skills</b></p> <p><b>Access to resources</b></p> <p><b>Enterprising behaviours</b></p>	<p><b>Enabling factors and institutions</b></p> <ul style="list-style-type: none"> <li>- <i>Facilitation of investment in lifelong learning:</i> by employers and individuals in order to update existing skills/ learn new skills</li> <li>- Devolution enabling more <i>locally-sensitive skills strategies</i></li> <li>- <i>Access to careers advice:</i> to help individuals to navigate the labour market and identify requirements and possibilities for progression</li> <li>- <i>Welfare and personal support for individuals when transitioning into employment</i> and between jobs</li> <li>- <i>Affordable care</i> – for children/ disabled people/ older people to facilitate labour market participation</li> <li>- <i>Investment in transport</i> linking individuals to job opportunities</li> </ul>
<p><b>Technology</b></p> <ul style="list-style-type: none"> <li>• increasing requirement for digital/ technical skills – alongside social skills</li> <li>• offering new ways of (more flexible) working for previously excluded groups – as shift to online service delivery makes jobs non location specific</li> <li>• opportunities to harness local and global goods and services</li> <li>• possibilities for enhanced connections of suppliers and consumers of services at local level</li> <li>• investment in broadband</li> <li>• possibilities for more flexible working</li> <li>• enhanced access to non-local networks without the need for geographical mobility</li> </ul>	
<p><b>Demography and society</b></p> <ul style="list-style-type: none"> <li>• immigration system changes impacting on local labour supply – a less diverse workforce in a more restrictive immigration regime?</li> <li>• changing perceptions of work and careers driving behavioural changes influencing participation patterns over the life course</li> <li>• increased heterogeneity of population sub-groups</li> <li>• changing household structures have implications for work/ non-work support structures</li> <li>• possible future shortfalls in labour could lead to substitution of capital for labour</li> <li>• place attachment</li> </ul>	
<p><b>Economic and geopolitical factors</b></p> <ul style="list-style-type: none"> <li>• Brexit – implications for quantity and profile of migrants (as above)</li> <li>• economic downturns have greater impact on some sub-groups – e.g. young, less qualified</li> <li>• impinge on labour participation decision</li> <li>• access to capital as an issue in entrepreneurship</li> </ul>	
<p><b>Environmental and green issues</b></p> <ul style="list-style-type: none"> <li>• implications for residential attractiveness</li> <li>• value of work/ home integration and value of connected communities</li> <li>• costs of travel-to-work</li> </ul>	

#### 4. IMPLICATIONS FOR FRIENDS PROVIDENT FOUNDATION ACTIVITY

This section discusses other funders active within the broad field of work and economic resilience and then begins to set out what this means for a Friends Provident Approach to funding.

The ‘changing nature of work’ is a busy field; (the Annex presents some of the relevant conceptualisations of ‘Good Work’, ‘Fulfilling Work’ and ‘Decent Work’ which are pertinent here). Other funders active here include:

Funder	Comments on types of activity
Research Councils (e.g. ESRC)	Large projects in ‘responsive’ mode. Centres focusing on specific broad subject areas. Global Challenges Research Fund focusing on ‘Global South’ has a theme on ‘decent work’. Emphasis on scientific rigour, but also emphasis on impact.
Joseph Rowntree Foundation	Particular focus on poverty – recommending four steps to solving poverty for working age adults: (1) better jobs with higher wages at the bottom of the labour market; (2) place-based inclusive growth strategies; (3) support services to improve skills, opportunities and prospects; (4) a more effective benefit system. With regard to ‘work’ particular concerns are with in-work poverty, wages (including the living wage) and skills, working with employers to create a more supported workforce. Currently looking at influencing business so work becomes a better route out of poverty – including developing a framework of the key drivers for business change in low-paid sectors, including an analysis of the balance between voluntarism and compulsion in changing business behaviour. Also has a local focus – including concerns with cities, inclusive growth and productivity.
Carnegie UK Trust	Concerned with ‘enabling wellbeing’. The ‘Fulfilling Work’ theme explores the links between work and wellbeing and the mechanisms for ensuring that work has a positive influence on wellbeing. Currently working with the Royal Society of Arts on ‘measuring job quality’ with the aim of scoping an optimal framework for measuring job quality in the UK.
Nuffield Foundation	Aim is to engage with, and to understand the significance of, new trends and disruptive forces – social, demographic, technological and economic - that are changing the structures and context of people’s lives. Key foci include ‘education and skills’ and ‘economic advantage and disadvantage’ (i.e. the factors that affect economic well-being, and how these factors change in the course of a lifetime).
Barrow Cadbury Trust	Has an ‘economic justice’ programme focusing particularly on how financial networks and institutions can aim to build economic inclusion. The Trust works on the premise that financial resilience and inequality in communities can only improve if economic systems operate sustainably both at a macro and local level. There is a concern with building learning to strengthen local economies and to share best practice - particularly across local authorities.

Aside from these funders it is also pertinent to note that some other organisations are very active in the field of 'The Future of Work'. For instance, the *Royal Society of Arts* has a 'Future of Work' Research Programme<sup>13</sup> (which has/ requires external funding) examining three core questions: (1) what does work look like today? (2) what do we want work to look like tomorrow? (3) how can we use policy and practice to realise that vision? The Programme has four key themes:

- i. Technology and automation – How might AI and robotics be used to enrich rather than diminish the lives of workers?
- ii. The social contract – What is the appropriate balance of rights and responsibilities between workers, the state, consumers and employers?
- iii. Lifelong learning – How can we create an affordable yet effective system of continual learning that can aid career progression in this new era of work?
- iv. Worker voice and employee engagement – What would it take to give workers a meaningful stake and voice in their organisations?

There is also research on related themes – including economic insecurity (Shafique, 2018).

Covering some similar ground, *The Work Foundation* has a Commission on Good Work<sup>14</sup> concerned with exploring and promoting the ongoing importance in driving benefits for more businesses, individuals, and society as a whole within a modern world. It focuses on three key questions:

- 1) Why is a focus on Good Work so important now?<sup>15</sup>
- 2) What does Good Work mean in a modern economy?<sup>16</sup>
- 3) How do we achieve Good Work in a way that unlocks the mutual benefits for business, individuals and the wider economy?<sup>17</sup>

*The Friends Provident Foundation* does not wish to duplicate other funders but rather wishes to maintain a focus on the 'up stream' part of challenges facing the UK – rather than the downstream issues of the symptoms of inequalities. This means a focus on addressing the structural factors underpinning a (lack of) economic resilience, rather than on the tackling the symptoms of disadvantage/ lack of resilience (e.g. low participation rates of certain ethnic groups, gig economy workers struggling financially).

The framework set out in Figure 1 and Table 1 shows how issues regarding employment/ work can be integrated into a (local) economic resilience framework. In terms of moving upstream this suggests that the Friends Provident Foundation should focus attention on addressing *structural factors associated with enabling factors and institutions* in Tables 1, 2 and 3, which might then help create a fair(er) economy.

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<sup>13</sup> <https://www.thersa.org/action-and-research/rsa-projects/economy-enterprise-manufacturing-folder/the-future-of-work>

<sup>14</sup> See <http://www.theworkfoundation.com/wp-content/uploads/2016/10/The-Commission-on-Good-Work.pdf>

<sup>15</sup> Here The Work Foundation highlights the fact that neither returns to businesses nor workers are optimised, as exemplified by a productivity paradox in business, uneven technological change and a growing inequality for many workers. Hence it is necessary to understand factors shaping changes and associated opportunities and risks.

<sup>16</sup> Here the need for more businesses to pursue a smarter people-centred approach which secures high performance work practices and 'Good Work' (see Annex) for individuals is highlighted.

<sup>17</sup> Here The Work Foundation suggests a new formula for Good Work is needed that recognises different types of work, but is supported by multiple stakeholders to secure mutual benefits.

There is a need to identify and understand the mechanisms through which labour market (and other) institutions can impact on the nature understanding of mechanisms through which labour market (and other) institutions/ actors can impact on the nature of work and how this determines adaptive capacity and resilience performance. *Possible key topics* for the Friends Provident Foundation to focus attention on include:

- Regulation – where arguably there has been relatively limited attention to date (i.e. the Friends Provident Foundation ‘influencing’ role). Research here would contribute to the identification of mechanisms through which labour market (and other) institutions can impact on the nature understanding of mechanisms through which labour market (and other) institutions/ actors can impact on the nature of work and how this determines adaptive capacity and resilience performance.
- Understanding the current (and to some extent the past) behaviour of institutions (i.e. the Friends Provident Foundation role in working with ‘institutions’) – including local authorities, employers, the third sector, education and training providers, etc.), and also of individuals - in order to gain insights into the structural barriers that they face in taking action to move towards a fair(er) economy (i.e. ‘intelligence gathering’).
- This could feed into suggestions for policy development – which might include enhancing the baseline level of understanding of specific issues pertinent to resilience (e.g. productivity, waste minimisation, etc.) so that institutions and actors might be ‘nudged’ or required to act differently.
- It could also feed into local scale projects to test particular solutions (i.e. innovation). These could be considered demonstration projects.

Where such research is undertaken (including action research and specific local projects) it could be a requirement that the steps set out in the ‘measuring what works’ panel at the foot of Table 1 are addressed in order that theories of change are set out and outcomes and impacts are measured wherever possible. This should help contribute to the transferability of findings.

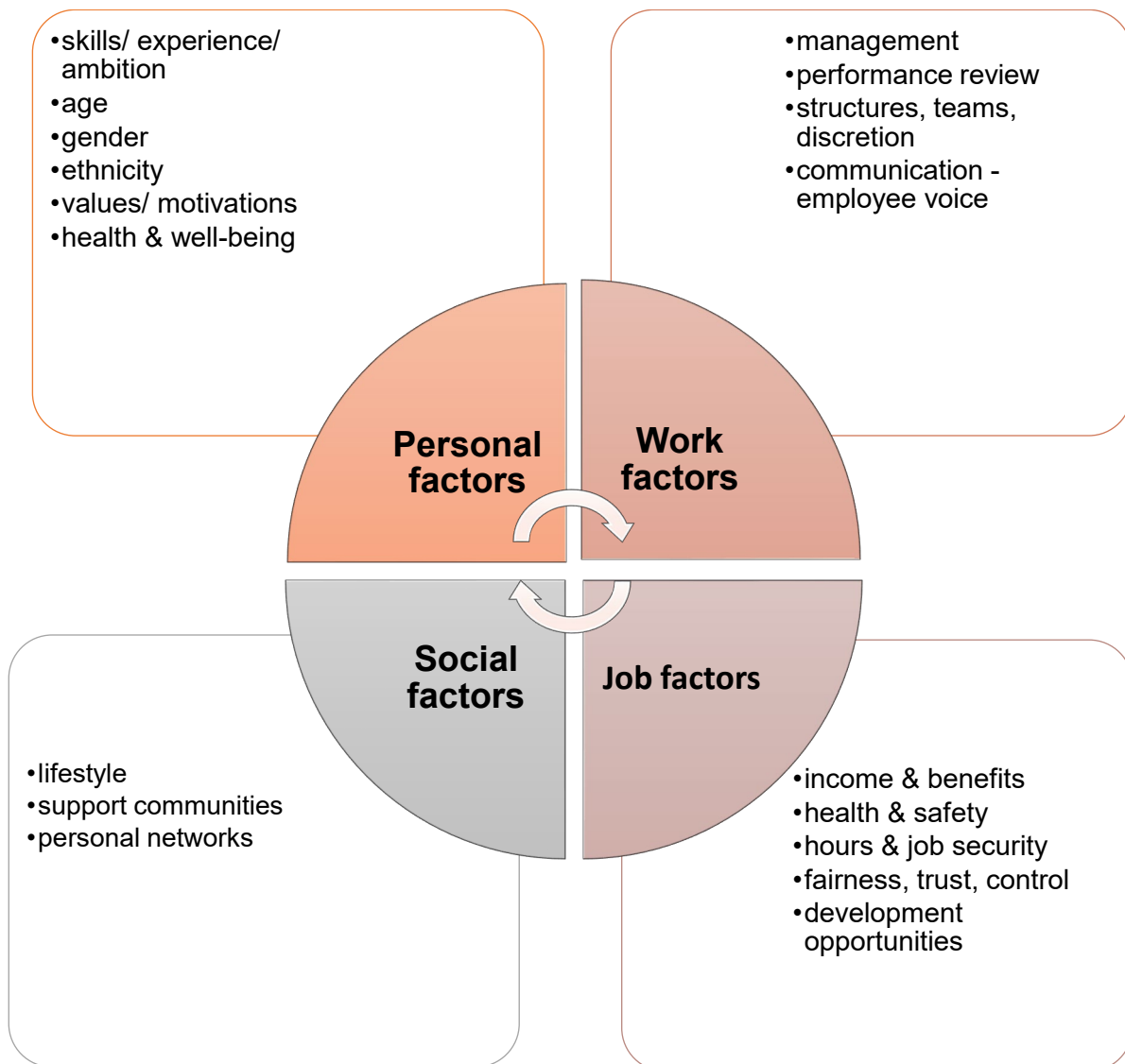
The extent to which this is a distinctive gap – or a niche that could be made more distinct from the activity of other actors – is arguably questionable given the interests of other funders in this broad field and so needs to be the subject of further discussion.

## ANNEX: Good Work, Fulfilling Work and Decent Work

'Good jobs', 'fulfilling work' and 'decent work' are receiving a good deal of attention.

As noted above, The Work Foundation is focusing on 'good work' (which is about 'making the best of people's talents today and tomorrow') – distinguishing personal factors, work factors, job factors and social factors (Figure A1).

**Figure A1: Dimensions of 'Good Work'**

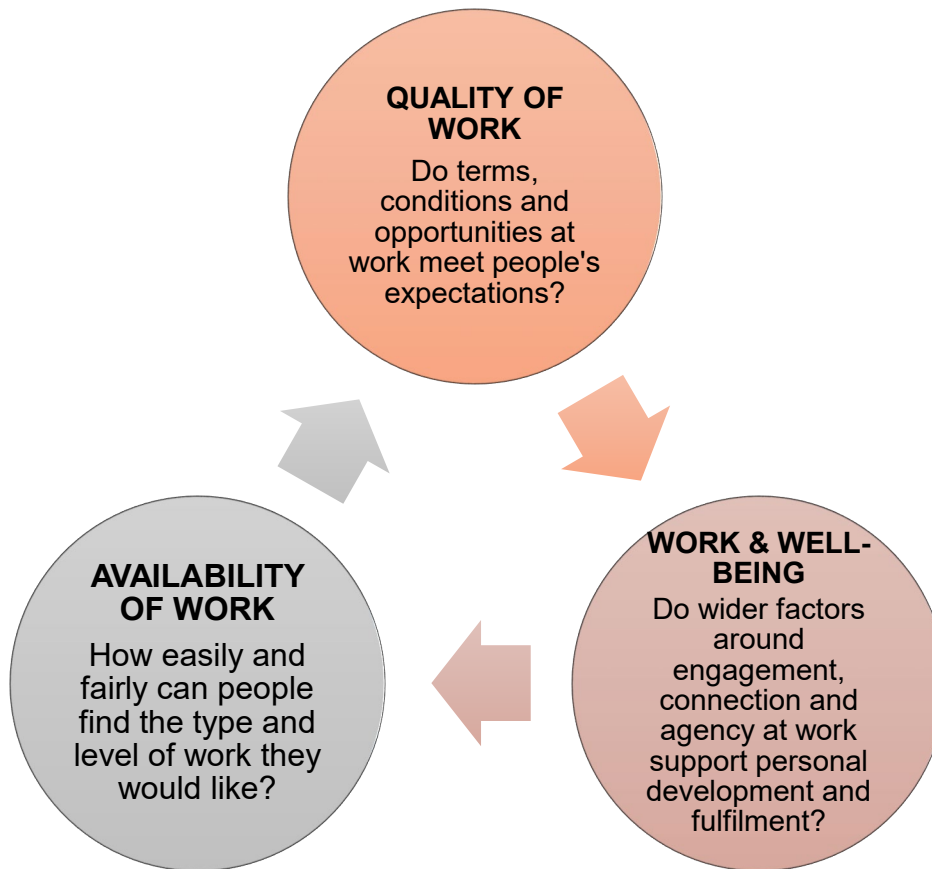


Source: adapted from The Work Foundation.

This is in the context of growing issues at work – including increasing job in securing, increasing work intensity and tight deadlines, individuals being stuck in low-paid work, growing skills under-utilisation, a significant number of workers being affected by health conditions, growing skills shortages and significant numbers missing out on training.

The Carnegie Trust is working with the concept of 'fulfilling work', encompassing job availability, job quality and work & well-being (see Figure A2).

**Figure A1: Fulfilling Work (CarnegieUK Trust)**



Source: adapted from McGregor (2017).

Oxfam Scotland has been working with the concept of 'decent work' in the context of concerns with in-work poverty, which is itself a function of overlaps between the level of hourly pay, the number of hours worked, and the value of in-work benefits. 'Decent work' lifts people out of in-work poverty but is about more than this. On the basis of a review of the literature on 'decent work' and job quality, Stuart et al. (2016) identified five distinct 'dimensions of decent work': pay, terms and conditions, health and safety, work-life balance, and the intrinsic characteristics of work (i.e. 'the work itself') and produced a list of 26 factors associated with them. They then asked 1,500 individuals people with experience in low-wage sectors or with low earnings which of these factors they deemed to be most or least important to make work 'decent'. The factors that were prioritised primarily related to pay (i.e. an hourly rate or salary that is at least enough to cover basic needs such as food, housing and things most people take for granted without getting into debt, and being paid fairly compared to other similar jobs) and terms of employment (i.e. paid holidays and paid sick leave, job security, and a job in which there is no discrimination because of who I am), along with one factor each relating to intrinsic characteristics of work (i.e. a supportive line manager) and health and safety (a safe working environment free from physical and mental risk or harm).

## REFERENCES

- Aldridge J. and Simons J. (2016) *European case study: low-carbon skills development in the UK – the approach of Liverpool City Region*, ippr, <https://www.ippr.org/files/publications/pdf/nsaw-case-study-aldridge-simons-feb2016.pdf?noredirect=1>
- Arrow K., Bolin, B., Costanza, R., Dasgupta, P., Folke, C., Holling, C. S., Jansson, B.-O., Levin, S., Mäler, K.-G., Perrings, C. & Pimentel, D. (1995) 'Economic growth, carrying capacity, and the environment'. *Ecological Economics*, 15 (2). pp 91-95.
- Bakhshi H., Downing J., Osborne M. and Schneider P. (2017) *The Future of Skills: Employment in 2030*. Pearson and Nesta, London.
- Balaram B., Warden J. and Wallace-Stephens F. (2017) *Good gigs: a fairer future for the UK's gig economy*, Royal Society of Arts, London.
- Beer A. and Clower T. (2014) 'Mobilizing leadership in cities and regions'. *Regional Studies, Regional Science*, 1 (1). pp 5-20.
- Berry C. and McDaniel (2018) 'Young workers' perspectives on the economy, crisis, the labour market and politics', *SPERI British Political Economy Brief* No. 30, Sheffield Political Economy Research Institute, University of Sheffield, Sheffield.
- Boyle D. (2013) 'Sharing cities: the magic of indirect reciprocity', *New Start*, 11 July.
- Brand F.S. & Jax K. (2007) 'Focusing the meaning (s) of resilience: resilience as a descriptive concept and a boundary object'. *Ecology and Society*, 12 (1). pp 23.
- CEDEFOP (2017) *People, machines, robots, and skills*, CEDEFOP, Thessaloniki.
- CEDEFOP (2017) *Towards age-friendly work in Europe: a life-course perspective on work and ageing from EU Agencies*, CEDEFOP, Thessaloniki.
- CEDEFOP, OECD (2015). *Green skills and innovation for inclusive growth*. Luxembourg: Publications Office of the European Union. Cedefop reference series.
- Centre for Cities (2018) *Cities Outlook 2018*, Centre for Cities, London.
- Centre for Economic and Social Inclusion (2014) *Realising talent: employment and skills for the future*, CESI, London. <https://www.local.gov.uk/sites/default/files/documents/realising-talent-employe-e5c.pdf>
- Chen W., Los B., McCann P., Ortega-Argilés R., Thissen M., van Oort F. (2017) 'The continental divide? Economic exposure to Brexit in regions and countries on both sides of The Channel', *Papers in Regional Science*, DOI: 10.1111/pirs.12334.



- Clarke S. (2016) *A brave new world: how reduced migration could affect earnings, employment and the labour market*, Resolution Foundation, London.
- Clayton N. and Overman H. (2017) *Brexit, trade and the economic impacts on UK cities*, Centre for Cities, London.
- Cominetti N. (2012) *Low carbon jobs for cities: what cities can do to encourage jobs growth in the low carbon economy*, The Work Foundation, London.
- Dellot B. and Wallace-Stevens B. (2017) *The Age of Automation: artificial intelligence, robotics and the future of low-skilled work*, Royal Society of Arts, London.
- Department for Work and Pensions (2017) *Fuller Working Lives: Evidence Base, DWP ad hoc research report no. 46*.
- Di Caro P. (2017) 'Testing and explaining economic resilience with an application to Italian regions'. *Papers in Regional Science*, 96 (1), 93-113.
- Dobson B. (2017) *Gainful Gigging: Employment Services for the Platform Economy*, Reform, London.
- Doran J. and Fingleton B. (2015) 'Resilience from the micro perspective'. *Cambridge Journal of Regions, Economy and Society*, 8 (2), 205-223.
- Doran J. and Fingleton B. (2016) 'Employment Resilience in Europe and the 2008 Economic Crisis: Insights from Micro-Level Data'. *Regional studies*, 50 (4), 644-656.
- Duval R., Elmeskov J. and Vogel, L. (2007) 'Structural policies and economic resilience to shocks'. *OECD Economics Department Working Paper 567*,
- Farber S. (1995) 'Economic resilience and economic policy'. *Ecological Economics*, 15 (2), 105-107.
- Finegold D. (1999) 'Creating self-sustaining, high-skill ecosystems', *Oxford Review of Economic Policy* 15 (1), 60-81.
- Fingleton B., Garretsen H. and Martin R. (2012) 'Recessionary Shocks and regional employment: Evidence on the Resilience of U.K. Regions'. *Journal of Regional Science*, 52 (1), 109-133.
- Galgoczi B. (2012) *Greening industries and creating jobs*, European Trade Union Institute, Brussels.
- Gorenflo N. et al. (2013) *Policies for shareable cities: a sharing economy policy primer for urban leaders*, Shareable and Sustainable Economies Law Center.  
<https://drive.google.com/file/d/0B7QZ6oJxCT4kRDRIZ1pTaG1fOXc/view>

- Green A., Hogarth T., Thom G., MacLeod K, Warhurst C., Willis R. and Mackay S. (2017) 'Local Skills Case Study', *Department for Education Research Report 643*, [https://www.gov.uk/government/uploads/system/uploads/attachment\\_data/file/603951/Local\\_skills\\_case\\_study.pdf](https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/603951/Local_skills_case_study.pdf)
- Greenham T., Cox E. and Ryan-Collins J. (2013) *Mapping Economic Resilience*, Friends Provident Foundation, York.
- Hijzen A., Kappeler A., Pak M. and Schwellnus C. (2017) *Labour market resilience*. OECD Publishing.
- Hill E., Clair T., Wial H., Wolman H., Atkins P., Blumenthal P., Ficenec S. and Fiedhoff A. (2010) 'Economic shocks and regional economic resilience', *Paper to Conference on Urban and Regional Policy and Its Effects: Building Resilient Regions, Washington DC*. 20-21.
- Kitsos A. and Bishop P. (2016) 'Economic resilience in Great Britain: the crisis impact and its determining factors for local authority districts'. *The Annals of Regional Science*, <https://doi.org/10.1007/s00168-016-0797-y>.
- Lee, N. (2014) 'Grim down South? The Determinants of Unemployment Increases in British Cities in the 2008–2009 Recession'. *Regional studies*, 48 (11), 1761-1778.
- Levin S. A., Barrett S., Aniyar S., Baumol W., Bliss C., Bolin B., Dasgupta P., Ehrlich P., Folke C., Gren I.-M., Holling C. S., Jansson A., Jansson B.-O., Mäler K.-G., Ouml Ran, Martin D., Perrings C. and Sheshinski E. (1998) 'Resilience in natural and socioeconomic systems'. *Environment and Development Economics*, 3 (02), 221-262.
- Manyika J. et al. (2017) *A Future That Works: Automation, Employment and Productivity*, McKinsey Global Institute.
- Martin R. (2012) 'Regional economic resilience, hysteresis and recessionary shocks'. *Journal of Economic Geography*, 12 (1), 1-32.
- Martin R. and Sunley P. (2015) 'On the notion of regional economic resilience: conceptualization and explanation', *Journal of Economic Geography* 15 (1), 1-42.
- Maru Y.T. (2010) 'Resilient regions: clarity of concepts and challenges to systemic measurement'. *CSIRO Sustainable Ecosystems Working paper series 2010-04*,
- McGregor A. (2017) *Brexit and Fulfilling Work: Responding to Threats and Exploiting Opportunities*, Carnegie UK Trust.
- McKay S. and Simpson I. (2016) 'Work: attitudes and experience of work in a changing labour market', *British Social Attitudes Report 33*, [http://bsa.natcen.ac.uk/media/39061/bsa33\\_work.pdf](http://bsa.natcen.ac.uk/media/39061/bsa33_work.pdf)
- Morgan J. and Mitchell P. (2015) *Employment and the circular economy: job creation in a more resource efficient Britain*, Green Alliance, London.

OECD (2012) *What Makes Labour Markets Resilient During Recessions?* OECD Publishing.

Owen D., Gambin L., Green A. and Li Y. (2015) *Projecting Employment by Ethnic Group*, Joseph Rowntree Foundation, York.

Pendall R., Foster K.A. and Cowell M. (2010) 'Resilience and regions: building understanding of the metaphor', *Cambridge Journal of Regions, Economy and Society* 3 (1), 71-84.

Perrings C. (1994) 'Ecological resilience in the sustainability of economic development', *Models of sustainable development: exclusive or complementary approaches of sustainability? International symposium*, 27-41.

Perrings C. (1998) 'Resilience in the Dynamics of Economy-Environment Systems'. *Environmental and Resource Economics*, 11 (3-4), 503-520.

Reggiani A., De Graaff T. and Nijkamp P. (2002) 'Resilience: An Evolutionary Approach to Spatial Economic Systems', *Networks and Spatial Economics* 2 (2), 211-229.

Rubery J., Keizer A. and Grimshaw D. (2016) 'Flexibility bites back: the multiple and hidden costs of flexible employment policies', *Human Resource Management Journal* 26 (3), 235-51.

Shafique A. (2018) *Addressing Economic Insecurity*, Royal Society of Arts, London.

Simmie J. and Martin, R. (2010) 'The economic resilience of regions: towards an evolutionary approach', *Cambridge Journal of Regions, Economy and Society*, 3 (1). 27-43.

Sissons P., Green A. and Lee N. (2017) 'Linking the sectoral employment structure and household poverty in the United Kingdom', *Work, Employment and Society*. DOI: 10.1177/0950017017722939

Störmer E., Patscha C., Prendergast J., Daheim C. and Rhisiart M. (2014) 'The Future of Work: Jobs and Skills in 2030', *UKCES Evidence Report 83*, UKCES, Wath-upon-Deerne and London.

Stuart F., Pautz H., Crimin S. and Wright S. (2016) *What makes for decent work? A study with low paid workers in Scotland*, Oxfam Scotland.

Taylor M. et al. (2017) *Good Work: The Taylor Review of Modern Working Practices*. [https://www.gov.uk/government/uploads/system/uploads/attachment\\_data/file/627671/good-work-taylor-review-modern-working-practices-rq.pdf](https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/627671/good-work-taylor-review-modern-working-practices-rq.pdf)

Voulvoulis N. (2015) *The circular revolution*, Veolia, London.

Wheatley D. (2017) 'Employee satisfaction and use of flexible working arrangements', *Work Employment and Society* 13 (4), 567-585.

Wisskirhcn G. et al. (2017) *Artificial Intelligence and Robotics and Their Impact on the Workplace*, IBA Global Employment Institute

Woskow D. (2014) *Unlocking the sharing economy: an independent review*, Department for Business, Innovation and Skills, London.