The Future of Work in New Zealand: 

Education and Training – Lessons from Denmark

By Kinley Salmon

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**Executive Summary**

Future technological developments are likely to lead to the loss of a wide range of jobs due to computerisation and automation. There are two possible paths for New Zealand in the face of this change. The first, already evident in New Zealand, is widening inequality with the owners of capital and a small group of highly skilled people in high productivity, high pay jobs at one end while others are stuck in low pay, low skill jobs.

The second path is to respond with policies to maximize the proportion of the population in high skill, high productivity jobs. This requires three things: that people are equipped with the necessary skills for high productivity jobs; that there is sufficient demand to consume what is produced; and that there is a shift towards lower emission sectors to ensure increased production does not cause environmental degradation.

This paper addresses the skills part of the equation, and considers the Danish experience with vocational education.

The Danish system of ‘flexicurity’ provides an example of how a country can help retrain its citizens in the face of job losses. Flexicurity has three components: flexible labour markets, generous benefits, and extensive active labour market policies - in particular education and training - to get people back to work.

New Zealand has similarly flexible labour markets to Denmark but Denmark provides substantially more generous benefits. This can be up to 90 per cent of the previous wage for low earners, for two years in any three year period. Those on benefits though are obliged, or risk losing benefits, to attend activation programmes. These programmes can be public job training, private job training, classroom training/education, or other programmes such as job search assistance.

The classroom education approach in Denmark is highly flexible with the average course only three-and-a-half days in length but with more than 2800 courses on offer. These are constantly updated to match the skills demanded by employers. This allows participants to tailor their selection to their needs. The unemployed are entitled to six weeks of education free of charge but those who are employed also use the training with significant public support. Denmark spends 1.85 per cent of GDP on its active labour market policies overall, compared with 0.28 per cent in New Zealand, although Denmark’s figure is inflated by spending on jobs for the disabled.

The flexicurity model serves Denmark well. It is has the lowest inequality in the OECD, in part due to its generous benefit system. Denmark also has among the lowest inequality of market income (before taxes and transfers) in the OECD, suggesting people have the skills to earn a decent living from wages alone. Whilst maintaining this remarkable equality, Denmark has also achieved strong efficiency outcomes: consistently lower unemployment than the OECD average (despite a strong welfare net typically associated with higher unemployment), high labour market participation, levels of vocational training that are among the highest in the OECD, and a workforce strongly focused on technical jobs.

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1 This section draws on website of Danish Ministry for Children, Education, and Gender Equality accessed at: http://eng.uvm.dk/Education/Adult-Education-and-Continuing-Training/Adult-vocational-training-in-Denmark

2 OECD, (2015a) Note this does not include unemployment benefits which are counted separately.
Perhaps most importantly, flexicurity has created a society-wide resilience to job changes best captured by the fact that 70 per cent of Danes think ‘it is good for people to change jobs every few years’ compared to less than 30 per cent of Germans or Poles.3 This resilience and positivity in the face of job changes is exactly what New Zealand needs as it faces a future of increased automation and computerisation.

**What is at stake?**

It is well documented that future technological developments could result in the loss of a wide range of jobs to automation. Some studies estimate that as many as 47 per cent of today’s jobs are likely to go in the next two decades.4 Automation on this scale would result in major shifts of labour out of some sectors and jobs today in search of employment in other sectors. This would represent a significant challenge to the economic and social model of advanced countries, including New Zealand. There are two broad paths which could be taken into this new world.

The first we have begun to see already. It is the natural trend in absence of a robust policy response. Owners of capital and technology grow increasingly wealthy as do, to a lesser extent, the approximately 15 per cent of people who have the skills, training and opportunity to work effectively with high tech machines or to work in creative areas or professional services where automation has not yet arrived.5 The rest of the population is left in one of three situations: i) in low skill, low pay, low security jobs most often in the non-tradeable sector; ii) underemployment; or iii) unemployment.6 As the McKinsey Global Institute notes in their report Help Wanted: The Future of Work in Advanced Countries, “workers with the strong cognitive, communication, and problem-solving abilities that are required for the most sophisticated types of work have experienced low unemployment and rising wages—the opposite of what has been happening to workers at lower skill levels”7.

The result of continuing on this first path is growing inequality.8 This is often associated with a host of social problems including poor physical and mental health, weaker education outcomes, and lowered social trust.9 This inequality contributes to reduced aggregate demand and secular stagnation – low growth and low job-creation - as the wealthy spend a smaller proportion of their income than the poor. This in turn exacerbates the original unemployment problem. In the absence of robust policy action, this is where New Zealand is heading.

The second path is to respond with policies that aim to maintain high employment with as large a proportion of the population as possible in higher skill, high productivity jobs. To understand the nature of the challenge a stylised example of a manufacturing production line is instructive.

In the past it may have taken 100 people to work a given production line where it may soon require only 10 to oversee an automated system to do the same work. In simple terms, these 10 people, armed with more sophisticated capital, are now 10 times more productive. To do their jobs they require more sophisticated skills than production line workers. The other 90 people however, are no longer employed.

The central challenge is to ensure that all those who lost their jobs can find high productivity, high wage employment themselves in this new more technologically advanced world. For this to be possible, three conditions must be met:

1. Upskilling: Those who have lost their jobs, or who are entering the job market for the first time, must be able to attain the skills required to perform new, higher skill, higher productivity jobs.

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3 Danish Council of Trade Unions (2005)
5 In Average is Over (2013) Tyler Cowen outlines exactly this kind of scenario.
6 In Help Wanted: The Future of Work in Advanced Countries, McKinsey and Company also note that in the past decade, the unemployment rate for workers with less than a secondary education rose by seven percentage points in Spain, three points in the United Kingdom, and two points in Canada and Germany. In the same period, the unemployment rate for workers with a tertiary education (a bachelor’s degree or higher) fell by two points in Spain and Germany and remained steady in the United Kingdom and Canada
7 McKinsey Global Institute, (2012), p.4
8 See Piketty, T. (2013) for global trends and OECD, (2014a) for evidence of this in New Zealand
2. Demand: Given all workers will be producing substantially more due to their higher productivity, there must be sufficient aggregate demand to consume what is produced by 100 people working at higher productivity.

3. Environmental sustainability: It must be possible to produce what these 100 people will produce at this new higher productivity without damaging the environment excessively.

A policy response to this situation, when it is a reality at a national scale, requires measures to address each of these three conditions. The third condition requires robust environmental protection, an energy policy that focuses on renewables, as well as a sectoral strategy that progressively shifts investment toward new or emerging sectors with good prospects for operating with zero greenhouse gas emissions. The second requires sound fiscal and monetary management domestically and, in particular for a small country like New Zealand, effective trade policy to maximise access to larger markets with growing demand. This paper focuses on the first of these conditions – ensuring the population has the necessary skills to work in new, higher skilled jobs.

**Vocational education: lessons from Denmark**

In terms of general education, there are three areas where humans are likely to continue to hold an advantage over machines: idea generation, large-frame pattern recognition, and complex communication. General education should focus on building skills in these areas as well as helping equip people to work well with machines. Montessori education already has a record of equipping students with these skills.

Even with a reformed general education system, and certainly whilst that system is grappling with change, retraining for adults will be critical. The Danish system of ‘flexicurity’ provides an example of how a country can help retrain citizens in the face of job losses.

The Danish system of flexicurity was designed to help deal with changes to the job market driven by globalisation and as such provides a particularly relevant example in the face of increasing technological change. Flexicurity has three components according to the Danish government. First, there are flexible rules for hiring and firing. About 25 per cent of the Danish workforce changes jobs each year. Second, there is strong unemployment benefit security – as much as 90 per cent of the previous wage for low earners. Third, there are ‘active labour market policies’ to help provide the unemployed with an avenue into work. This includes education, training, career guidance, and direct job offers.

Figure A: The Golden Triangle of Flexicurity (Source: Belchmaber 2010)

As mentioned, flexicurity is particularly relevant to the future of work in New Zealand as it was developed to deal with a similar issue: rapid changes in the jobs available in Denmark as a result of globalisation. As a 2007 report by the Organisations of Trade Unions (LO) in Denmark said: “It is widely agreed that a substantial part

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13 Hendelioiwitz, (2008)
of Denmark’s solution to globalisation consists of a greater emphasis being placed on training, research, high technology and innovation...”

In a later speech the head of the LO noted that: “Security is no longer to hold on desperately to the same job throughout your life. Security is to stay cool when you hear rumours of outsourcing from the boardroom. Because deep down you know that you have solid skills and that you will quickly be able to find a new job if the old one is relocated. Security is not to be able to stay on. Security is to be able to move. It is precisely this new security through training and education that we have now embarked on creating for every worker.” As these quotes suggest, flexicurity was developed in close collaboration with union movements in Denmark.

New Zealand has relatively similar regulation to Denmark when it comes to hiring and firing. As Figure 1 in the Appendix shows, both operate labour markets that are at the most flexible end of the spectrum of OECD countries. New Zealand and Denmark have very similar strength of protection against individual dismissal but New Zealand has slightly stronger regulation on temporary employment whilst Denmark has stronger regulation on collective dismissal. Nevertheless, there is no doubt that overall New Zealand already has, to a large extent, the flexible labour market component of flexicurity. This report therefore focuses on Denmark’s approach to active labour market and policies with a short overview of Denmark’s unemployment benefits. It is noteworthy that discussing a shift towards flexicurity in New Zealand, if communicated accurately, should not be viewed as a threat. It could instead be seen as a welcome development to help balance some of the problematic social impacts of highly flexible labour markets on their own.

‘Activation’ is obligatory for the unemployed

In Denmark the system is structured around the right of an unemployed worker to receive an ‘activation offer.’ Activation offers can be categorised into four groups: private job training, public job training, classroom training, and residual programmes (including job search assistance and counselling programmes among others.) Residual programmes are targeted in particular at people who have difficulty finding long term employment.

Private job training is incentivised by the state which provides the private employer with a wage subsidy of 50 per cent of a low salary for a maximum of 12 months. Public job training is similar but the public sector pays a fixed, relatively low wage. These jobs are either in public institutions or special employment projects and last six to 12 months. The ratio between private and public job training has been approximately one to four. The programme with the largest participation is classroom based training.

The exact details of when people receive activation offers vary by age and situation and are summarized below. Unemployed people below the age of 30 have the right to an activation offer, and duty to take it on, no later than 13 weeks after becoming unemployed. The first offer of some combination of the job training, education, or counselling should last for six months. For people under the age of 25, without market relevant education, the activation offer must be education.

Unemployed people over the age of 30 have the right to an activation offer and a duty to take it on no later than nine months after unemployment began. In most cases it will be offered before the end of that nine month period. For those above the age of 60 the period is only six months. After the first offer, there is a right and duty to take on a new offer for each consecutive period of six months on public unemployment support, no matter the person’s age. These supplementary activation offers must have a minimum duration of four weeks.

These requirements are balanced by generous and long duration unemployment benefits. While not the primary focus of this paper, it is important to note that in Denmark people are eligible for up to 90 per cent of their previous wage. However, there is an absolute cap on this of 17,355 Danish Kroner per month (~4000 NZD

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14 Danish Confederation of Trade Unions, (2007) p.6
15 Quoted in Bardhan et al (2013) p.168
16 OECD (2013)
17 Jespersen et al (2014)
18 Christensen, R. (2010)
20 This section draws on Andersen, T. (2012)
not adjusted for purchasing power parity). The duration and extent of these benefits has changed over the course of flexicurity but they have always been relatively generous. Most recently, in 2013 it was possible to receive this amount per month for two years in any three year period. It is important to note that failure to take on the activation programme in the given timeframes results in cuts to the benefits provided. The flexicurity system is generous, but it comes with significant obligations.

Flexibility, variety, and public support are key to the Danish vocational education system
This section looks at the details of the vocational training and education system in Denmark which is a key part of the activation programme described above.

What is on offer? The programmes on offer are structured around 120 ‘joint competence descriptions’ which each correspond to a job area. The joint competences include a description of typical workplaces, a description of relevant competences for the job area, and a list of vocational educational programmes that lead to the stated competences. There are approximately 2,800 adult vocational training courses as well as 300 single subject courses from the more general adult educational offering.

This breaks down into three general types of training available:

- Specific job/sector related skills and competences, e.g. crafts, technical insight and knowledge of materials
- General skills and competences, e.g. ICT and job relevant mathematics
- Labour management skills and competences, e.g. social communication, organization and management.

One notable feature is that most programmes are short modules that are on average three and a half days long. It is possible to combine programmes to develop deeper expertise in a specific area. This flexibility and the range of programmes on offer helps to ensure a wide range of people can participate as well as allowing participants to focus on modules that build specific skills that are genuinely relevant to their work.

Who participates and who pays? Those in their first term of unemployment can take vocational training courses of their selection for six weeks free of charge. These programmes are not exclusively for the unemployed but instead are available to a wide range of students of various ages. They are also targeted at those who do have a job but who want to develop specific skills further. They are also frequently used by recent immigrants and refugees. Courses in priority areas such as health and social services are free for all users. However, other courses will cost between 500 and 750 Danish Kroner (120 to 180 NZD) per week for those not in their first term of unemployment. This is usually paid by the employer if the person is currently in employment. Nonetheless, most programmes are significantly publicly financed. On average the user fee for adult vocational educational programmes covers about 15 per cent of the total working expenses.

There is also provision for an allowance whilst doing vocational training to make up for lost wages for those who have a job but are not paid whilst on training. A fixed allowance financed by the state which corresponds to the maximum unemployment benefit rate is available to low skilled and skilled participants who currently have a job but are not being paid whilst in training. When individuals are paid by their employers while they participate, the companies are entitled to receive the grant instead. Those who are unemployed receive the regular benefit but no additional allowance.

Who delivers the training? The training programmes are delivered by both private and public educational institutions that have been approved by the Ministry of Education such as “adult vocational training centres, vocational technical colleges, commercial colleges, agricultural colleges, social and health service schools

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22 This section draws on website of Danish Ministry for Children, Education, and Gender Equality accessed at: http://eng.uvm.dk/Education/Adult-Education-and-Continuing-Training/Adult-vocational-training-in-Denmark
24 Ibid
25 Ibid
etc”.26 According to the Danish Ministry of Education: “the training is organized in classes or as open workshops where participants may follow different programmes at different levels in the same room with the same teacher or organised at the workplaces.”27

How is the training adapted over time? Denmark goes to notable lengths to ensure that the vocational courses on offer are up to date for the latest needs of the labour market. About 500 to 800 programmes are developed or revised every year. There is a National Council for Adult Vocational Education and Training which advises the Minister of Education as well as 11 continuing training and education committees. Each of these committees is responsible for a specific sector of the labour market. The goal is to continuously assess the labour market to understand the need for new competencies and to develop adult vocational training programmes to fill these gaps.

What does this cost? Underlying this approach is a strong commitment to public spending on vocational training as well as active labour market policies more broadly. According to OECD data from 2012, Denmark spent 1.85 per cent of GDP on active labour market policies in comparison with just 0.28 per cent in New Zealand.28 For New Zealand to emulate the flexicurity model in full it would need to consider more funding of active labour market policies. One simple and easily communicable idea floated by The Economist is to define state education as including one year of study to be taken later in life, possibly in stages.

However, the extent of Danish spending, which is the highest in the OECD, bundles a number of components. According to the OECD Employment Outlook for 2015, the Danish spending figures reflect the importance in the Danish system of ‘flex-jobs’ for the partially disabled and ‘job-training’ which are both forms of subsidised employment.29 In Denmark this high level of spending is reflective of a broader set of priorities than simply activation and reduction of unemployment. In combination with the high level of unemployment benefits it is also intended to promote greater income equality.

Outcomes: equality, low unemployment, high quality jobs, and high job turnover
Measuring the success of flexicurity is not simple as it is impacted by the broader economic situation both in Denmark and in the wider global economy. The majority of the available data is at the macro-level. The appendix includes a review of a micro-level evaluation as well as data on the international evidence regarding which active labour market policies are most effective.

There are six areas we might expect to see results; i) low inequality, ii) low unemployment, iii) high labour market participation, iv) positive public attitudes to changing job, v) high active labour market programme participation, and vi) high incidence of technical jobs in the population.

i) Inequality: The single biggest difference between Denmark and New Zealand is the level of equality in the two countries. Denmark is the most equal country in the OECD whilst New Zealand lags far behind in 22nd place out of the 31 OECD countries.30 A significant reason why active labour market policies are used in Denmark is that Denmark is concerned about equality of outcomes as well as efficiency of outcomes.

What is notable about all of the other indicators for Denmark is that they have achieved results in terms of efficiency outcomes that are largely better than New Zealand whilst also maintaining a much more equal society. Denmark’s generous social transfers, of which the unemployment benefits described above are a major component, are part of the reason for that level of equality. Flexible labour markets, also present in New Zealand, can do a good job of generating low unemployment but without corresponding unemployment benefits this can generate significant inequality. Denmark mitigates the social impacts of its flexible labour market policies with generous benefits and active labour market policies. New Zealand does not.

Denmark’s lower inequality suggests it succeeds in providing a wider proportion of its people with well-paid jobs than New Zealand does, in part because they have the skills to do those jobs. The below evidence on the large proportion of Danes in technical jobs, as well as their overall higher productivity and wage levels, also supports this interpretation.

26 Ibid
27 Ibid
28 OECD, (2015a) Note this does not include unemployment benefits which are counted separately.
29 Ibid
30 OECD (2015b)
Finally, the benefits available to the unemployed in Denmark are tied closely to participation in active labour market programmes. Without the active labour market programmes it is likely that the Danish benefit system would not work as well. For example, people may stay on unemployment benefits for longer given the reduced pressure and support to upskill or find a job. This would place financial strain on the system. This suggests that Denmark’s remarkably low levels of income inequality after taxes and transfers are the result of its active labour market policies.

ii) Unemployment: Since the flexicurity reforms were introduced in 1994 and further expanded in 1996 unemployment fell from its consistent position about two percentage points above OECD average unemployment to two points below the OECD average where it has largely remained as Figure B shows.

Figure B: Unemployment of Denmark and OECD (Source: Andersen 2012)

![](image)

In 2014 Denmark’s unemployment rate was 6.59 per cent compared to 5.75 per cent in New Zealand. But since the financial crisis in 2008, Denmark’s unemployment rate has been above New Zealand’s, which is likely in part driven by problems in the Eurozone. However, for most of the late 90s Denmark had a lower unemployment rate than New Zealand.\(^\text{31}\) This is remarkable in that generous social welfare provision, present in Denmark but not New Zealand, is often associated with higher unemployment. Neighbouring Sweden, for example, has similarly generous welfare and low inequality, but without active labour market spending to the same degree has an unemployment rate in 2014 of 8.0 per cent.\(^\text{32}\) Denmark’s unemployment rate has consistently been below Finland and Sweden’s since the introduction of flexicurity.

iii) Labour market participation rate: The labour participation rate for Denmark from age 15 to 24 is 61.7 per cent which is the sixth highest in the OECD and above New Zealand at 58.8 per cent. For the prime working age group of 25 to 54 year olds, Denmark’s participation rate is 87.5 per cent and New Zealand’s is 84.9 per cent. New Zealand has higher participation at older age groups but this is less clearly related to the active labour market policies discussed here.\(^\text{33}\)

iv) Job turnover and public attitudes to changing job: The lower unemployment described above has been coupled with high job turnover; approximately 25-35 per cent of the workforce change job every year.\(^\text{34}\) Average job tenure in Denmark is the lowest in those measured in the OECD. Notably though, surveys have generally shown that Danes are unworried by the idea of changing jobs. Survey results from the mid-2000s show that 70 per cent of Danes think ‘it is good for people to change jobs every few years’ compared to less than 30 per cent of Germans or Poles.\(^\text{35}\) This societal capacity to adapt to change is likely to be crucial as further jobs are affected by technological change. Denmark’s flexicurity system has created this societal capacity, putting Denmark in a uniquely strong position to succeed in the face of future changes.

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\(^{31}\) OECD (2015b)
\(^{32}\) OECD (2015b)
\(^{33}\) OECD (2015b),
\(^{34}\) Hendeliowitz, (2008)
\(^{35}\) Danish Council of Trade Unions (2005)
v) Active Labour Market Programme Participation: OECD figures for 2012 show that almost 6 per cent of the Danish labour force participated in an active labour market programme compared to just 2.33 per cent of the labour force in New Zealand.\(^{36}\) Whilst high participation rates do not necessarily reflect successful outcomes, it is clear that the programmes on offer are being made use of, and that the activation obligation is working.

The role of vocational education and training specifically is harder to measure but uptake is impressive. In Denmark, adults can expect to receive over their working-life more than 1,500 hours of job-related, non-formal education.\(^{37}\) For New Zealand this figure is less than 500 hours.\(^{38}\) New Zealand has relatively high adult participation rates in formal education but this is less specifically job focused and captures typically longer periods by adults in formal educational institutions such as universities rather than the shorter, more flexible, job-targeted, vocational courses in Denmark.

vi) Technical jobs in the labour force: Denmark also exhibits a high proportion of technicians in the labour force with 23 per cent of working adults in technician or associate professional jobs and a further 16 per cent in professional jobs. This is at the top of the OECD spectrum.\(^{39}\) (Figure 2 in appendix). The OECD notes that: “this certainly reflects some specific features of the Danish economy and its labour market, but it may also reflect a supply-side effect – in other words, a well-developed postsecondary VET [vocational and educational training] sector very capable of providing this type of training - and therefore helping to foster those types of industry....”\(^{40}\) Denmark’s vocational education system in general (including younger participants) is also the most successful of those measured by the OECD in terms of placing graduates in skilled jobs. More than 70 per cent of graduates of short-cycle professional programmes moved into skilled jobs thereafter. (Figure 3 in appendix).

Overall Denmark’s flexicurity approach does appear to have been successful in many of the areas we would expect it to be. Most significantly, it has managed to combine high levels of equality with low unemployment even with high job turnover rates. Importantly, this has been widely accepted by the population and unions due to the training and unemployment benefits that go alongside job turnover. These help to insure income security despite job insecurity. This particular combination is likely to be invaluable to Denmark as it faces, like all developed countries, a future of high job turnover due to technological change. New Zealand has flexible labour markets and relatively low unemployment but this is associated with one of the largest increases in inequality of any OECD country in the last twenty years.\(^{41}\) It is also not at all clear that New Zealand has anything like the overall capacity to deal with major changes to jobs that Denmark has established.

**No panacea, but an instructive model**

An effective educational system, and in particular an adult educational system, is important to delivering a high employment and high productivity economy in the face of potential automation of a wide range of jobs. Creating an education system to deal with the anticipated changes to jobs involves reform of both general education and adult education. Early thinking and research suggest the most important skills are likely to be idea-creation, large frame pattern recognition and complex communication. Shifts in this direction are a long-term project. In the short term, adult training will be critical as existing jobs are eliminated in unexpected ways requiring adults to retrain.

The Danish model of flexicurity provides one approach for how to deal with a job market characterised by rapid changes in jobs available. Establishing a system like flexicurity with both strong unemployment benefits and a range of subsidised active labour market programmes requires investment. In the Danish case their spending on active labour market problems, without including unemployment benefits, is 1.85 per cent of GDP.

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\(^{36}\) OECD (2015b)

\(^{37}\) OECD (2011) Non-formal education captures the majority of vocational and educational training education schemes as it includes everything that does not normally constitute a continuous ladder of full-time education for children and young people. Put differently, non-formal education can include programmes in educational institutions as long as they are not part of the regular full-time ladder of education. As such most vocational training falls under this category.

\(^{38}\) OECD (2011)

\(^{39}\) Field et al (2012)

\(^{40}\) Field, S., et al. (2012) p. 25

\(^{41}\) Cingano, F. (2014)
This investment though has helped to deliver a remarkable capacity and willingness by workers to deal with job changes and strong buy-in to flexible hiring and firing rules by unions. It has delivered unemployment that is significantly below the OECD average despite 25 per cent of the workforce changing job each year. Moreover, it has helped maintain the lowest income inequality in the world. Such flexibility and societal capacity to adapt to change without leaving some part of the population behind are exactly the kinds of characteristics that New Zealand is likely to need as technology begins to shake up the job market even more severely.

The proactive approach of the Danish to ‘activating’ the unemployed with either on the job training in the public or private sector or short modular vocational education courses is particularly distinctive. Their vocational educational system is focused on both the employed and unemployed but in both cases is heavily oriented to practical job-related training. This includes subsidising private employers to take on, and train, the unemployed. Underlying this model is a recognition that unemployment in an age of globalisation and technological change is increasingly likely to be driven by a skills mismatch between candidates and the jobs available rather than simply being a result of economic churn. The questions and approaches raised in this paper merit more extensive debate. It is, however, critical to begin the debate on this immediately. Ultimately, this paper is an effort to start that conversation.
Appendix

Micro-level studies of Denmark’s active labour market policies
There is a limited number of micro-level studies on the impact of Denmark’s active labour market policies but those available suggest that private job training has the highest impact on employment prospects relative to both waiting in unemployment and relative to other programmes including training. Public job training and classroom training are the next most effective programmes respectively. Residual programmes such as search support and matching are less effective.

Does flexicurity work during downturns?
One major concern regarding flexicurity is its ability to cope with large downturns in the economic cycle. It might be thought that in a downturn, flexibility may mean unemployment rises more sharply than in other systems and that the system becomes overloaded or financially unsustainable. Preliminary evidence from the recent recession across much of Europe and North America suggests flexicurity is reasonably robust even in the face of large cyclical changes. Employment adjustments in this system were not especially large in international comparison (despite flexible hiring and firing.) The level of job creation also remained high although it is pro-cyclical. As such, the evidence suggests unemployment spells remain short which is of particular importance given extensive periods of high unemployment could threaten the financial viability of the model, as well as the damaging effects of prolonged high unemployment on individuals’ prospects.

Broader evidence on active labour market policies
There are also lessons on active labour market policies beyond Denmark. One particularly cited meta-analysis of active labour market policies assessed 97 studies (covering 199 programmes) conducted between 1995 and 2007. The paper considers four programme types: classroom and on the job training, job search or sanctions for failing to search, subsidised private sector employment, subsidised public sector employment. The impact of these programmes are considered after one year, two years and three years and are considered primarily in terms of exit from unemployment.

This shows that public sector employment programmes appear to be the least effective. Job search programmes are particularly effective in the short run whereas training appears ineffective in the short run but actually has a significant positive impact in the longer run. The impact of these programmes may change as job losses from automation increase relative to job losses from economic downturns. However, it seems likely that this would increase the importance and impact of training programmes as unemployment in this case would stem in part from a skills mismatch. It is important to note that this research, and the broader evidence in general, does not yet answer the question of returns relative to cost. For further discussion of the broad evidence on active labour market policies see Chapter 3 of the OECD Employment Outlook 2015.

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42 Christensen, R. (2010)
43 This section based on Andersen, T. (2012)
**Supplementary Figures**

Figure 1: Strictness of employment protection (Source: Field et al, 2012)

![Graph showing employment protection levels across countries.](image)

Figure 2: Percentage of technicians and associate professionals in the labour force (Source: Field et al, 2012)

![Graph showing percentage of technicians and associate professionals across countries.](image)

Figure 3: Jobs performed by graduates of short-cycle professional programmes (Source: OECD 2014b)

![Graph showing jobs performed by short-cycle graduates across countries.](image)
References


Christensen, R. (2010) Evaluating the relative effects of active labour market programmes in Denmark, Aarhus School of Business


Cowen, T. (2013) Average is Over, New York, Dutton

Danish Confederation of Trade Unions (2005) Flexicurity a Danish Trade Union View, Copenhagen, Lo

Danish Confederation of Trade Unions, (2007) Employee Driven Innovation, Copenhagen, Lo


OECD, (2014a) Focus on Inequality and Growth, OECD Publishing


