CAN WE BE HAPPIER?

The cost of being young
Regional inequalities
Self-employment

Poor students
Cluster policy
TV superstars
Since the general election in December, the new catchphrase in UK public policy discussions is ‘levelling up’ – what can be done to help parts of the country where economic performance is comparatively weak. Spatial disparities have long been a focus of work at the Centre for Economic Performance (CEP) – and in this CentrePiece, our research director Henry Overman surveys what we know about the economic forces polarising the UK and the potential of various policy responses.

A central message is that we should care more about the effect of policies on people than on places: the key question is the extent to which they improve the life circumstances and life opportunities of individuals and groups of people living in particular places, rather than their impact on gaps between regions, cities and towns. This is echoed in other articles in this issue, which explore inequalities in education and employment, inequalities between generations and inequalities in people’s well-being.

In a study of access to higher education, Gill Wyness and colleagues find that many young people from poorer backgrounds attend less academically prestigious courses than their A-level attainment merits. They conclude that widening participation units at high-ranking universities could do important outreach work to address this inequality by attracting more disadvantaged students from their local areas.

In an analysis of the very different kinds of people who make up the one in seven of the UK workforce who are now in self-employment, Jack Blundell detects a sizeable group of less educated young men, who stand out as being dissatisfied and most likely to report being self-employed due to a lack of better options. The policy challenge is how to support them without impeding the flexibility enjoyed by others in self-employment.

And in an investigation of differences in the consumer prices facing generational groups, Rahat Siddique notes that the UK’s young adults – the ‘millennials’ – are changing their spending patterns compared with previous generations as they navigate a contrasting economic landscape, including low real wage growth, lower likelihood of owning their own home and the uncertain prospects of Brexit.

Finally, our cover story outlines the evidence on what explains the huge variation in people’s life satisfaction, notably mental and physical health, and our human relationships at work and at home. In his new book Can We Be Happier?, CEP’s founder director Richard Layard explores how we can boost all-round happiness – both through public policy and in our jobs and private lives.
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If the goal for society is the greatest possible all-round happiness, how can that be achieved? Richard Layard and George Ward outline the evidence on what explains the huge variation in people’s life satisfaction – and how we can boost wellbeing, both through public policy and in our jobs and private lives.

Can we be happier?
Thomas Jefferson said that ‘The care of human life and happiness... is the first and only legitimate object of good government.’ We agree with him, as did the LSE’s main architects – the Webbs and William Beveridge. So too do an increasing number of policy-makers worldwide: only last October, the European Union’s Council of Ministers requested that all of its member states ‘put people and their wellbeing at the centre of policy design’.

This basic idea goes back to the eighteenth century Enlightenment and it is, in our view, the most important idea of the modern age. But until recently, it has not been easy to apply for lack of systematic knowledge about the causes of happiness. The new science of happiness is now changing all that, while at the same time modern psychology provides individuals with new tools to manage their emotions and their human relationships.

With these tools, millions of individuals and policy-makers worldwide are already taking active steps to create happier lives – a world happiness movement is being born. In our new book, Can We Be Happier? Evidence and Ethics, we describe the new tools – the evidence on what causes happiness and how we can increase happiness, both through public policy and in our jobs and private lives.

So what causes the huge variation in people’s life satisfaction? Figure 1 provides the answer for Britain, and the key factors are very different from the ones that most politicians assume. The biggest single factor is mental health – whether you have ever been diagnosed with depression or an anxiety disorder.

Next come human relationships – including the quality of your work and your private life – as well as your physical health. While all of these factors explain 18% of the variance of happiness, income inequality explains only 1%. Unemployment causes even less – it is a devastating experience but affects relatively few people.

We find this disconcerting since poverty and unemployment are the topics on which Richard has worked for most of his life. So is it possible that they are more important at explaining the scale of really low life satisfaction? The answer is No: the ranking of factors is essentially the same as in Figure 1. And this applies in all the advanced countries that we have studied. Moreover, if people themselves are asked what they worry about most, the ranking of factors is much the same (Sainsbury’s, 2019): money and debt come sixth.

But the next issue is this: the state can do something about income inequality and unemployment, but can it do anything about mental illness or the quality of work, or loneliness, or family conflict and domestic violence? To this, the answer is emphatically Yes: there is experimental evidence of ways in which we can tackle all these problems and reduce the unhappiness they cause.

No one would propose ‘forcing people to be happy’, but we really should offer people help with the central problems in their lives. And in general, the costs of such improvements in social and psychological infrastructure are small compared with the costs of physical infrastructure. And the subsequent savings are often enough to repay the costs.

In our book, we review what can be done to raise happiness by many of the key players in society. We can start with teachers. Children’s wellbeing should clearly be a major goal for every school, and schools should be measuring their wellbeing on a yearly basis. To improve wellbeing requires major changes in the ethos in many schools, but it also requires the weekly teaching of life skills, using evidence-based materials.

To facilitate this, our research group sponsored and evaluated a complete course of life skills for children aged 11-15 called ‘Healthy Minds’, which has dedicated lesson plans and materials. In the evaluation, this passed the cost-effectiveness test of the National Institute for Health and Care Excellence (NICE) at a cost of only 3% of NICE’s maximum permitted cost (Lordan and McGuire, 2018; Layard et al, 2018).

After school, young people enter the world of work, where research shows that the worst time in the week is when workers are with their boss. This is shocking and in many workplaces we need a quite different management philosophy. A trial led by MIT shows that where workers are involved more closely in decision-making, their job satisfaction rises by more than 10% and their quit rate falls by a third (Moen et al, 2017).

Governments should commit themselves to the goal of the people’s wellbeing.
We need a new form of policy-making where policies are judged by the amount of happiness they produce per pound of expenditure.

But while good schools and workplaces can do much for mental health, at least a fifth of children and adults will still experience serious anxiety disorders or depression. When this happens, there are now strong evidence-based psychological therapies (above all, cognitive behavioural therapy or CBT, which helps at least 50% of patients to recover). Because mental illness stops so many people working, these therapies save more public money than they cost (Layard and Clark, 2014).

Fortunately, we now have a whole range of effective therapies for tackling not only standard mental health problems, such as anxiety and depression, but also substance abuse, family conflict and domestic violence. We need urgently to make these evidence-based therapies available to all who need them – exactly as we do in the case of physical illness.

But humans are also social animals. Loneliness is a major problem in modern society, and town planners and community organisations can do much to promote social connections (Tan, 2006; Pitkala et al, 2009). There is much that different professions can do, and many more experiments are needed to increase their ability to contribute to a happier society.

Making all this happen requires a major rethink of the role of government. First, governments have to commit themselves to the goal of the people’s wellbeing. This means a new form of policy-making where policies are judged by the amount of happiness they produce per pound of expenditure.

Second, there has to be a wider view of the role of the state in which it not only helps people to be better workers, but also supports them in becoming better parents. The evidence is clear: the Scandinavian countries do better at this than any others. There, the size of the state is bigger and these are the happiest countries (Helliwell et al, 2019). There is no convincing evidence that low-tax countries are happier.

Will politicians listen? There is every reason that they should. Studies of European elections since 1970 as well as the vote for Donald Trump in the United States in 2016 show clearly that elections are decided more by the happiness of the people than by their incomes and employment (Ward, 2020).

Even so, there are limits to what public policy can do, and at least as important is what each of us does of our own accord. So what kind of culture do we want? The dominant culture of today urges us to strive to be more successful than other people. At the level of society, this is a zero-sum game. For every winner, there is a loser. That is not great for the losers, but it can also be very stressful for the winners. From the Gallup World Poll, we know that stress has increased worldwide despite much better living standards than a generation ago.

This makes no sense. Instead, we need a positive-sum culture where people get more of their happiness from making other people happier – and from concentrating more on positive memories and actions, we could transform our mood.

More recently, Martin Seligman has shown how these ideas can be applied to all of us. At the same time, mindfulness and other meditative techniques have taken off, enabling millions to achieve greater contentment with their lives.

Despite appearances, a new gentler culture is being born. But for cultures to flourish, they need to be embedded in organisations, where people meet regularly to remind themselves of what really matters and to feel supported and inspired. In a largely post-religious age, there are few such organisations representing the new, gentler culture. One of them is Action for Happiness: it has one million followers on

Income and unemployment matter far less for happiness than mental and physical health, and the quality of work and home life.
This article draws on Can We Be Happier? Evidence and Ethics by Richard Layard with George Ward, published in January 2020 by Pelican.

Richard Layard is director of CEP’s wellbeing programme and founder director of CEP

George Ward of MIT is a research associate in CEP’s wellbeing programme.

Further reading


Sainsbury’s (2019) Living Well Index.


One in seven people in the UK workforce is now in self-employment – but this is a very diverse community. Jack Blundell is developing a typology of self-employed workers, which can then be used to assess differences in how satisfied they are with their working lives and to identify vulnerable groups who may benefit from policy support.

The UK’s self-employed workers: who they are and what they need
Between 2000 and 2017, self-employment in the UK grew from 12% of the labour force to 15.1%, with the years since the financial crisis seeing particularly rapid growth (Office for National Statistics, 2018).

Accompanying this rise has been a change in the nature of self-employed workers (D’Arcy and Gardiner, 2014). Much of the new workforce of the ‘gig economy’ qualifies as self-employed – and the self-employed of today represent a diverse community.

The seminal Taylor review of UK working practices notes that ‘The experiences and vulnerabilities of this group range from billionaire entrepreneurs to taxi drivers working 90 hours a week simply to pay their bills’ (Taylor, 2017). Self-employed workers are old and young; they might have left school at 16 or have postgraduate degrees; and they can be found in a variety of sectors – from construction to banking and finance.

If we are to design effective policies for the self-employed, as a first step we must understand who they are, and whether they would indeed benefit from any additional social protection. As emphasised in the Taylor review, the multi-faceted nature of self-employment suggests that a ‘one-size-fits-all’ approach may not be appropriate: ‘Government should recognise the wide variety of forms of modern self-employment and should act to support and protect those who need help.’

In light of this, the goal of my CEP project is first, to develop a typology of self-employed workers in the UK, and then to explore the extent to which different groups in self-employment may benefit from policy intervention.

Methodology: identifying clusters

The statistical challenge of grouping or ‘clustering’ data into a small number of similar classes or types has been around for quite some time, but the associated methods have only recently become widely used, thanks to the advent of cheap computing power. Clustering is one of many ‘machine learning’ tools and is now implemented across a wide variety of fields, including marketing, geology and genetics.

Applications to labour markets have to date been limited, so an additional goal of my project is to demonstrate how this can be achieved. Using data from the Labour Force Survey (LFS), I apply a ‘partitioning around medoids’ algorithm. This divides workers into types based on age, sex, hours, occupation, industry and part-time/full-time status.

The challenge here is to assess whether there are indeed distinct clusters and, if so, how many there are. Using these six characteristics in the LFS, I find support for two separate typologies: one in which individuals are assigned to two groups; and another where they are assigned to six groups.

Figure 1 shows the relationship between the two typologies. The two clusters on the left-hand side are labelled FeDe (female degree holders) and MaLE (male and low-educated).

We can see a strong relationship between the two typologies. For example, there is a group in the six-cluster typology labelled ‘Construction workers’ who are entirely drawn from the MaLE cluster in the...
two-cluster typology, whereas the group of ‘older health/education workers’ is drawn almost entirely from the FeDe group. The group labels are not perfect, as seen by the fact that some members of the MaLE group are found among the female service worker group in the six-cluster typology.

The two-cluster typology: MaLE and FeDe
Of the two groups that emerge from the two-cluster typology, the larger of the two, labelled MaLE, is perhaps closer to the traditional view of self-employment. Its members are predominantly male, less educated workers in industries such as construction.

The second group, constituting a sizable minority of self-employment, is exceptionally highly educated: more than two thirds of the FeDe group hold post-secondary degrees. The FeDe group is also significantly more likely to work part-time and its members tend to be found in professional and service industries. They are also somewhat older than the MaLE group.

Characteristics drawn from the LSE-CEP Survey of Alternative Work Arrangements allow us to shed light on whether self-employed workers in each of these two groups are content with their level of working hours, their motivation for becoming self-employed and whether they would rather be in a conventional employment relationship.

I find significant rates of under-employment in both groups, with only half the respondents satisfied with their hours and the majority of the remainder wanting more hours. This is consistent with the argument that recent high employment rates mask significant under-employment among the self-employed, and that in fact there is a large pool of reserve workers seeking further employment and pushing wages down. There is little difference in this across the two groups, which both exhibit similar rates of under-employment.

In terms of why workers are self-employed, flexibility is the most important factor for both groups. More than three quarters of the FeDe group list flexibility, including being able to work from home, as their main reason for being self-employed. For MaLE, the figure is lower, at 59%.

When it comes to general satisfaction, more than three quarters of workers in each group are content in self-employment relative to conventional employment. So while there are clear differences in demographic and work characteristics across these two groups, satisfaction is similar. While there appear to be some differences in the groups’ motivations for being self-employed, to a large extent each group appears to be benefitting from self-employment relative to a conventional employment relationship.

The six-cluster typology
Will we find the same high levels of satisfaction across our six-cluster typology? In terms of characteristics, the six groups are:

Female service workers: this group is predominantly female, part-time and not particularly highly educated. They tend to work in the services sector. The dominant occupations among this group are hairdressing, cleaning and childcare.

London professionals: predominantly male, full-time and highly educated, this group is geographically focused in London and the South East. They work in professional occupations, typically in the banking and finance sector.

Less educated young men: members of this group are the most likely to have below secondary school qualifications. They are predominantly male and noticeably younger than other groups. The transport and communications sector is the most

High under-employment indicates a large pool of reserve workers seeking further employment and pushing wages down

Flexibility, including being able to work from home, is often the main reason for being self-employed
common industry, with 51% of this group working as road transport drivers. This group is likely to include many gig economy workers, such as private hire and delivery drivers. The group is also by far the least likely to be white, with more than a quarter from ethnic minorities.

**Managers:** this predominantly male group is older than other groups working as managers and proprietors in distribution, hotels and restaurants.

**Older health/education workers:** this group of workers is the most highly educated. They work in a wide set of occupations related to health and education. They are older than workers in other groups and the most likely to be part-time.

**Construction workers:** the largest group of the six is the most homogeneous, dominated by tradesmen working in the construction industry.

Drawing on the LSE-CEP survey and consistent with patterns across the two-group typology, I find high rates of under-employment across all groups. In addition, across all six groups, workers are motivated by the flexibility that self-employment can provide. I find that while aggregate satisfaction is high across the six groups, the group of less educated young men (outside of construction) would be an appropriate starting point.

They are also the least likely to be content with their hours, exhibiting the highest rates of under-employment.

Perhaps most concerning is that this group is the most likely to report being self-employed due to a lack of better options. It is notable that the group is predominantly made up of drivers, who have been at the forefront of technological disruption in the labour market. Many of these workers find jobs through gig economy platforms and they are potentially vulnerable to further technological innovations, such as self-driving cars. It could be that the option of self-employment provides valuable insurance to these workers in economic downturns, but these patterns do suggest a preference for more conventional work among many in this group.

In sum, if policy-makers want to identify groups who are not benefitting from self-employment and who are potentially vulnerable, this group of less educated young men (outside of construction) would be an appropriate starting point.

As Figure 2 shows, more than 40% of this group would rather be in a conventional employment relationship.

**Conclusion**

This work provides an example of how clustering methods can be used to yield insights about the labour market as well as broad lessons for policy. I demonstrate evidence of significant under-employment across self-employment, which suggests that measures of labour market slack ought to be augmented to include aspects of self-employment.

What stands out from the analysis is that while rates of satisfaction with self-employment are high on aggregate, there is a group of primarily less educated young men who are dissatisfied and not able to enjoy the potential advantages that self-employment can bring.

In reference to self-employment, Taylor (2017) states that ‘Policy interventions have to be tailored to respond to those who require support’. This project has illustrated how policy-relevant groups can be found and has identified such a group. The key challenge facing policy-makers now is how they can improve support for this group without impeding the flexibility enjoyed by others in self-employment.

A policy challenge is how to support less educated young men without impeding the flexibility enjoyed by others in self-employment.

This article summarises ‘Clusters in UK Self-employment’ by Jack Blundell, a forthcoming CEP Occasional Paper. The work was funded by the Turing-HSBC-ONS Economic Data Science Award.

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**Further reading**


![Figure 2: Would you rather be in a conventional employment relationship?](image-url)
As has been much discussed since the election, economic performance varies widely among the towns, cities and regions of the UK. **Henry Overman** argues that policies to address these spatial disparities should be judged on whether they improve individual opportunities, not whether they narrow the gaps between different parts of the country.

People, places and politics: the challenge of ‘levelling up’ the UK
Spatial disparities across the UK are once again high on the public policy agenda. There are clear political motivations for the ambition of 'levelling up' parts of the country where economic performance has been weak and which have somehow been 'left behind'. But such disparities are also intrinsically important because local social and economic conditions affect individual outcomes. For example, there are substantial differences in social mobility at the local level: where you grow up makes a difference to how much your family background affects your life chances.

Spatial disparities also reflect individual inequality. For example, if individual inequality increases and poorer families are concentrated in particular areas, then spatial disparities will also increase. The link between individual and spatial disparities is complicated by the fact that people can move around. This matters for thinking about what spatial disparities can tell us about important policy issues.

For example, the geography of the Brexit vote was highly uneven with some places more likely to vote Leave and others more likely to vote Remain. One explanation is that the Leave vote reflects the 'revenge' of left-behind places – that is, it is a story not about individuals, but about shared anger by those living in places left behind by globalisation and technological change. The alternative is to think of this as a story about individuals, disaffected by social and economic changes, and where they live.

The first way of thinking about this appears to be driving the current policy response. But the second is perhaps a more useful way of understanding why wealthy Sevenoaks and struggling Sunderland both voted Leave. Different kinds of people, with very different concerns about the European Union, living in different places – but agreeing on the same solution.

The other reason why individual mobility matters is because it means that policies targeted at specific places don't necessarily end up benefitting the people that we hoped to help. For example, transport improvements in a poorer area won't necessarily benefit poorer families if those improvements then lead to higher rents and house prices that see them priced out of the neighbourhood.

Taken together, these two complications – the need to distinguish between people and place; and the fact that people move between places – mean that it is important for us to understand what is causing spatial disparities and to think carefully about who will benefit from the different policies proposed to address these disparities.

Disparities in the UK: it's more than just a North–South divide

There is a broad North-South pattern to spatial disparities in the UK. According to Cities Outlook, the most useful source of detailed data on the economic performance of UK cities, there is a very clear geography in terms of both output per worker and employment, with cities in the Greater South East performing better. Eight of the ten cities with the highest unemployment are in the North of England or Scotland.

There is also substantial variation within those broad areas: some northern cities (such as Manchester) are doing relatively well and some southern cities (such as Ipswich) are doing relatively badly. Despite many policy initiatives by a series of governments, these disparities remain large and persistent.

Indeed, these disparities have widened since the global financial crisis. Figure 1 shows a standard measure of the extent of spatial disparities calculated for the (NUTS2) regions of the UK from 1980 to

**Figure 1: Spatial inequality in the UK**

![Spatial inequality in the UK](chart)

Source: Author's own calculations based on Eurostat data for NUTS2 regions of the UK
2015, the last date for which we have data. Disparities fell between 1980 and the mid-1990s, increased in the early days of the Labour government before falling again. The increase in disparities since the recession has returned us to roughly the level of the 1980s.

What are the economic forces polarising the UK?

**Better educated workers are concentrated**

In 2018, around 65% of inner London residents had tertiary education, the highest percentage in Europe. This was up from around 54% in 2010. In contrast, the proportion of residents with tertiary education in Greater Manchester was around 39% in 2018, up from 31% in 2010 – see Figure 2.

There is also a growing wage premium for graduates compared with people without degrees. In 1980, male graduates earned, on average, 46% more than their non-graduate counterparts; in 2017, this earnings uplift was 66% (Elliot Major and Machin, 2018).

Given a strong and growing concentration of more educated workers and a large and increasing wage premium for graduates, it is not surprising that the spatial distribution of higher skilled workers explains up to 90% of area-level disparities in wages in the UK (Gibbons et al, 2013).

**Bigger cities make firms and people more productive**

There is a great deal of empirical evidence of the ‘agglomeration economies’ that underpin the relationship between a city’s

### Figure 2: Shares of the UK population with tertiary education

- 61-65
- 56-60
- 51-55
- 46-50
- 41-45
- 36-40
- 31-35

Having a better educated labour force is the most important driver of local economic performance.
size and the productivity of its inhabitants. Graham and Gibbons (2018) summarise results from 47 studies estimating these agglomeration economies, 12 of which are from the UK.

The consensus estimate suggests that once we allow for the unequal spatial distribution of higher-skilled workers, the elasticity of productivity with respect to size is around 0.02 to 0.03. This means that doubling city size increases people’s productivity by 2-3%.

While these productivity effects are important, when it comes to GDP per capita, they can easily be swamped by spatial disparities in the share of skilled workers. This happens in the UK where (if we exclude London) the overall relationship between city size and GDP per capita isn’t very strong – as Figure 3 shows.

Our cities still benefit from agglomeration economies – someone with a degree moving from Blackpool to Manchester would be more productive – but this isn’t enough to encourage the sorting of highly skilled workers into some of our bigger cities outside London.

**Cities versus towns**

Because both skills and size matter, and skills matter much more than size, it’s not very helpful to distinguish between cities and towns. Smaller towns can do very well if they have lots of highly skilled residents. Bigger cities may struggle if they have lots of low-skilled residents, even if they may still do better than their surrounding regions.

The cost of living also matters, with housing supply a key determinant of differences in the cost of living across places. A small, rich town, with limited housing supply can easily have housing costs that offset any productivity benefits for households. Similarly, a large poorer city, such as Liverpool, may have housing costs that help to offset some of the productivity advantages that workers would gain by moving.

Amenities matter too and we need to think about the three-way trade-off between differences in productivity, the cost of living and amenities if we want to understand who lives where and what are the implications for individual disparities.

**Under-investment in the North**

Because London and the South East are rich and our tax system is progressive, there is a lot of redistribution from the South to the North. But on some measures, London receives a disproportionate share of investment in infrastructure.

A more equal distribution of infrastructure investment would slow growth in London. Whether it would increase growth elsewhere would depend on how the money was spent because the economic returns to infrastructure vary a lot across places.

Rather than focusing on London’s dominance, we should ask why other cities and towns do not offer similar opportunities.
The overall effect on regional inequalities would be limited since relative to the concentration of skilled workers, differences in infrastructure play a relatively small role in driving long-term disparities. The only way for infrastructure to have a big effect on spatial disparities is if it leads to the relocation of large numbers of skilled workers across the UK, away from London.

The financial crisis and austerity
London and the South East were initially hard hit by the recession, but they have recovered more quickly. Adjustment elsewhere has been slower and, as a result, spatial disparities have widened. Local government in England has borne the biggest burden of austerity and cities in the North of England have been much harder hit than those elsewhere.

Given that austerity reduced redistribution, it is partly responsible for widening disparities. The resulting cuts to public services may mean that austerity hindered adjustment to the financial crisis and that the adverse effects on disparities could persist in the medium to long run.

What’s the appropriate policy response?
What should be the objective of policy? On the implications for overall economic growth, the debate is polarised. For some, it is obvious that spreading growth across the UK would make use of underused resources. For others, London and the South East are key, and we should focus on making sure they continue to perform well.

Planning restrictions
There is no evidence of large benefits from spatial redistribution, and much evidence to show that very restrictive planning in London and the South East has been harmful. Hence, artificially restraining London’s growth does not seem like a desirable policy.

Improving economic performance outside the capital
Rather than focusing on London’s dominance, we should ask why other cities and towns do not offer similar economic opportunities and what can be done about it? Given what we know about the economic forces driving polarisation, there are two key questions:

- In which places could greater investment and other government support be used to increase productivity and help create jobs?
- How do we make sure that people can access these opportunities?

Evidence suggests that around 50% of people only ever work while living in the local labour market where they were born (Bosquet and Overman, 2019). This suggests that the policy response needs to be realistic about how far people are willing to move for work, particularly for less educated workers (the figure rises to 60% for those without a degree). Having ‘everyone’ move to London and the South East is not economically feasible, nor socially or politically acceptable.

The same is true for the other extreme: achieving a level playing field where productivity is equalised and jobs are generated ‘everywhere’. We need to be realistic about the market forces at work. Equal outcomes across places would require places to have similar skill compositions and to be of similar sizes. As with the previous strategy, this is not economically feasible, nor socially or politically acceptable.

London’s strong economic performance plays a large part in explaining widening disparities. Providing an effective counter-balance to London may require some investment to be more spatially focused — for example, by identifying a number of places, spread across the UK, that are doing relatively well and focusing infrastructure investment on achieving productivity and jobs growth in those areas.

Access to opportunity
Policy then needs to make sure that people can access the opportunities generated. The current debate often interprets this far too narrowly as being about ‘better transport’. In fact, we need to address multiple barriers that prevent individuals from being able to access these opportunities — for example, through investment in education, in childcare, and in mental and physical health services.

Barking and Dagenham have very good transport links to one of the largest concentrations of employment in the world, but this is not enough to prevent bad social and economic outcomes for households who live there.

Addressing spatial disparities requires an approach to policy that allows for different responses in different places.
Housing costs
We also need to address concerns over high housing costs in our more successful areas, as well as thinking about ways to encourage increased mobility. For example, how do we widen the horizons of young people growing up in disadvantaged areas to ensure that they are willing to commute or move to access opportunities offered in the broader local area?

Left-behind places
An effective policy response will require increased investment (LSE Growth Commission, 2013) and the reversal of austerity. Left-behind places have high proportions of vulnerable people with complex needs and low levels of economic activity. This compounds their problems, as long-term unemployment, poverty, mental illness and poor health often go hand-in-hand.

CEP research suggests that small tinkering and minor tweaks of existing policies will not be enough to tackle the multiple barriers to social mobility faced in these places.

It is also important to be clear that spending in left-behind places does not always need to be justified based on economic performance. There are important public good arguments that could justify increased expenditure across a wide range of policy areas. For example, it is possible to argue for subsidising rural broadband as a public good while recognising that its economic impacts are likely to be limited.

Distributional arguments can also be used to support intervention. For example, reversing austerity cuts to welfare benefits would disproportionately benefit areas with high concentrations of disadvantaged households. But it is important to be realistic about the likely economic impact of these policies so that we properly consider sustainable sources of government revenue to fund this increased public expenditure.

Devolution
Discussion around the systems through which urban and regional economic policy is delivered often distracts attention from more fundamental questions about the effectiveness of particular policy interventions. There is a growing recognition that greater local control may be needed to improve policy effectiveness, although there is disagreement about the form that this devolution should take.

Whatever happens, it is important that policies that have wide-scale impacts (such as transport and housing) are coordinated across local areas and that the right kind of policies are targeted at different areas. Differentiating the response in this way is controversial and difficult for constituency-based politicians (in both central and local government). The traditional policy mix - central government investments in local growth projects, transport and other infrastructure, funding for business support and access to finance, and a host of other interventions – has not properly addressed this challenge and has therefore been ineffective in narrowing disparities.

Conclusion
Spatial disparities in the UK are profound and persistent. Improving economic performance and helping to tackle the problems of left-behind places are both important policy objectives. Addressing these challenges requires a new approach to policy, one that allows for different responses in different places.

Such variation makes many people nervous. But it is important to remember that we should care more about the effect of policies on people than on places. Policies should be judged on the extent to which they improve individual opportunities and on who benefits, rather than whether they narrow the gap between particular places.

Henry Overman is professor of economic geography at LSE and research director of CEP.

An earlier version of this article appeared in CEP’s 2019 Election Analysis series as ‘People, Places and Politics: Policy Challenges of the UK’s Uneven Economic Geography’ (http://cep.lse.ac.uk/pubs/download/ea047.pdf).

Further reading


We should care more about the effect of policies on people than on places.
in brief...

Swings and silicon roundabouts: does cluster policy work?

Despite scepticism among researchers, policies to promote geographical clusters of firms in the same sector remain popular. **Max Nathan** evaluates a flagship programme set up a decade ago to accelerate the growth of Tech City in East London. While the cluster has increased in size and density, the outcomes for firm performance are – at best – mixed. That raises some bigger questions for future cluster policies.

London’s technology ecosystem is thriving. The city has over 50,000 tech firms, with over 260,000 employees. Venture capital investment rose from £384 million in 2013 to £1.8 billion in 2018. A number of companies, such as Darktrace, Transferwise and Deliveroo, have become unicorns – valued at more than £1 billion. The sector survived the financial crisis and is – so far – largely Brexit-proof.

East London is an important part of this story. Since the late 1990s, the neighbourhoods around Shoreditch have become home to a rich tech community, especially digital content firms that bridge to traditional media, advertising, marketing and design.

The cluster’s growth went under the radar until, in 2008, Silicon Roundabout caught the media’s attention. In late 2010, policy-makers stepped in: then prime minister David Cameron launched East London Tech City, a flagship cluster acceleration programme. The policy mixed marketing and place branding; foreign investment; business support; network-making; tax breaks; and a one-stop delivery body – the Tech City Investment Organisation.

The consensus is that these interventions – lauded by, among others, Boris Johnson in his time as London’s mayor – have been hugely successful. Rebranded as Tech Nation, the programme now covers the whole UK. But until now, no one has actually tested what happened on the ground. My recent study plugs that gap.

There are many reasons to care about this, even if you’re not a Londoner. First, lots of cities worldwide have tech clusters like this – Manchester, Leeds, New York, San Francisco, Stockholm, Berlin and Tel Aviv. Can they learn from London’s experience?

Second, cluster policy is contentious. Policy-makers love them: but many researchers are deeply sceptical of whether they achieve anything. Who is right? It turns out that while there are hundreds of academic papers on clusters, very few actually try to evaluate the effects of cluster policies. Here is a gap we need to fill.

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While the Tech City cluster of firms has become bigger and denser since 2010, there are clear winners and losers.
Third, the Tech City policy is potentially very attractive to policy-makers. Very simply, there are three families of cluster policy. One group involves formalised national partnerships, as used in France and Japan; a second group covers city re-zoning and rebuilding, as in Barcelona’s 22@ district. A third group uses Michael Porter-style ‘light touch’ programmes: Tech City is in this third group. It tries to ‘go with the grain’ of the local ecosystem, rather than reshaping the area through large-scale physical development, or using industry membership models. Does this bottom-up, light touch approach work any better than previous top-down approaches?

In my research I think of the cluster as a 1km zone around Old Street roundabout: that’s how most people saw it in 2010, when the policy arrived.

I start by looking at long-term trends in the area. Clusters are governed by positive and negative feedback loops. As they get bigger and denser, the exchange of people and ideas between firms boosts productivity. But bigger and denser also means more expense and competition. This pushes some companies out of the market or out of the neighbourhood. In Shoreditch, both positive and negative effects were in evidence: the cluster got bigger and more expensive.

Working out how much of this was down to policy interventions is especially tricky in this case. Shoreditch is an unusual neighbourhood, and it’s hard to find like-for-like comparisons elsewhere in London.

So instead, I compare changes in Shoreditch to a ‘synthetic Shoreditch’, modelled using data adapted from London tech hotspots beyond Tech City. This simulated cluster looks very like the real Shoreditch before the Tech City programme began, but after 2010 it follows its own path, in a parallel world where the policy didn’t happen.

Overall, I find that the policy increased the size and density of the cluster, both for the digital content firms and a newer wave of smaller, younger digital tech firms specialising in hardware, software and information technology. But this seems not to have consistently increased firm performance, with only the established digital content firms seeing higher revenue per worker.

Why hasn’t a bigger, denser cluster raised performance for everyone? Cluster disruption might provide part of the answer – digital tech firms crowded into the heart of the area, and content businesses moved to its edges. Growth is also driven by new entrants, mainly UK-owned, raising levels of competition and driving down revenue per worker for the average firm.

More troublingly, I find that much of this began before 2010, when the Tech City programme began, and then weakened relative to the two years preceding it. The policy seemed to amplify the benefits of clustering for the larger, more established content firms. But for smaller, younger digital tech firms, performance fell after 2010. Here, the policy overheated the ecosystem.

So did the policy work? Sure, if a bigger cluster is all that matters. But if you also want a better cluster, the results are much more mixed, with clear winners and losers.

A pessimist might say that this shows that trying to steer a cluster’s course is pointless. On the other hand, Tech City shows that government can influence change without dropping huge amounts of public money.

While trade-offs are probably inevitable, a better thought-through programme, with clear objectives linked to specific policy actions might have delivered a better balance of positives and negatives.

Light touch approaches may work for established clusters, but they are less likely to succeed in growing one from scratch. Other cities will also want to vary the policy mix, for example, by placing more emphasis on infrastructure or less on branding. It will be fascinating to see how future cluster policy experiments, such as London’s Med City and Manchester’s Graphene City, play out.

More broadly, there are lessons here for the ‘levelling up’ agenda, especially the current government’s plans to jump-start regional economies and move large institutions out of London.


Max Nathan of University College London is a research associate in CEP’s urban and spatial programme, and a deputy director of the What Works Centre for Local Economic Growth.
The UK’s young adults are navigating a very different economic landscape to earlier generations, including low real wage growth, lower likelihood of owning their own home and the uncertain prospects of Brexit. Rahat Siddique explores another potential source of variation across generational groups: their consumer preferences and the consumer prices that they face.

The cost of being young: measuring intergenerational consumer prices

The UK’s consumer prices index (CPI), a standard measure of inflation, is made up of a ‘shopping basket’ of items bought by the representative consumer. But the index may not reflect individual experiences of price rises (or price falls) because different people buy different items from the basket, reflecting demographic factors such as their age, gender and location.

For example, people living in rural parts of the country might spend more on fuel and motor vehicles, while those in urban areas may spend more on public transport. Younger members of the population may buy pushchairs and nappies for their children, while older groups will not.

Clearly, there are intergenerational consumption differences, but does that matter? One reason that it might matter is that intergenerational variation in consumer prices could have macroeconomic implications. Malmendier and Nagel (2011, 2016) find that economic conditions in an individual’s past affect their future investment decisions and inflation expectations.

For example, the negative macroeconomic shock of the Great Depression made a generation of Americans less likely to invest in the stock market and more pessimistic about future stock returns even if they did invest. Equally, experiences of price variation and inflation could have lasting effects on consumers.

Do millennials have a unique consumer basket?

There has been a lot of discussion recently about the ‘millennial’ generation: those who were born between 1981 and 1996 – which includes people who started their working lives during the global financial crisis of 2007-08 and its immediate aftermath.

Kurz et al (2018) do not find a distinct trend in consumption preferences for millennials – debunking the myth of avocado-eating, Uber-riding young adults – but they do note that across generations, the young have repeatedly had different consumption choices than older cohorts.
generations, the young have repeatedly had different consumption choices than older cohorts. There have been changes in millennial spending, compared with previous generations, which are attributed to changes in housing costs and low wage growth. These changes mean that millennials have less disposable income than their parents’ generation at the same age.

That said, the opportunities afforded to this generation have improved: 40% of the UK population held a university degree in 2017 compared with 19% in 1990; and the unemployment rate for recent graduates, those who graduated in the last five years, halved between 1993 and 2017 (Office for National Statistics, 2017). Yet millennials are navigating a very different economic landscape, and living standards have not improved for them relative to the previous generation.

Today’s young adults aged 25-29 are considerably less likely to own a home at a given age than those born only five or ten years earlier. For those born in the late 1980s, the homeownership rate was 25% at the age of 27, compared with 33% for those born five years earlier (Cribb et al, 2018).

Age-specific price indices have been produced in the past. Until 2016, the Office for National Statistics (ONS) used alternative weights to create a ‘pensioner RPI (retail prices index)’ because of this group’s reliance on pension benefits, implying different spending patterns compared with the rest of the population. Similarly, it is plausible that a ‘youth CPI’ could be constructed to reflect the preferences of the UK’s young adults, who are more likely to be renting than the previous generation; who are concentrated in cities; and who, unlike their parents’ or grandparents’ generations at the same age, have experienced extremely low real wage growth (or falling real wages) for more than a decade (Blanchflower et al, 2017).

Measuring intergenerational consumer prices in the UK
We use data from the Living Costs and Food Survey (LCF), which categorises expenditure variation across household groups by age, to create weights by generational group to develop a more granular picture of the consumption patterns of millennials.

In 2018, the LCF showed under-30s spending a higher proportion of their income on housing and fuel than any other age group, whereas 65-74 year olds were spending the most on recreational and cultural activities. We use CPI price quotes data to create a weighted basket of goods and services for each age group. After cleaning the dataset, we are left with a panel of 27 million observations.

Selecting basket items
The ONS emphasises that the CPI is a fixed-weight index and not a cost of living measure. A consumer price index is interpreted as the average purchases for the entire population, while a cost of living index can be measured in many ways. For some, this means the cost of items needed to maintain a certain standard of living, while others define it as the cost of basic essentials.

The ONS CPI basket is reviewed annually, which means that every year items are added and removed. For simplicity, we only keep items that are present over the 22 years, leaving us with 172 unique items to construct our basket, spanning the period from January 1997 to April 2019.

Our basket contains essential household items that are universal across genders, regions and ages. But this also means that we exclude all electronic devices that have been replaced by a new technology (cassettes to CDs, for
example) or seen improvements in model (for example, televisions and smartphones) despite, arguably, being bought by consumers regularly. Therefore, our basket may not contain items reflective of all consumption trends.

Our basket is made up of 47% food and drink and 14% various articles of clothing. Household costs and cleaning make up 17% of our basket, and transport only makes up 4%.

Stylised facts
In real terms, the increase in the mean price of our universal basket has increased dramatically across all age groups, doubling over 22 years. In recent months, there has been a decline (an average of 14% between September 2017 and April 2019). Expenditure on the items in our fixed basket has been consistently higher for the under-30s than for other age groups, and has been more pronounced since 2010 (see Figures 1 and 2).

Of course, there are also regional disparities in the UK. Although there is no regularly recorded statistic on regional inflation levels, a recent ONS analysis of 2016 prices demonstrated the variation across UK regions.

This basket construction has static weights, so we cannot attribute this change to direct differences in preferences or geographical location. But this trend could indicate a tendency for young people to purchase items that are becoming more expensive. Across regions we see a similar pattern, where under-30s have the most costly consumer basket compared with other age groups.

Using generational weights
We use the LCF survey data on household expenditure by age to create our weights. In doing so, we face two challenges. The first is that our basket is more

disaggregated than the LCF survey. This means that we have to adjust for having used the same weight multiple times for different items. We then rebase the weights, so that they sum to one for our fixed basket of goods.

Our second challenge is using static weights for our panel data: static weights assume that consumption preferences for age groups remain the same over time.

To resolve the latter issue, we create dynamic weights for two additional years – 2001 and 2008 – by repeating the methodology used for 2018 weights. Comparing generational groups in 2008 and 2018, we find that consumption has increased in real terms by an average of 22% across all ages, though highest for over-70s (23.2%) and those aged 50-64 (22.5%).

A similar trend is apparent comparing 2001 and 2018: the average increase was 45% and highest for the 50-64s (48.1%) and under-30s (47.1%) – see Figure 3. In 2001, the under-30s basket cost £113; in 2018, it had increased to £166. The
The cost of a fixed basket for the over-75s cost £107 in 2001, rising to £155 in 2018. This indicates that preferences for universal goods have not increased anomalously for young people, but have followed the same trend.

Policy implications
Considering the impact that negative macroeconomic experiences can have on an individual's investment decisions and inflation expectations, there could be scope for smarter policy. The UK’s young adults not only joined the labour market during the Great Recession but they will also continue their adult lives navigating the economic effects of leaving the European Union. Combined, these pose challenges to living standards and are likely to inform the long-run investment and saving decisions of millennials.

The ONS (2018) finds that over 50% of young adults don’t have a savings account. While there are many reasons for this, interventions such as automatic pension enrolment demonstrate the power of small government policies in addressing a future savings shortfall. Between 2012 and 2017, pension enrolment for eligible employees aged 22 to 29 saw a 44% increase in participation to 79%, the largest increase among all age bands (Department for Work and Pensions, 2018).

There is an appetite for reform, and policy-makers can make a difference in reducing intergenerational inequalities.

Conclusion
Our analysis finds that the cost of a fixed basket of consumer goods has increased by approximately the same proportion across age groups. While this is not a controversial finding in itself, the costs of being a young adult in the UK extend beyond consumer prices. For example, the millennial generation has had an acutely different economic experience of the past decade, including poorer post-recession wage growth than older people.

Our results provide an insight into why policy intervention might be important in the new economic landscape experienced by today’s young adults. There is a growing body of research on the subject, and consumer prices illustrate only one aspect of the challenges that this generation faces. Policies to promote long-term saving and to ensure that consumers do not expect higher inflation in the future are areas where young adults may benefit.

Rahat Siddique is an economist at the Confederation of British Industry and was formerly a CEP research assistant.

Further reading


Office for National Statistics (2018) ‘How Well are You Doing Compared with Other Young People?’

Millennials’ current economic experiences are likely to inform their long-run investment and saving decisions.
Mismatched students and universities

Higher education has long been thought of as a tool to equalise opportunities. But according to research by Gill Wyness and colleagues, if we really want to improve the life chances of disadvantaged students, we need to pay much more attention to the types of universities and subjects in which they enrol.

Our research examines the ‘quality match’ between students and the courses they attend, using data on a cohort of students who enrolled in university in 2008. We are interested in whether certain groups (such as disadvantaged students) are more likely to ‘undermatch’, by attending courses that are less selective than might be expected given their A-level grades. We also examine whether certain types of students ‘overmatch’, attending courses that are more selective than might be expected given their grades.

We examine this phenomenon of mismatch along two dimensions of course ‘quality’. First, we consider a student to be well-matched to their course if they have similar A-level scores to others on the course. For example, a high-attaining student would be well-matched if they attend a course with equally high-attaining students. They would be under-matched if they attend a course where their fellow students have lower grades than they do (suggesting that they could have attended a more academically prestigious course); and over-matched if they attend a course where the other students on their course have higher grades than they do.

Second, we rank courses based on the average earnings of their graduates five years later, and consider a student to be well-matched if that course has a similar ranking to their own individual ranking by attainment. For example, a high-attaining student would be well-matched if they attend a course with high earnings potential, and under-matched if their course has low average earnings.

We find a significant amount of mismatch in the system in England, with 15-23% of students under-matching and a similar proportion over-matching. Importantly, we find that students from backgrounds of low socio-economic status (SES) are more likely to undermatch than those from rich backgrounds.

Comparing low- and high-SES students at every level of attainment, disadvantaged students attend less...
academically prestigious courses, and courses with lower earnings potential, than those from high-SES backgrounds. So these students have the same A-level attainment, but they are attending lower ‘quality’ courses. This has obvious implications for equity and for equalising opportunities.

But economic disadvantage is not the only dimension of inequality we study. Examining mismatch by gender, we find that female students attend courses that are just as academically selective as male students, but they attend courses with lower future average earnings than men, comparing students with the same A-level attainment. This has important implications for equity and for the gender pay gap.

So what should policy-makers do? We examine three important factors that might drive this mismatch in an attempt to work out potential policy solutions. First, we consider the choice of subject studied at degree level: comparing students of similar academic attainment and studying the same degree subject, the gap between advantaged and disadvantaged students remains. This tells us that low-SES students are studying at lower ‘quality’ institutions relative to high-SES students, rather than choosing lower ‘quality’ subjects for their courses.

What about the role of geography? It is well-known that low-SES students are more likely to attend universities close to home, but does this drive them to choose a less selective institution? If we just consider the group of students living close to home, we still see differences in the institutions that disadvantaged students attend compared with more advantaged students. High-attaining, low-SES students tend to enrol in post-1992 institutions near home, whereas high-attaining, high-SES students are more likely to attend a nearby Russell Group university.

There may therefore be scope for some outreach work for high-ranking universities to attract local disadvantaged students. Interestingly, those low-SES students who move further away from home to attend university appear to be as well-matched as similar attaining high-SES students.

Our third factor is school attended, which accounts for the majority of mismatch among low-SES students. The implication is that factors correlated with school (such as peers, school resources, information, advice and guidance at school, and sorting into different types of schools) play an important role in student match. Unpicking what is driving this schools channel is an important step for future research.

Turning to our gender gap in earnings mismatch, we find no role for distance to university or schools attended. But we do find a very important role for degree subject. The fact that women attend courses with lower future average earnings than men is largely driven by the subjects that women are studying rather than by the institutions they attend. For example, a high-attaining male student might choose a subject such as engineering, which is typically high returns, whereas a high-attaining female student might choose a subject such as English or history, commanding a lower average salary.

So what can we do? The evidence suggests that an intervention that may help to reduce SES and gender gaps in match would be to improve the level and quality of information available to under-matched students – for example, on the attainment profile of students on each course and labour market returns.

Some recent studies have investigated the importance of providing information to low-SES students specifically to improve match. Our results highlight that it may also be beneficial to target women in a similar way, providing information on potential earnings associated with both institution and field of study. But as with most studies of mismatch, we have no information on the preferences of students: women may be well-informed on the earnings potential of subjects, but simply prefer not to study them.

Similarly, it may be the case that low-SES students prefer to attend less academically challenging institutions even when their attainment levels suggest that they are academically prepared. This could be down to perceptions about institutions not being a good fit for them. Our finding on geography suggests that universities’ widening participation units could do some important outreach work in these cases to challenge perceptions.

This article summarises ‘Inequalities in Student to Course Match: Evidence from Linked Administrative Data’ by Stuart Campbell, Lindsey Macmillan, Richard Murphy and Gill Wyness, CEP Discussion Paper No. 1647 (http://cep.lse.ac.uk/pubs/download/dp1647.pdf). The research was funded by the Nuffield Foundation.

Stuart Campbell, Lindsey Macmillan and Gill Wyness are at UCL Institute of Education. Richard Murphy is at the University of Texas at Austin. Murphy and Wyness are research associates in CEP’s education and skills programme.
The rollout of television to virtually every household in the United States in the mid-twentieth century created a potentially huge audience for people working in the entertainment industry. As Felix Koenig explains, this experience illustrates how new technologies can have a disruptive impact on labour markets: a handful of superstars were richly rewarded, but the majority of entertainers ended up worse off.

TV superstars: how a new technology disrupted the entertainment industry
Many economists link rising inequality to technological change. A classic theory in economics suggests that ‘superstar effects’ may arise when technologies enable workers to reach larger markets. These effects amplify minor differences in talent into large income differences and move the labour market towards a ‘winner-takes-all’ outcome. My study looks at an iconic experience with scale-related technical change in the entertainment industry – the launch of television in the United States in the mid-twentieth century – and tests the impact on inequality in this field.

The rollout of TV multiplied the audiences of entertainers many times over. While a few hundred individuals watched live performances before the launch of TV, the same performance could be watched by millions a few years later. From TV’s earliest days, people flocked away from traditional amusement in theatres, bars, bowling alleys, vaudeville palaces or sports events and became glued to their TV sets. During this period, inequality in the entertainment industry increased markedly. Figure 1 shows the earning distribution in entertainment before and after the launch of TV and reveals the spreading out of the income distribution during this period. A rising share of actors earned extreme incomes, while the share in mid-paid jobs declined. Simultaneously, a growing share of workers ended up in low-paid jobs at the bottom of the income distribution.

In the wider US economy, inequality was relatively stable during this period, so the sharp rise in inequality in entertainment suggests that the industry was going through unusual times.

Analysing the effects of technical change on inequality

Besides the launch of TV, other factors, including trends in regulation and pay-setting norms, affected inequality too. Distinguishing the effect of technology from such trends is one of the key challenges that have hampered credible statements about the impact of technology on inequality.

The rollout of TV provides a rare opportunity to isolate the impact of a technical disruption on the labour market. A scientific approach would randomise access to technology across labour markets. New technologies may generate ‘superstar effects’ and move labour markets towards a ‘winner-takes-all’ outcome.

Inequality in the US entertainment industry increased markedly as a result of the rollout of TV.

Figure 1: Change in the wage distribution for US entertainers, 1940–1970

Notes: The figure shows the entertainment log real wage distribution in 1950 US dollars in 1940 and 1970 from the lower 48 states.


While this is not feasible, institutional details in the TV rollout process lead to variation in TV access that is as good as random.

TV filming initially started city-by-city, and different places thus experienced this technical change at different times. By comparing local changes in inequality across local labour markets, we can distinguish the effect of TV from the industry-wide trends in inequality, including deregulation and pay-setting norms.

A further appeal of this setting is that local economic conditions were not the driver of the launch of TV stations. Instead, the Federal Communications Commission deployed TV according to their priority system. The system ranked places according
to technical location features that paid no attention to the local economy. This setting thus addresses another common problem in studies of technical change: the emergence of new technologies in otherwise booming labour markets.

What's more, signal interference among neighbouring TV stations interrupted the rollout plan. Due to this intervention, several local labour markets narrowly missed out on TV launches. This gives rise to another source of variation in TV access that is as good as random, and offers an opportunity to verify that the rollout process is unrelated to local labour market shocks.

Superstar effects
The results reveal that TV had substantial effects on inequality in entertainment. Places where TV was deployed experienced sharp income gains for star entertainers. Having a local TV station boosts pay at the 99th percentile by around 17%. This gain for star entertainers is large relative to the wider US economy. This can be seen since the share of local entertainers in the top 1% of the US wage distribution nearly doubled compared with the number before the launch of TV.

Figure 2 shows that this occurs when a local TV station is launched and disappears again when centralised network filming displaces local filming. Locations that narrowly miss out on the launch of a TV station see no growth in top entertainer pay. This lack of effects confirms that the rollout process was unrelated to other local trends, and increases the confidence that we are isolating the effect of TV in the baseline results.

Economists have argued that superstar effects magnify the rewards to being the best but offer limited gains outside of a small group of top stars. These characteristic patterns are strongly supported in the data. Income growth escalates as we move up towards the top of the wage distribution and the share of income going to the top 1% nearly doubles. All the gains accrue to a few entertainers at the top and marginally less talented workers do not benefit from TV.

Looking beyond the stars, the rollout of TV has substantial negative effects on a large part of the entertainer workforce. The share of entertainment jobs in the middle of the wage distribution contracts sharply and places where TV is

Figure 2: The effects of TV on top earners

A. Blocked TV stations

B. Active TV stations

Notes: Panel A shows the effect of blocked TV stations (comparison groups are untreated areas); Panel B shows the effect of TV stations. Top-paid entertainers are in the top 1% of the US income distribution. Vertical lines mark the beginning of local TV (‘TV’) and the end of local TV (‘Videotape’). The area shaded in light yellow marks the 95% confidence interval.

Places where TV was deployed experienced sharp income gains for star entertainers.

Felix Koenig of Princeton University is a research associate in CEP’s labour market programme.

Beyond the entertainment industry, many current technologies are making it feasible for workers to reach vast scale markets. TV hurt spending at local county fairs and employment in the local entertainment industry launched experience a near 50% decline in such jobs.

TV also affects places beyond the city limits where the show filming took place. Historic TV stations transmitted shows via airwaves and could reach audiences far beyond the local labour market where the station was based.

I use the propagation of the TV signal to compute which local entertainers had to compete with shows broadcast over the airwaves. In the initial rollout period, many parts of the country did not have access to a TV signal. But as soon as the TV signal became available, interest in local entertainment declined substantially.

Comparing demand for local entertainment across areas with and without a signal throughout the rollout reveals the devastating impact of TV. Spending at local county fairs declined by 5% and employment in the local entertainment industry dropped by about 13%.

The data show that a key driver of these superstar effects is competition for talent. Little top income growth occurs in labour markets where only a single TV station operates. It is the launch of a competitor station that introduces the striking rise in top incomes.

Addressing imperfect competition in labour markets may thus do little to reduce rising top income concentration.

Does this rise in inequality reflect unequal gains in productivity? In the entertainment industry, productivity can be uniquely well measured, which allows me to quantify how unequal productivity gains are distributed. The data show that revenues of stars’ shows grew strongly with the launch of a local TV station, while ordinary shows suffered a sharp drop in revenues.

To quantify these effects, I collect archival data on audiences of entertainers and prices, and track how these changed during the TV rollout. Audiences of star entertainers quadrupled, and simultaneously revenues grew in line with the audience size.

At the same time, attendance and spending at traditional live entertainment outlets dropped significantly. This effect was particularly pronounced for live performances that were in direct competition with TV. Entertainment outlets that were more immersive and distinct from TV were shielded to some degree from the disruption.

Conclusion
Technologies may generate superstar effects and move labour markets towards a ‘winner-takes-all’ outcome. The results of one of the most iconic cases of a scale-related technical change reveal the seismic impact such changes can have on income inequality. TV generated sharp income concentration on a handful of stars, while it hurt the majority of workers.

But to evaluate the overall merits of such technical change, it is also important to contrast the rising inequality in labour markets with the gains for consumers. TV was embraced enthusiastically by Americans. As with many technical changes, TV is a double-edged sword, which generates consumer benefits at the cost of rising inequality.

Beyond the entertainment industry, many current technologies are making it feasible to reach vast scale markets. While there are parallels, superstar effects arise only when workers have unique and irreplaceable talents. In labour markets where skills are learnable and workers are closer substitutes, superstar effects ought to be smaller.
Does the strategic exclusion of poorly performing pupils explain the improvements in overall performance recorded by academy schools in England? Our analysis of the initial wave of academies – those that opened before 2010 as part of a school improvement programme – shows that exclusion was not a means of improving aggregate results for academies in the published league tables.

Pre-2010 academy schools did indeed experience sharp pupil performance gains after conversion, but not because of strategic pupil exclusion. Rather, exclusion seems to be a feature of the strict disciplinary behaviour procedures that some of these schools operate – an integral part of a ‘No Excuses’ culture.

This finding is corroborated by the fact that we find much smaller gaps in permanent exclusion among the second batch of conversions to academies – those opened after 2010, which were not disadvantaged schools coping with the behaviour problems that faced the earlier batch of academies.

Inclusion in a school league table results hinges on the January census of pupils in Year 11, the final year of compulsory education in England. We study whether following conversion, academies started to exclude permanently more pupils before the January census in Year 11.

Following academy conversion, the likelihood of pupils enrolled in academies being permanently excluded in Year 11 before the January census increased by 0.083 percentage points. This increase is much bigger between the pre-2010 academies, where conversion led to a 0.282 percentage points increase in the likelihood that an enrolled pupil was excluded in Year 11 before the January census. In post-2010 academies, the likelihood that an enrolled pupil was strategically excluded increased by a more modest 0.052 percentage points.

We also study whether these higher rates of pupil exclusion can plausibly explain the steep pupil performance gains observed in pre-2010 academies. Our simulation exercise suggests that for the performance improvement of pre-2010 academies to disappear, each excluded pupil would have needed to exert an implausibly large negative influence on the GCSE results of all other Year 11 pupils in the same school and school year.

Moreover, we find no evidence that pupils excluded from academies were worse performers than pupils excluded from ‘control’ schools (otherwise similar schools that did not have academy status). Pre-2010 academies also permanently excluded more pupils in Year 11 who were still allowed to take their GCSE exams in the school that excluded them, which removes scope for strategic manipulation of GCSE results.

Finally, we find no association between performance gains and changes in permanent exclusion following conversion. The schools that experienced the greatest performance gains are not in fact the same schools that experienced the largest increases in exclusion rates following conversion.

The overall conclusion is that rather than being used as a strategic means to boost measured school performance, the higher rate of exclusion seems to have been part of the tough discipline procedures that the pre-2010 academies adopted.
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The Urban Economics Association seeks to promote participation and excellence in academic research in urban and regional economics. The association welcomes researchers looking into the economics of cities, housing, real estate, transport, local public good provision, the spatial distribution of activities, economic geography, and urban or regional policy.

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