in brief...
Social mobility in the United States

There is considerable geographical variation in the opportunities available to disadvantaged children in the United States, according to research by **Raj Chetty**, who delivered the 2016 Lionel Robbins Memorial Lectures at LSE. **Maria Molina-Domene** talked to him about his findings, the use of big data and the implications for policy.

Raj Chetty was in London recently to deliver three lectures on the theme of social mobility in the United States. While he was at CEP, I talked to him about the use of big data in economic research, notably in the Equality of Opportunity Project that he leads. His findings on the differences in opportunity across local areas in the United States and the causal impact of neighbourhoods were the core of his lectures.

Raj began his first lecture with a striking comparison of how far the United States is from achieving 'the American Dream' in terms of social mobility. He highlighted the fact that the probability of a child born to parents in the bottom fifth of the income distribution reaching the top fifth is 7.5% in the United States. This compares with the figure of 9% for the UK revealed in CEP research by Jo Blanden and Stephen Machin.

But the US figure of 7.5% at the national level is not constant across local areas. Using tax records and fine-grained geographical data, Raj's research shows that place has a significant causal impact on upward mobility for a given person. For example, the chances of reaching the top fifth from the bottom fifth is only 4.4% for children born in Charlotte, North Carolina, compared with 11% for children born in Washington DC. Furthermore, children's exposure to better or worse neighbourhoods has significant effects on their outcomes.

To identify the causal impact of the environment in specific places, Raj's work uses a quasi-experimental design to exploit variation in children's ages when their families move. Under the assumption that the timing of family moves is uncorrelated with children's potential outcomes, 70-80% of the variation in children's outcomes across areas is due to place effects. Remarkably, moving to a place with high rates of upward mobility improves a child's chances of success linearly in proportion to the time they spend growing up in that area.

This evidence triggers a natural question: what is it about

There is substantial variation in intergenerational mobility across areas within the United States

an area that influences the degree of upward mobility? Raj drew our attention to the main features of the areas he has studied. His strategy was to correlate the characteristics of low versus high mobility areas (segregation, income inequality, school quality, family structure and social capital) and upward social mobility.

In his second lecture, Raj focused on the correlation between social mobility and two key factors: segregation and housing policy; and education. From these key features, he drew out the implications for policy on how to improve social mobility in areas where it is low. He reflected on the policy design and effectiveness of different affordable housing policies to promote integration.

Recalling the Moving to Opportunity experiment, which was implemented in 1994-98 covering 4,600 families at five US locations. Raj noted that some scholars find little impact on adults of moving to a better area on outcomes such as earnings, but it can improve outcomes for children who move when young. He showed that housing vouchers can be very effective if carefully targeted. In particular, he underlined two key criteria: vouchers should go to families with young children; and they should explicitly encourage families to move to affordable areas with good opportunities for the young.

Promoting integration through housing vouchers can have some limitations: for example, families might stay in neighbourhoods that ultimately harm their children because of a lack of information about that threat or because poverty leaves them focused only on immediate needs. But Raj suggested that place-based approaches can also be beneficial for increasing residential housing integration. He gave a couple of examples of place-based policies centred on improved urban planning and investing in local schools.

On education, Raj emphasised the need to understand which educational inputs matter most for children's long-term success. Approaches to improving children's outcomes include smaller classes, better teachers and more spending, and he focused on teacher value-added. Showing results from a quasi-experiment, he stressed that improving the quality of elementary education can be a key policy tool to increase upward mobility.

His third and final lecture posed a fundamental question about the desirability of social mobility in relation to justice, equity and efficiency. Raj argued that increasing equality could actually increase efficiency, which, in turn, can generate increases in aggregate growth. He then discussed the role of innovation as a key driver of sustainable growth, and how the rate of innovation could be increased by reducing inequality.

In a study entitled 'The Lifecycle of Inventors', Raj and his co-authors (which include former CEP director John Van

Children of inventors and those raised in areas with more inventors are more likely to be inventors themselves

Reenen) provide a concrete example of how parental income correlates with children growing up to be inventors. This correlation seems not to be driven by the children of high-income families having higher innate ability, but rather by the constraints of a poorer environment faced by lower-income children.

Related to the findings of different opportunities offered by different localities is the unexpected one that difference in exposure to innovation during childhood helps to explain the innovation gap between children of parents in the top 1% of the income distribution and those in the bottom 50%. Parents are a key source of exposure to innovation and Raj presented striking results: children of parents who are not inventors register patents in later life at around a tenth of the rate of children whose parents are inventors. But parents are not the only source: Raj has looked at broader sources of exposure to innovation, and finds that children raised in areas with more inventors are more likely to be inventors themselves.

This last lesson emerged as a specific example of how increasing equality of opportunity can increase efficiency and growth, and informs Raj's call for policies to increase innovation. One desirable policy may be to increase top income tax rates to finance programmes that draw more low-income children into innovation. Raj concluded his lecture series pointing to the need to tackle social mobility at the local level and to seek to improve children's environments at all ages.

Raj and I also talked more generally about the opportunities for economic research that big data offer. We discussed how harnessing large volumes of unstructured big data helps to evaluate substantive policy questions. Big data emerges as an important tool for evaluating policies scientifically and measuring local performance more systematically.

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