

Steven: Hello, and welcome to the Inequality Podcast. I'm Steven Durlauf. I don't think there's much dispute that one of the most important dimensions of inequality has to do with the way in which the socioeconomic status of parents is transmitted to children. Intergenerational mobility, or immobility, is a natural focus of inequality research because of its clear ethical implications. As has been pointed out by many philosophers, children are not responsible for the status of their parents, and correspondingly, those types of inequalities do not have any ethical justification. One of the most important researchers in the study of intergenerational mobility over the last 20 years is Bhash Mazumder. Bhash is currently in transition from a position as a senior research economist at the Federal Reserve Bank of Chicago to a professorship at the University of California, Irvine. His work has been the leading example of how better and more sophisticated datasets can provide more accurate portrayals of the nature of inequality and intergenerational mobility in the United States. The work has very much influenced my own thinking and understanding of inequality. Bhash has demonstrated more than any other scholar that the received wisdom on the degree of mobility in the United States was, in fact, exaggerated, and that persistence can be understood not just with respect to income but other dimensions of socioeconomic well-being. Today, Bhash and I will discuss several different measures of intergenerational mobility, ranging from income to both physical and mental health, and we will explore how intergenerational mobility is generated through various theoretical mechanisms and, importantly, through certain historical events: be it redlining associated with the New Deal or urban renewal associated with the Great Migration. Without further ado, here is my conversation with Bhash Mazumder.

Steven: Bhash, thank you so much for joining us.

Bhash: I'm very pleased to be here talking to you, Steven. Thanks.

Steven: There are so many dimensions of intergenerational mobility, it's hard to know where to begin, and of course, that's compounded by the breadth of your work. I thought perhaps the first topic to discuss is how intergenerational mobility has changed in the United States over the last several decades.

Bhash: Maybe I'll step back and talk briefly about what the received wisdom was a few generations ago about intergenerational mobility in the US. Up until about 1990, most studies of intergenerational mobility relied on data where you could measure a parent's income in a particular year and a kid's income as an adult, and would essentially estimate the association between parent and kid income. The numbers you'd get on that association were seemingly low, in the order of a correlation of 0.2. What that would suggest is that roughly about 20% of income differences between families would persist into the next generation, meaning about 80% of differences would be eliminated

within a generation. There's a famous quote by Gary Becker, based on his work with Nigel Tomes looking at the literature and their own work, where they found these low associations and suggested that if you mapped this out a few generations, within three generations, most income differences between families would be eliminated. This painted a relatively rosy picture of mobility in America: there may be income gaps, but the opportunities to move up and down the income distribution would remove those differences fairly quickly. As research went on and we got access to better, more complete data, essentially panel data, which means you could observe people over many periods of time, my dissertation contributed to this. I used a census survey linked to Social Security administrative records, so you could observe children and parents living together at a point in time, and then, by linking to this administrative data, see parents' income over very long periods of time. I could look at their income over 15 to 20 years and then look at children's income as adults. When you started to do that and look over longer time windows, that 0.2 estimate gradually increased. Once you use something like 15 or 16 years of data, it became more like 0.5 or 0.6. That painted a very different picture of the state of mobility in the US. One back-of-the-envelope calculation I used was to say that if that persistence was 0.6 and you took a family living in poverty, then on average for the descendants of that family, it would take something more like five generations before they, on average, reached the average level of income. Rather than things disappearing quickly over generations, it was going to take maybe a century before lingering differences would really be removed.

Steven: Those findings really did change the way that economists in general were thinking about intergenerational mobility. From the perspective of economic theory, the Becker and Nigel Tomes approach was predicated on the stylized fact of rapid mobility, whereas more recent conventional approaches try to build in persistence. The concerns about neighborhoods, about family characteristics beyond income, are really derivative from the basic facts that you helped lay out. Bhash, I was hoping we could turn from mobility at the individual level to mobility at a group level. The natural question there is understanding the dynamics of Black-white inequality and what differences there are in persistence across generations.

Bhash: One of the basic facts that I think there's very little disagreement about is that Black Americans are highly disadvantaged in the United States when it comes to mobility. The way I've looked at it in my research is to look at directional mobility, both upward and downward. A common way of doing this is to look at the income distribution broken up into quintiles. I've looked at what fraction of individuals who start in the bottom 20% move out of the bottom 20% over the course of a generation. If you compare Blacks and whites by that metric of upward mobility, there's a pretty stark difference. On average, Black Americans are about 25% less likely to move out of the

bottom quintile of the income distribution. At the same time, Blacks are also disadvantaged in terms of downward mobility from the top. Black American families at the top 20% of the income distribution are also more likely to fall out of the top than white families, with something like a 15% difference in the greater likelihood of downward mobility. I did this exercise in one of my papers to think about what this would imply for future generations. If you assume this continued to go forward, it essentially showed that there would be no narrowing of the Black-white income gap if this type of mobility difference continued. That's a pessimistic view. On the other hand, I've done other historical work, as have many other scholars, looking at particular episodes and policies, for example, in terms of education or other types of policies that have improved the opportunities of Black Americans. Those show that you can move the needle on improving upward mobility and reducing downward mobility. That need not be our future, but we definitely need policies that would address this.

Steven: Thinking about the potential for downward mobility among Black families, one natural candidate would be wealth. African American families have qualitatively higher degrees of inequality in terms of wealth and even in terms of income. As a result, that has implications for the ability of successful families to self-insure. Families experience shocks, children experience shocks. It's a deep question, the extent to which families are able to react to them and sort of maintain success. It seems to me that combining the sociology and economics findings leads to new areas for thinking about mechanisms. I wonder if you could also turn to the question of changes in the degree of mobility and persistence. I think for what it's worth, some of your own work was misinterpreted as demonstrating there had been a change in mobility, whereas it was a demonstration that the initial estimates suffered from downward bias. You also have other work that has looked at the specific question of the evolution of mobility. Could you give highlights of that?

Bhash: This is a tricky topic, and I don't know that everyone yet agrees on the patterns. I've thought for a long time, based on some work I did about 15 years ago with my colleague Dan Aaronson, where it's challenging to look at intergenerational mobility over time because it's difficult to link parents and kids directly in data. We used what is referred to as synthetic cohorts, where you look at kids in one generation and then, by their place of birth and birth cohort, find candidate parents that would have had kids like them in earlier censuses. We did an exercise where we looked over time and traced out a pattern of intergenerational persistence, and by the same token, one minus that to get intergenerational mobility. What I got out of that exercise was that around World War II, when we have this period of fairly low inequality, what has sometimes been referred to as the Great Compression, that seemed to have corresponded to sort of a high point in mobility. The intergenerational persistence we measured by this method was quite low. Then, when we looked over time, persistence

gradually went upward but was fairly stable right until about 1980. That's when you see this dramatic increase in inequality that many papers have identified: a large change in the returns to skill measured in many different ways, including the return to attending college versus not. And that's also precisely the period in which you start to see intergenerational persistence rise, or mobility begin to fall. Then, in a recent paper with Jonathan Davis that we've been working on for a number of years, what was really challenging in uncovering these trends is that what you really want to see is individuals who entered the labor market before the big rise in inequality, and then individuals who entered the labor market after. That would really test whether your exposure to a big change in inequality impacted your intergenerational mobility. We used data from the National Longitudinal Survey, where there are older cohorts born in something like the 1940s and early 1950s, and more recent cohorts born in the 1960s who would have entered the labor market after this big rise in inequality. We see a dramatic difference in mobility between these cohorts, a big decline in intergenerational mobility for the more recent cohorts. We do some exercises to see what we can associate that decline with. We can explain maybe something like 20% of it due to the change in the return to going to college. One of the most interesting patterns we found was that marriage seems to explain quite a bit of this. The probability of getting married over time has declined, and if you take that into account, then that explains roughly 40% of this decline in intergenerational mobility. I should say this is where we're measuring income by family income, so that's where marriage becomes important in thinking about that.

Steven: I wonder if we might talk about dimensions of mobility outside of income. An important direction in your work has been to think about well-being, in other words: it's one thing to talk about income, but then it's natural to ask about the factors that would define a flourishing life. You've looked at intergenerational mobility in health, both mental and physical. Could you say something about that work?

Bhash: For a long time, I've thought this was something we really ought to look into. There's a question of why do we focus on income. Well, income does reflect a lot about your socioeconomic status, but it might not give you a complete picture of your overall well-being. There's been research showing that if you compare countries by per capita income versus taking into account health differences and mortality differences, you can paint a different picture of the overall welfare of different societies. That was part of my motivation to ask the question: how important is it to take into account health, and would that lead to different conclusions about the state of intergenerational mobility in terms of overall well-being? One of the things that can help is that there are many surveys across the world that ask about health. At first glance, we might think these questions may not be the greatest way to get at health; we really want

sophisticated measures that come out of people's visits through the medical system. But it turns out that if you ask people, how would you rate your health on a simple one-to-five scale, from one being excellent to five being poor, there are a number of studies showing this actually does a pretty good job of getting at your objective health. I did this first in the US using a panel dataset, which allowed me to measure both how parents, when they were younger and throughout their career, rated their health year after year on this scale, as well as children. I was able to convert this scale into something health economists use: a quality-adjusted life year, which captures the fraction of a year spent in good health. The same way we would think about income and use longer time spans of income to better assess your overall income over your life course, we could do the same thing with health. What I found in the US is that the association between parent health and kid health is actually relatively low, in the order of 0.2, which was back to the Gary Becker-type number we thought of for income before 1990. You can look at the identical set of families and compare their income persistence and their health persistence, and you see this vast difference. In subsequent work, I started looking at other countries, and it seems like in virtually every country that's been looked at so far, the UK, Germany, Denmark, Australia, Taiwan, and some work I'm doing now in Indonesia and China, these persistence estimates in health are lower than in income universally.

Steven: Could you say more about the health measures?

Bhash: There is a really long literature looking at intergenerational correlations in longevity, with associations of around 0.2 or less, actually more in the 0.1 to 0.2 range. There's a recent paper by Sandy Black at Columbia and a co-author using probably the best genealogical data we have access to, historical because you have to look at much older cohorts before you can measure their completed longevity, and the associations they get are less than 0.2. That seems to jibe well with what I'm finding. The big difference is that longevity measures the length of your life but not the quality of health during life, so this other dimension of looking at self-reported health fills that void. The other thing I would bring up is that there is a study in Denmark and a study I'm currently involved in in Taiwan, which both move away completely from survey data and use big data in the medical records world. In Taiwan, where there's national health insurance, we can access all the claims of outpatient and inpatient services that both children and parents have experienced over many years, and we can use statistical techniques like principal components analysis to try to get at a measure of latent health for both parents and kids using all this data on various types of health problems they've experienced that fall into different ICD codes for different disease classifications. Out of that exercise, we found very similar numbers: intergenerational associations of around 0.2 in Taiwan. A researcher in Denmark has found even lower estimates for Denmark. So I think

we're starting to converge on this idea that health persistence is actually quite a bit lower than income persistence across countries.

Steven: The result is surprising with respect to the United States because I would have thought the immediate answer would be national health insurance: you would look across countries that have different degrees of social insurance. But finding something similar in the US, which is obviously less generous than Denmark, is very striking.

Bhash: I would say in terms of looking across countries, the US still probably has higher intergenerational persistence than other countries, but the magnitudes of the difference are much more muted when it comes to health than income. What it might speak to is that even though health insurance is not universal in the US, it's still quite high, in the order of the high 80% to low 90% of the population covered in one form or another. That's not ideal, but a lot of us still have some basic coverage. The other thing I speculate about more, though I don't think there's great evidence on it, is that if you think about what improved longevity and quality of health over hundreds of years, it's things like environmental conditions, having clean air and clean water, those kinds of vast improvements in public health. Maybe that's what has allowed us to reduce the disparities in health that might have existed if we looked back a few hundred years ago.

Steven: Could you say something more about the work on mental health? I think few people would disagree that mental health is an underresearched area by economists.

Bhash: In our paper, looking at the UK, we were lucky that the data there had a more detailed questionnaire: not just rate your health on a one-to-five scale, but they have this questionnaire they refer to as the SF-12, with 12 questions, about half of which ask about things related to your mental well-being and about half related to your physical well-being. There we're able to look at these two different dimensions of health and think about them separately and how they impact children. If we just look at the persistence in physical health and the persistence in mental health, we find they're quite similar: the intergenerational persistence in both in the UK is about 0.2, similar to the overall persistence in health. One of the interesting things we found, however, is that if you do a horse race of whether it's parent mental health or parent physical health that has greater predictive value for children's overall health, it looks like it's parent mental health that receives almost everything. We found that as a very interesting finding. One of the things we were also able to do is look at different points in the life course, measuring children's health at various ages. When you look at younger kids, parent physical health is a better predictor of children's health. But once you get to about the adolescence of the kid, it completely shifts. That's roughly the timing at which you start to see the first onset of mental health

issues present themselves, and that's about the time in which you see this shift where parent mental health seems to matter. These are still early stages of research and I think we'd love to unpack this further in other countries with much more detailed data. But it's suggestive that parent mental health might be an important aspect of the overall well-being of families that we want to start to think about more in policy and start to address.

Steven: Have you explored the extent to which the income trajectories of the parents are predictive of their own mental and physical health? One could tell a story in which different trajectories lead to different levels of parental well-being, which then maps into children's well-being. By implication, that says there's a richer conception of parental income and its consequences. There is certainly a large literature, much of which I think is persuasive, on the psychological effects of perceptions of disadvantage or perceptions of not doing well. If that were the case, it opens up another way to think about the intergenerational mobility consequences of income: different income trajectories affect the mental well-being of the parents, and by implication that's affecting parenting and a whole host of outcomes for the children. If I were to make a conjecture on next steps, I would think about moments outside of the average income: growth at different points in time, experiences of bad events such as unemployment. Is that a route you've gone down?

Bhash: Yeah, I've started to look at this in a kind of simple framework. I think there's tons of room to do this in a much more dynamic way with the right data, to model this much more carefully over the life course. In both the US and the UK, we did the simple exercise of saying: let's look at children's health based on just looking at parent health, and then let's also include parent income and see how that changes the associations. What we found in the US is that parent income did play an important role, independent of parent health in the associations with children's health. So in the US, both dimensions were important for children's health. In the UK, we found a different story where parent income really didn't play much of a role. And in more recent work with the Taiwanese administrative data, we have huge samples, and we can infer income based on the rates people pay for health insurance. When we stratify our sample by various income levels, we see almost no difference between the poorest families and the richest families in their intergenerational health association. My early sense is that this may be very context-specific: in the US, where health insurance is very much tied to income and your ability to get care is very much tied to income, those kinds of things may matter much more than in societies where access to health is much more equalized.

Steven: So I guess the conjecture I'm trying to raise involves the effects of trajectories on mental health as a source of things, in other words and—I'm drawn to some work that I've done with Yoosoon

Chang, Joon Park, and Seunghee Lee, where we found that it's not the average incomes that predict offspring income, but the details of the trajectory of parental income. To evade the desire to engage in self-promotion, I think this point is the following, and that is understanding mental well-being has something to do with parents' perceived average income, but whether it's been increasing over time, it has stagnated compared to the rest of society. There is certainly a large literature, much of which I think is persuasive, on the psychological effects of perceptions of disadvantage or perceptions of not doing well. If that were the case, it opens up another way to think about the intergenerational mobility consequences of income: different income trajectories affect the mental well-being of the parents, and by implication, that's affecting parenting and a whole host of outcomes for the children. If I were to make a conjecture on next steps, I would think about moments outside of the average income: growth at different points in time, experiences of bad events such as unemployment.

Bhash: I think that's a really great area for future research to think about: the variation in income you receive over the life course and how that might affect things. One thing that fits into this would be studies that look at the effect of job loss in the parent generation on children's future income. There was a study in Canada that found very large effects, and they seem to imply that the mechanism had to be far beyond just the loss of parent income and probably involved things like deterioration in parents' physical and mental health, and how that affected children's well-being and their mental health.

Steven: I thought we might then turn to thinking about mechanisms. I want to emphasize very important work you've done looking at the effects of large historical events on contemporary inequalities, and in particular with respect to racial inequalities. You have work on redlining and on the Great Migration. Could you share the contours of that work and the main findings?

Bhash: With respect to redlining, this was a really interesting project because it's only more recently that these historical redlining maps drawn by a federal housing agency called the HOLC, the Home Owners' Loan Corporation, were finally digitized. We were able to use these maps to compare two neighborhoods: one which received a lower grade than its neighboring neighborhood, which received a slightly higher grade, and think about tracing out the effects of that kind of credit rating on the future evolution of places in urban America. There's a big methodological challenge because economic historians have been well aware of these maps and have thought about them for a long time. They've essentially argued that these maps had basically codified pre-existing differences: if you asked people which was a good or bad neighborhood, people would know the blocks that separated these back in the 1920s and 1930s, before the maps were drawn. Their thought was that these maps probably didn't really have

any real causal effect, that these were just differences that had evolved over time, and you could foresee the trajectory of how cities would develop based on these differences. Our real challenge was to say: was there really an effect of this housing agency drawing these maps, and did it have an impact on the system of allocating credit and mortgages, and people being able to get loans? We had to come up with methods to try to find neighborhood boundaries that we thought were idiosyncratically drawn. We did some statistical work to say, OK, here are a set of boundaries that look pretty much the same before they were drawn, and then trace out what happens across these neighborhood boundaries.

Steven: I should say this is an example of Bhash's excessive modesty. It's extraordinarily difficult to make a credible argument that can let you make causal claims, and so what he's doing in a very general way is explaining how he went about that, given the identification challenge of comparing neighborhoods.

Bhash: Thanks, Steven. A first paper simply traced out what happened to these places along major measures that we care about, like segregation, home ownership rates, and housing values over the subsequent 80 or 90 years after these maps were drawn. And I should say the big backdrop: race and ethnicity were factors taken into account in drawing these maps. The thinking of that time was that the immigrant share and how many Blacks were living in a neighborhood would predict whether that was a neighborhood you ought to lend to. The term redlining came out of banks drawing red lines over neighborhoods they shouldn't lend to. Getting back to the results, we found that neighborhoods graded D versus C did in fact have higher rates of segregation, lower home ownership, and lower housing values over the subsequent years. After about 1980 or 1990, these gaps started to fall again, but are still a bit higher than they were before the maps were drawn in the 1930s. One other important finding that I think is really interesting is that in our various studies of redlining, we've actually found the gaps are larger and more persistent, in terms of things like housing wealth and future income, when you look not at the redlined areas but the yellowlined areas. This was the category above redlined. If you compared the blue neighborhoods graded B, the second best, versus the yellow neighborhoods which were the third best, that margin: if you looked at the gaps in these neighborhoods before the maps were drawn, they were virtually nonexistent. There were no racial differences there, virtually no differences on observable characteristics. But even there, you see pronounced differences emerge. That's another reason why I think these are actually causal effects of these redlining maps. I would also say to make sure people understand that there are many mechanisms through which this could have occurred that we're not able to separate. For example, a lot of the economic historians believe the maps that really mattered were drawn by the FHA, the Federal Housing Administration, that would basically insure mortgages. They had their

own set of maps that have been essentially lost to history. We think the HOLC maps were an input into those FHA maps. To get back to thinking about mobility: in some subsequent work, in one paper, we looked at children who were living in these neighborhoods at the time these maps were drawn. We found them in the 1940 census and then linked to their future income in the 1970s using tax data. We were able to show, using our research approach of comparing idiosyncratically drawn boundaries, that people who were in a lower-graded area had worse income as adults than those in a higher-graded area. We were also able to look even further out in time using what's known as the Opportunity Atlas, created by Raj Chetty's co-authors along with the Census Bureau, where they used rich data to look at birth cohorts born in the early 1980s and their success along many dimensions: income, but also family structure, incarceration, teenage pregnancy, and a host of socioeconomic outcomes. We linked that to our redlining differences and showed that mobility outcomes along many of these dimensions were reduced if you were in a lower-graded area than a higher-graded area.

Steven: What are your findings on the Great Migration?

Bhash: I actually haven't done work myself looking at the impacts of the Great Migration directly. There's great work by Ellora Derenoncourt at Princeton. What she's able to do is trace out where people moved over the course of the Great Migration from the South to northern cities. The really interesting finding is that there was a backlash to where African Americans moved to in the North, and this backlash ended up resulting in greater segregation in some of these areas, higher crime and policing, and things that ended up reducing mobility prospects compared to what they may have been in the absence of that backlash. The small piece of work I did in this area was to build on Derenoncourt's work and show that urban renewal projects, where local communities in a city could apply for federal funding to do particular types of projects, often meant razing entire neighborhoods; often middle-class neighborhoods or neighborhoods with Black businesses were essentially destroyed. A common story is that things like highways were built that essentially helped destroy the fabric of a lot of African American communities in cities. What we were able to show is that places where migrants ended up as part of the Great Migration were places in which there were more likely to be urban renewal projects that dislocated Black families.

Steven: Both of those pieces of work begin to uncover mechanisms. I was wondering if you could give your overall view of what mechanisms you think are particularly important in understanding current rates of mobility, why it has decreased over time, and the like.

Bhash: I think one lens to view the mechanisms is thinking over the life course, and I think this starts even from the in utero period. Part of my thinking has been shaped by research I've done on the

impact of early-life health shocks on long-run outcomes. Even things like exposure to nutrition, air pollution, and alcohol consumption in utero have been shown through many studies to have large impacts. Then you go to the early life years, where things like interventions that have been shown to really improve long-run outcomes, such as having a nurse visit a newborn and the mother and teaching basic parenting practices, have been shown to matter. Some work I did some time ago showed how hospital desegregation during the civil rights period in the 1960s had impacts on human capital development of kids in places where there was no access to hospitals at birth, versus those who received early medical care. These were proxies for being able to treat diseases that happen in the first year of life; many of us who've been parents have seen kids get rotavirus or influenza, things that in the absence of healthcare, can have dramatic impacts not just on survival but on cognitive development through adolescence. Then you have the K-through-12 schooling years. There are many studies that are starting to piece together each of these in isolation. For many years, I've been focused a lot on the early life lens and thinking about how human capital development by the time you enter the labor market was really critical. But I've realized that there's still a lot in the rest of the life cycle and a lot of scope for policy interventions. There's more work that has looked at how labor market opportunities can impact intergenerational mobility: whether you work at the same firm as your parents, whether you were able to do a summer internship and get access to jobs and networking opportunities, or simply follow in your parents' occupation; those things may matter quite a bit. Another vantage point is to think about different policies that have had intergenerational impacts. There have been a number of studies in the last ten years that have looked at different social safety net programs in the US and other places: having access to food stamps, having access to healthcare early in life through Medicaid, and how that's impacted children's income as adults. Those have used very nice research designs that give you plausibly causal estimates and all of them have started to reveal interesting mechanisms. One of the challenges is putting this all together. There's such a richness of opportunities. My view, at least right now, is that there's just a vast diversity of mechanisms out there, many of which matter.

Steven: Bhash, thank you so much for a wonderful conversation.

Bhash: Thank you, Steven.

Steven: The Inequality Podcast is a production of the Stone Center for Research on Wealth Inequality and Mobility at the University of Chicago. I'd like to end the episode by thanking the people who make this happen. First, I'd like to thank our producer and engineer Shane McKeon. Second, I'd like to thank our assistant director Gerardo Espinal Franco, who does production oversight and many more things that make the center flow. And finally, our executive director Grace Kolavo provides overall support and really does run the center. You

can get in touch with us at stonecenter@uchicago.edu. Thank you so much for listening.

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