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PARENTS, CHILDREN, AND LUCK: EQUALITY OF OPPORTUNITY AND EQUALITY OF OUTCOME

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Parents, Children, and Luck: Equality of Opportunity and Equality of Outcome*

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Contents

Abstract

This paper considers three perspectives on parents, children and luck (PCL), each with a venerable pedigree. The first perspective focuses on the intergenerational elasticity (IGE) of income transmission. Within this perspective, the older literature traces the consequences of higher or lower IGE for the evolution of inequality of income. The more recent literature, on "The Great Gatsby Curve", sees the causality running the other way, from current inequality to IGE. The second tradition (PCL II) approaches intergenerational mobility through transition matrices and sets out views on "greater mobility" through this lens. But these views are not necessarily consistent with each other, and a social welfare function approach is needed to pronounce on comparisons between societies. Taking a dynastic inequality approach, Kanbur and Stiglitz (2015) show that "equality of opportunity"—a transition matrix with identical rows--does not necessarily lead to lower dynastic inequality than all other transition matrices. Finally, the third perspective on parents, children and luck (PCL III) is presented by Roemer (1998) and in particular by applications of the framework to quantify "inequality of opportunity". It is argued here that these approaches have serious empirical and conceptual flaws, and may understate the true degree of inequality of opportunity.

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* Paper written for Festschrift for Joseph Stiglitz, to celebrate his fifty years as a teacher. It is based on based on a presentation at "A Just Society: A Conference in Honor of Joseph Stiglitz" at Columbia Business School, October 16-17, 2015. Joe and I started discussing these issues in 1976, when he came to Oxford as Drummond Professor and I became his student. We have continued our discussions over the past four decades, and I look forward to them in the years to come.

1. Motherhood and Apple Pie

Who could possibly be against equality of opportunity, especially when compared to equality of outcomes? Not, it would seem, many egalitarian thinkers, for whom "the development of egalitarian theory, since Rawls, may be characterized as an effort to replace equality of outcomes with equality of opportunities, where opportunities are interpreted in various ways. Metaphors associated with this view are "leveling the playing-field," and "starting gate equality"—Wagstaff and Kanbur (2015) call equality of opportunity the new motherhood and apple pie in policy discourse. There are many translations of this metaphor into concrete specifications. Roemer (1998), following Dworkin (1981a,b) and others, famously distinguishes between "circumstances" and "effort" as characterizing those factors which are respectively outside and within the control of the individual in determining outcomes. Equality of opportunity is then equalization of the impact of circumstances on outcome, without touching the difference in outcome induced by effort.

There are many possible types of circumstance, but two stand out in the literature. First, characteristics of parents, over which presumably children have no control. Second, "brute luck", to use Dworkin's phrase, in other words random events over which the individual has had no influence over. There are other circumstances such as gender or ethnicity, although the latter could equally well be treated as the consequence of parental characteristics. Leaving to one side complex questions on the social construction of categories, gender is outside the control of an individual at birth, depending on parental genetic characteristics combined with the random processes of chromosomal crossover in reproduction. But then so, presumably, are all of the genetic traits that go under the label of "talent." Pushed to the limit, this chain of reasoning would leave very little outside of the realm of circumstance.

But in a narrower economic setting, let us think of the circumstances of a child as being parental income, and let us describe economic processes as leading to a stochastic outcome for the child, conditional on parent's income. This simple formulation leads to a stochastic process through which the income distribution evolves over time, depending on the conditional distribution of the child's income given parent's income. The tightness of the conditioning can be thought of as a measure of the "inequality of opportunity," and naturally leads to the question of whether greater inequality of opportunity leads to greater inequality of outcome, and vice versa.

It is these interactions between parents, children and luck (PCL) in the determination of the equality of opportunity and equality of outcome which are reviewed and explored in this paper. Section 2 begins with the simplest well known setting in which parental income determines child income but with shocks. The implications for long run income distribution of different degrees of mobility are traced out. Section 3 takes up an alternative tradition in the literature on the measurement of intergenerational mobility, based on transition matrices, and asks how common views on "greater mobility" match perspectives on dynastic inequality. Section 4 returns to the recent literature inspired by Roemer (1998) and presents a brief critique. Section 5 concludes.

2. PCL I

The first strand of literature linking parents, children and luck goes back at least as far as Gibrat (1931). Gibrat set out a stochastic dynamic process which in his view led to a size distribution of firms that matched reality. The application of such stochastic processes to income distribution goes back at least as far back as Champernowne in the 1930s (Champernowne, 1973) and again Champernowne and Kalecki in the 1940s and 1950s (Kalecki, 1945; Champernowne, 1953). The topic was revived in the 1970s by the work of Creedy (1974) and Hart (1976). Economic models of intergenerational transmission usually have Becker and Tomes (1979) as a starting point, but have been developed considerably since then, for example by Solon (2004, 2015)

Forty years ago Hart (1976) set out a model of income dynamics which is now easily recognizable. The standard income transition equation between log income y of generation t-1 and generation t is given by:

$$y_t = \beta y_{t-1} + \varepsilon_t; \quad \varepsilon_t \text{ is } N(0, \sigma^2_\varepsilon) \qquad \text{P} \qquad (1)$$

where ε_t is a stochastic disturbance term independent of y_{t-1} and normal distributed with mean zero and variance σ^2_ε. Here β is a conventional measure of intergenerational mobility—the extent to which generation t's outcome is influenced by the outcome for generation t-1. It is also known as the intergenerational elasticity of income (IGE). As Krueger (2012, p. 3) notes:

"Another handy statistic for summarizing the connection between parents' and children's income is the Intergenerational Income Elasticity (IGE). Recent studies put the IGE for the U.S. around 0.4. This means that if someone's parents earned 50 percent more than the average, their child can be expected to earn 20 percent above the average in their generation."

Let the variance of y_t be denoted σ^2_t. Then of course

$$\sigma^2_t = \beta^2 \sigma^2_{t-1} + \sigma^2_\varepsilon \qquad (2)$$

Hart (1976) used this apparatus to derive predictions on the time path of inequality (measured by the variance of log income):

"…if $\beta^2 \geq 1$ we have the result, as in Gibrat (1931), where β = I, that the inequality of incomes must always increase over time. Gibrat's model was criticised in 1936 by Champernowne (I973) on the grounds that continuously increasing inequality of incomes does not occur very often in practice and, moreover, it is unreasonable to suppose that the chance of a given proportionate change in income was independent of the size of income, as implied by….. β = I. But if β < I, the percentage increase in earnings tends, on the average, to fall as you go up the income distribution. With this "regression" towards the median or mean, to use Galton's…..term, it is possible for the inequality of incomes to decrease, a result rediscovered by Kalecki (1945)." (Hart, 1976, p. 556).

When β < I, the process in (2) leads to a steady state level of inequality given by

$$\sigma^2_y = \sigma^2/(1-\beta^2) \qquad (3)$$

Thus observed steady state inequality σ^2_y is higher the higher is the variance of the stochastic shocks to log income, σ^2_ε. But σ^2_y also depends on β. If β = 0.4 as suggested by Krueger (2012), then inequality of income in the steady state will be around 20% higher than the pure variation coming from the shocks. Further, as β increases, so does inequality σ^2_y. The elasticity of inequality with respect to mobility is given by:

$$d(\log \sigma^2_y)/d(\log \beta) = 2\beta^2/[1- \beta^2] \qquad (4)$$

Thus for β = 0.4, the elasticity of inequality with respect to mobility is around 40%, and this elasticity it is increasing in the level of mobility itself.

If "success breeds success", to quote Hart (1976) and shocks are serially correlated, it should be intuitively clear that the inequality effect of mobility is further intensified. To see this, let ε_t be an AR(1) process with autocorrelation parameter θ:

$$\varepsilon_t = \theta\varepsilon_{t-1} + \xi_t \;; \qquad \xi_t \text{ is } N(0, \sigma_\xi^2) \qquad (5)$$

In this case

$$y_t = (\beta+\theta)y_{t-1} - \beta\theta y_{t-2} + \xi_t \qquad (6)$$

For this second order autoregressive process it can be shown using standard methods that the steady state variance is given by:

$$\sigma^2_y = \{(1 + \beta\theta)\, \sigma_\xi^2\}/\{(1 - \beta\theta)[(1 + \beta\theta)^2 - \beta^2]\} \qquad (7)$$

Solon (2004) derives this equation from a model of parents investing in their children's human capital, as well has public provision of human capital. Taking the cross section regression of y_t on y_{t-1} as being the usual estimate of IGE, it can now be shown that this IGE is increasing in the underlying parameters β and θ, which in the Solon model are themselves functions of the raw parameters of the model. Further, the variance of log income in this second order autoregressive process is also shown to be increasing these raw parameters:

"…cross-sectional income inequality is greater in the presence of stronger heritability, more productive human capital investment, higher returns to human capital, and less progressive public investment in human capital." (Solon, 2004, p. 9).

The positive association, between a measure of inequality and a measure of intergenerational mobility, as shown in (3) and expanded by Solon (2004) for higher order processes, has been dubbed "The Great Gatsby" relationship, christened as such by Krueger (2012) based on the empirical work of Miles Corak (2013):

"Recent work by Miles Corak finds an intriguing link between the IGE and income inequality at a point in time. Countries that have a high degree of inequality also tend to have less economic mobility across generations. We have extended this work using OECD data on after-tax income inequality, as measured by the Gini coefficient….. I call this the "Great Gatsby Curve." The points cluster around an upward sloping line, indicating that countries that had more inequality across households also had more persistence in income from one generation to the next."

Notice of course the difference in implied causal interpretation of the association shown in the steady state relationship (3). The Gibrat-Champernowne-Kalecki-Hart interpretation would see the causality as running from β to $\sigma^2{}_y$. The parameter β is the key driver of the stochastic process, leading to the outcome $\sigma^2{}_y$. But in Krueger's interpretation, the causality is the other way around;

"…the U.S. has had a sharp rise in inequality since the 1980s. If the cross-sectional relationship displayed in this figure holds in the future, we would expect to see a rise in the persistence in income across generations in the U.S. as well. While we will not know for sure whether, and how much, income mobility across generations has been exacerbated by the rise in inequality in the U.S. until today's children have grown up and completed their careers, we can use the Great Gatsby Curve to make a rough forecast….The IGE for the U.S. is predicted to rise from .47 to .56. In other words, the persistence in the advantages and disadvantages of income passed from parents to the children is predicted to rise by about a quarter for the next generation as a result of the rise in inequality that the U.S. has seen in the last 25 years. It is hard to look at these figures and not be concerned that rising inequality is jeopardizing our tradition of equality of opportunity." (Krueger, 2012, p. 4).

Corak (2013) also has the causality running from inequality to mobility, and he uses the argument of Roemer (2004) to make the case:

"First, parents may transmit economic advantages through social connections facilitating access to jobs, admission to particular schools or colleges, or access to other sources of human capital. Second, parents may influence life chances through the genetic transmission of characteristics like innate ability, personality, and some aspects of health that are valued in the labor market. Third, parents may influence the lifetime earnings prospects of their children in subtle ways, like through a family culture and other monetary and nonmonetary investments that shape skills, aptitudes, beliefs, and behavior." (Corak, 2013, p. 98).

It should be noted, however, that in these arguments it is not inequality *per se* which is the cause of low mobility (a high β). There is not a model here which leads from a higher $\sigma^2{}_y$ to a higher β. One way to think of this is to go back to (1) and make β itself a function of y. If β is simply an increasing linear function of y, which is consistent with the arguments above, then the average value of β depends on the average value of y and does not depend on inequality in y. For inequality in y to matter for the average value of β in society, the relationship has to be non-linear. Solon (2004) presents a model in which the relationship is in effect non-linear, but he then linearizes it to approximate the standard mobility equation. This then raises an interesting empirical question—is the transmission of advantage disproportionately higher at higher levels of advantage? Furthermore, in his model with public investment in human capital, he shows that "less progressive public investment in human capital" leads to a lower value of the mobility estimate. Is the link then from greater inequality, through a political economy model to less progressive public investment? Such models need to be developed in order to flesh out the causality from high inequality to lower mobility.

3. PCL II

There is a complementary literature on parent's children and luck, also with quite old roots, which is not regression based. Rather, the basic analytical device is the transition matrix. Consider the square matrix A whose typical element a_{ij} gives the probability of the child of a parent with income y_i having an income y_j. So we have parents, we have children, and we have luck. The rows of the matrix add up to unity, and we assume the matrix remains unchanged, in other words, a Markovian setting. Of special interest, as we shall see, are a class of matrices which satisfy the bistochastic property—their columns as well as their rows sum to unity. The question then becomes, comparing two transition matrices A and B (the latter with typical element b_{ij}), which displays "more mobility"?

In an important paper, Shorrocks (1978) formalized a number of view which were, and still are, prevalent in the literature. One such view is what might be termed the "diagonals" view, based on the fact that each diagonal element of a transition matrix gives the probability of staying in the same income state from generation to generation. If every diagonal element of A is smaller than the corresponding diagonal element of B one might say that A is "more mobile" than B, although of course this only induces a partial ordering on the class of transition matrices. Shorrocks calls this relation "monotonicity." The identity matrix is then the extreme of immobility, with children inheriting the income of their parents exactly, with no possibility of escape.

If the identity matrix is the most immobile, what then is the most mobile? Pushing the "diagonals" view to the other extreme, this would be a matrix with zeros in the diagonal, so that no child stays where his or her parent was in terms of income. The child's income could be higher, it could be lower, but it will not be the same. Atkinson (1981) calls this "complete reversal." This is clearest in the 2x2 case where the identity matrix and the complete reversal matrices are given respectively by

$$\begin{bmatrix} 1 & 0 \\ 0 & 1 \end{bmatrix} \text{ and } \begin{bmatrix} 0 & 1 \\ 1 & 0 \end{bmatrix} \tag{8}$$

Relative status therefore switches every generation.

Shorrocks (1978) contrasts the diagonals view with what he calls "perfect mobility", where the rows of the transition matrix are identical to each other. In other words, the prospects for the children are the same no matter what the parents' income. Atkinson (1981) calls this the "equality of opportunity" view, partly in reference to a large popular literature which reached then, and still reaches now, for this characterization, albeit in a non-technical way. Shorrocks (1978) motivates his search for a measure of mobility by observing that "monotonicity" and "perfect mobility" cannot be satisfied simultaneously. This is seen straight away by considering the two matrices:

$$A = \begin{bmatrix} 0 & 1 \\ 1 & 0 \end{bmatrix} \quad \text{and} \quad B = \begin{bmatrix} 1/2 & 1/2 \\ 1/2 & 1/2 \end{bmatrix} \tag{9}$$

Clearly, A dominates B on "monotonicity", while B dominates A on "perfect mobility."

How is a conflict like the one above to be resolved? Atkinson (1981) and Atkinson and Bourguignon (1982) propose that we have to be more explicit about the precise sense in which society prefers one matrix over another. In other words, the social welfare function needs to be specified. This set off a large literature at that time. Atkinson and Bourguignon (1982) considered a two period social welfare function and derived dominance conditions related to the property of the social welfare function. Kanbur and Stiglitz (1986, 2015) also followed the social welfare route, but in the context of infinitely lived dynasties. The Kanbur-Stiglitz approach and results can be illustrated easily in the 2/2 bistochastic case with

$$A = \begin{bmatrix} a & 1-a \\ 1-a & a \end{bmatrix} \quad \text{and} \quad B = \begin{bmatrix} b & 1-b \\ 1-b & b \end{bmatrix} \tag{10}$$

Clearly with $a = 0$ and $b = ½$, we have the situation depicted in (9).

Let the vector of the two incomes be $y = (y_1, y_2)$ with $y_2 < y_1$. Let the discount factor be $r < 1$. Then the present discounted value vector $v = (v_1, v_2)$ for the transition matrix A is given by

$$v^A = y + rAy + r^2A^2y + r^3A^3y\ldots\ldots = [I - rA]^{-1}y \tag{11}$$

with the corresponding expression for B. Expression (11), with A and with B, gives us the vector of "dynastic inequalities" in the two societies characterized by mobility patterns A and B. Noting that for a bistochastic matrix the steady distribution is equal population share at each income level, in the two by two case we can simply look at the ratio $z = v_1/v_2$ as the measure of dynastic inequality.

For the 2x2 case in (10), using the expressions (11), the dynastic inequality measures for society A can be can be written as:

$$z = \frac{(1-ra)k + r(1-a)}{(1-ra) + r(1-a)k}$$

where $k = y_1/y_2 > 1$ (12)

If a is replaced by b in z we get the dynastic inequality in society b. Now, it can be shown that

$$v_1 + v_2 = (y_1 + y_2)/(1-r) \tag{13}$$

and that $$\frac{dz}{da} > 0 \tag{14}$$

In other words, an increase in a induces a mean preserving spread in the vector of dynastic inequalities.

The result in (14) provides a clear ranking of 2x2 matrices using the criterion of dynastic inequality. It also resolves, then, the conundrum of ranking the two matrices A and B given in (9). Clearly, A delivers greater dynastic equality than does B, even though B is often labeled "equality of opportunity." The intuition behind this should be clear. With discounting of the future, the present matters. Equalizing prospects from now on does not handle the fact that there is inequality in the here and now. But reversal of fortunes from generation to generation addresses this asymmetry of time, and delivers a more equitable dynastic outcome. Starting from the identity matrix (*a* close to unity), decreasing *a* will indeed decrease dynastic inequality up to the point where rows are identical. But decreasing *a* further will decrease dynastic inequality further still. For dynastic inequality, therefore, we need to go beyond equality of opportunity.

For the 2x2 bistohastic case we get a complete ordering of transition matrices according to the criterion of dynastic inequality. Kanbur and Stiglitz (1986, 2015) provide a generalization for the n x n case. They show that the dynastic inequality of a society with a bistochastic transition matrix B is a mean preserving spread of the dynastic inequality of a society with bistochastic transition matrix A, if and only if there exists a bistochastic matrix Q such that

$$B = \{(1/r)I\}\ \{I-Q\} + AQ \qquad (15)$$

where, as before, I denotes the identity matrix. The expression (15) can be interpreted as saying that B can be written as a weighted sum of the identity matrix (suitably adjusted for the discount factor r) and A, the weights being given by the matrix Q. In other words, in this generalized sense, B is "closer" to the identity matrix than is A. This is thus a generalization of the 2x2 case, where an increase in *a* moves the matrix closer to the identity matrix and increases dynastic inequality. Once again, however, it can be shown that in the n x n case the equal opportunity matrix is dominated by the complete reversal matrix (Kanbur and Stiglitz, 2015).

For this framing of parents, children and luck, dynastic equality needs going beyond equality of opportunity, it requires actual correction of parental advantages, in the other direction. Thus the dynastic Inequality perspective supports the "less weight in diagonals" view rather than the "rows are closer to being identical" (or "equality of opportunity") view of a "better society." To eliminate dynastic inequality, it is not enough to give the poor the same opportunity as the rich. "Clogs to clogs in three generations" is what is needed.

4. PCL III

Roemer (1998) introduced a formalization of inequality of opportunity. As stated in Roemer (2008), the key step is to

"separate the influences on the outcome a person experiences into *circumstances* and *effort*: the former are attributes of a person's environment for which he should not be held responsible, and effort is the choice variable for which he should be held responsible" (Roemer, 2008).

The practical implementation of this conceptual frame to derive a quantitative measure of inequality of opportunity is well described by Paes de Barros et. al. for their study on Latin America: (2009, pp. 125-126)

"To measure inequality of opportunity for a certain outcome, total inequality in the outcome can be decomposed into two parts: one resulting from circumstances beyond individual control and a second part resulting from unequal individual effort and luck… First, six variables related to circumstances exogenous to the individual were identified from the most comprehensive data sets available: gender, race or ethnicity, birthplace, the educational attainment of the mother, the educational attainment of the father, and the main occupation of the father…. Then the sample was partitioned (in each country) into groups or "cells," such that all individuals in any given cell have exactly the same combination of circumstances. The resulting subgroups are known in the literature as "types." These cells are then compared with one another. The difference in outcomes between cells can be attributed to inequality of opportunity, while the differences within cells can be considered the result of effort or luck." (pp. 125–126). There are also, of course, parametric analogs to the non-parametric method above (see, for example, Hufe et. al., 2015).

Kanbur and Wagstaff (2016) and Wagstaff and Kanbur (2015) provide a comprehensive critique of the Paes de Barros (2009) method from a technical and a conceptual standpoint. Here I focus on just two aspects of this critique, which relate to parents, children and luck. Let us start with luck. Here again there are many related avenues one could follow, including that of the distinction made by Dworkin (1981a, b) between "brute luck" and "option luck"—as the names suggest, the latter is chosen by the individual, the former is not. Take, for example, a risk willingly and fully chosen by two individuals—let it be a sum of money on the toss of a fair coin (Kanbur, 1987). After the lottery, the winner has everything, the loser nothing—sheer destitution. Would we not want to address the outcome of destitution even though it was the result of option luck rather than brute luck? Following Kanbur (1987), Kanbur and Wagstaff (2016, pp. 134-135) argue that:

"….in the case of destitution as an outcome of the lottery choice, our moral intuitions do indeed veer towards ex post redistribution and support for the destitute. To emphasize the point, imagine yourself serving on a soup line of the indigent. Consider then the idea that we would condition the doling out of soup on an assessment of whether it was circumstance or effort which led to the outcome of the individual in front of us to be in the soup line. Surely this is morally repugnant, and it establishes that at least for extreme outcomes the outcome-based perspective dominates any considerations of opportunity. Indeed, this point is taken on board by Bourguignon, Ferreira and Walton (2007) in their definition of equitable development policy which "makes avoidance of severe deprivation a constraint that must be satisfied in the process of pursuing the broader objective of equal opportunity."

Thus extreme outcomes from luck test our intuitions on opportunity and on just reward to choices. Even if a person knew that one of the outcomes of risky choice was destitution, we would not leave that person destitute if that outcome actually comes about. Against the call of "he knew what he was doing" is pitted the call of "tomorrow's hunger cannot be felt today", or "there but for the grace of God go I." Of course redistribution after the event will have incentive effects. So be it. These will have to be taken into account in the final design of policy. The point, however, is that just because luck is option luck does not mean that its outcomes should not be addressed Finally, of course, much of the luck that people face is in fact residual brute luck—insurance markets are not complete for well understood economic reasons (for a classic exposition, see Rothschild and Stiglitz, 1976). Variations in outcome due to these circumstances should then be included in the estimate of inequality of opportunity.

Luck aside, what happens when one person's effort becomes another person's circumstance? Let us return to parents and children. If parents choose to exert little effort and indulge profligate tastes, so they do not have sufficient resources to educate their children, the "circumstances" doctrine would say that the education outcome for the children should be corrected. But this would surely violate the "effort and tastes" doctrine applied to parents, which would say that the outcomes are fine as they are. As Kanbur and Wagstaff (2016, p. 135) comment:

"Equality of opportunity, it would seem, is caught between two inconsistent Old Testament Biblical injunctions from Deuteronomy: "for I, the Lord your God, am a jealous God, visiting the iniquity of the fathers on the children, and on the third and the fourth generations of those who hate Me" versus "Fathers shall not be put to death for their sons, nor shall sons be put to death for their fathers; everyone shall be put to death for his own sin.""

If our moral intuitions side with the argument that irrespective of parental effort which led to them, inequality in circumstance for children is a legitimate target for correction, what then is left of the "effort and tastes" component of the distinction between "inequality of opportunity" and "inequality of outcome"?

5. What's Left of Equality of Opportunity?

This is not the place for a root and branch critique of the equality of opportunity doctrine. There is a large literature, with illustrious philosophers and economists weighing in. It connects also to Sen's (1985) Capabilities Approach, as discussed for example in Kanbur (2016). But in the narrow confines of parents, children and luck the links between equality of outcome and equality of opportunity are interesting, and shed light on the broader debate.

This paper has considered three perspectives on parents, children and luck (PCL), each with a venerable pedigree. The first perspective (PCL I) focuses on the intergenerational elasticity (IGE) of income transition. Within this perspective, the older literature traces the consequences of higher or lower IGE for the evolution of inequality of income. The more recent literature, on "The Great Gatsby Curve", sees the causality running the other way, from current inequality to IGE. The second perspective (PCL II) approaches intergenerational mobility through transition matrices and sets out views on "greater mobility" through this lens. But these views are not necessarily consistent with each other, and a social welfare function approach is needed to pronounce on comparisons between societies. Taking a dynastic inequality approach, Kanbur and Stiglitz (2015) show that "equality of opportunity"—a transition matrix with identical rows--does not necessarily lead to lower dynastic inequality than all other transition matrices. Finally, the third perspective on parents, children and luck (PCL III) is presented by Roemer (1998) and in particular by applications of the framework to quantify "inequality of opportunity". It is argued here that these approaches have serious empirical and conceptual flaws, and may understate the true degree of inequality of opportunity.

So, inequality of outcome leads to inequality of opportunity; equality of opportunity does not lead to highest dynastic equality; and extreme outcomes trump equality of opportunity. What, then, is left of equality of opportunity?

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