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EXPANDING AND MEASURING OPPORTUNITIES

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SUMMARY

If we accept the broad 'equality of opportunity' framework at least as far as its view of what constitutes opportunity, it is circumstances beyond an individual's control (parental characteristics and so on) that have bearing on outcomes of choice. That effectively defines opportunity as that part of outcomes that isn't about choices freely made or brute luck.

A second challenge for opportunity exercises is to define the desired outcome for which we are trying to equalize or create opportunity. People may want the opportunity set required for high income, long life, liberty, happiness, their performance of duty, or their chances of heading to the preferred afterlife. While the opportunity sets frequently mentioned in connection with these different maximands may be correlated, they are also distinct.

The idea that circumstances and free choice can be neatly divided is open to considerable debate. The equality of opportunity framework begs the question, 'what is in the control of the individual?' Preferences not only have a potential genetic and in utero component, they are also socially constructed (who in their right mind would choose to wear bell-bottom jeans today opportunity or no). Note also that achieving 'equality of opportunity' to the extent possible would demand incredibly intrusive (rights-abusing) social policy, and inappropriately prizes egalitarianism over humanitarianism.

What difference does it make moving from equalization to expansion or maximization? Improving equality of opportunity involves reducing the impact of exogenous differences between groups, or correcting or compensating for those exogenous factors as appropriate. Maximizing or expanding opportunity would involve improving the exogenous factors with the biggest ratio of benefit in terms of improved outcomes over costs to improve within a given resource constraint. If equality of opportunity is about 'birth luck egalitarianism'-minimising the variance of birth luck-- maximizing or expanding opportunity is about efficiently raising the average birth luck.

One advantage of 'opportunity expansion' over 'opportunity equalization' is that an accounting between free will and determinism is unnecessary--there is no concern with estimating the impact of genetic or in utero factors, for example. However, if we are worried about maximizing or expanding opportunities rather than equality of opportunities, the approach of defining equal opportunity as the state when measured exogenous factors have no bearings on relative outcomes within a country is inadequate. This is because we cannot take the stock (or flow) of outcomes as a given or an irrelevance.

At the same time, 'opportunity expansion' creates the challenges associated with being at best a conditional maximand: which and whose opportunities are legitimately expanded by how much at whose cost? It is for this reason that it is not clear (to me) there is any advantage to using the language of opportunity or a framework borrowed from discussions of inequality if the practical purpose is to think about ways to increase the probability that poor people get a well-paying job or found a successful enterprise, as it might be. These are good ends simply because most people want them, and getting them will improve their welfare.

Empirically, allowing the stock of outcomes to vary suggests a goal of expanding or maximizing opportunity may involve a markedly different set of policies than equalizing opportunities. This is because variance in opportunities within countries is far smaller than variance across countries, implying a focus on raising national average opportunity may have a far bigger payoff than redistributing opportunities or trying to raise the minimum opportunity to the mean within a country.

For example, if you want to be rich, the most important exogenous determinant of your success at any one time is which country you are born in, not equality of opportunity within that country. More than two-thirds of the variability in incomes across the global population can be explained by the country where people live. That leaves one third of world income distribution to be explained by all exogenous factors within a country and the role played by effort and (in-country) luck. The same finding of the dominance of national factors is also suggested by existing exercises that look at potential 'opportunity sets'.

This suggests that a focus on maximizing or expanding opportunity would be far more focused on national development rather than redistribution. To put it bluntly, if income is the desired outcome, the most central opportunity maximization question becomes: "what causes economic growth."

Two caveats are important. First, note that South Africa is so unequal that moving the average income of the poorest fifty percent to the mean income would increase their average incomes by a factor of five—inequality of opportunity within a country as unequal as this is certainly a major factor in individual opportunity sets.

Second, greater equality of opportunity is likely to be a method to increase absolute levels of opportunity. For potentially linked reasons, studies suggest a link between equality of opportunity and 'opportunity maximization' as measured by incomes.

This suggests we do want to see efforts to reduce parental inequality as well as to provide as close as possible to universal access to services (as well as norms and institutions) that have an outside impact on the opportunity to take part in society as a productive member.

It is effectively impossible to come up with a non-contestable measure of equality of opportunity (or at least 'deserved equality of opportunity'). The same applies to opportunity more generally. At the same time, it is possible to come up with a list of indicators that are at least sometimes correlated with improved equality, reduced impact of exogenous factors on outcomes, and/or (potentially) increased average outcomes.

One considerable and regular empirical factor in opportunity is parental income. If your parents live on \$1 a day, the chance that you will live on \$1,000 a day is extremely limited. This is not even primarily because of the advantages of family inheritance but simply because most who live on \$1 a day live in poor parts of poor countries. The same applies to health and education, as Brunori et. al. have demonstrated by showing the "human opportunities index" is highly correlated with GDP per capita. A parsimonious approach to measure an individual's opportunity for earning income may well be limited simply to parental earnings.

Looking specifically at access to (an existing stock of) jobs, the empirically most significant factors appear to be qualifications, location and transport (ability to move to where the jobs are) and lack of legal or social discrimination. With regard to the creation of additional jobs, this appears to require a stock of educated/qualified managers and a positive business environment (including infrastructure, regulation, and access to finance).²

Given the advantage of parsimonious measures absent strong evidence for more complex approaches, to measure 'expanded opportunity' for income in middle-income developing countries, I would suggest 'opportunity' indicators disaggregated by race/social group, gender and parental income for parental income, stunting, cognitive abilities at age five, learning outcomes at the high school level, final educational attainment and formal sector labor force participation.

² World Bank, 2013

How should these indicators be weighted? One approach (not so far taken) would be to weight them according to their influence on desired outcomes in a specific milieu at a specific time.³ This would only work for indicators that can be disaggregated (close) to the individual level, however. For national level factors, a weighting exercise would be left to rely on highly questionable cross-country regressions.⁴ Any such exercise would be open to considerable debate, and it may have to be accepted that (like the Human Development Index or the Multidimensional Poverty Index) a weighting exercise will be necessarily subjective.

Regardless of weighting, policies that increased the average while decreasing the variance of opportunity indicators would be considered very successful. Policies that achieved only one of increasing the average or decreasing the variance would be considered successful. Policies that had positive effects on one indicator and negative on the other would be considered marginal. Policies that did neither would be considered failures in terms of expanding opportunities.

Table One provides an illustrative set of policies related to particular targets and their potential impact on average and variance performance. It is partial and very much open to empirical challenge. Measuring the success of these policies would be achieved under the best of circumstances through randomized introduction and subsequent evaluation, failing that by using the natural experiment of legal or regulatory change.

It is worth broadening out from equality of opportunity to maximizing opportunity purely on the grounds that everyone in a country might have avoidably constrained opportunity sets based on laws or practices. And fixing some of these practices (less police brutality, as it might be) are 'free.' But it is also worth repeating that maximizing opportunity is likely to involve a focus on the opportunities of the most disadvantaged, both because increasing their opportunity sets may require less resources than increasing the opportunity sets of the privileged but also because providing a minimum opportunity set to allow all people to participate in society is likely to be an opportunity-increasing improvement for all.

INTRODUCTION

This essay discusses opportunities –what they are, the challenges of measuring them, and the difference between approaches based on expanding or maximizing opportunities and equalizing opportunities. It concludes that the concepts are linked, but expanding opportunities would (unsurprisingly) involve a greater focus on raising 'average opportunities' rather than minimizing the variance of opportunities. It also suggests that the development of a robust and widely valid measure of opportunity from empirically weighted components may be practically impossible.

A discussion of either equalizing, expanding or maximizing opportunities has to define the word opportunities and then delineate opportunities for whom, for what, and how they are measured and weighted.

³ We might want to weight on the grounds of offense. Many countries appear more comfortable with advantage due to inherited wealth than those that are the result of discrimination on the grounds of race or sex, for example.

⁴ C. Kenny and D. Williams, 'What do we know about economic growth? or, why don't we know very much?' *World development*, 29(1), 2001, pp. 1-22.

An opportunity is a confluence of circumstances that allows a person to achieve a desired outcome if they act upon it.⁵ If we accept the broad 'equality of opportunity' framework at least as far as its view of what constitutes opportunity, it is circumstances beyond an individual's control that have bearing on outcomes of choice. That effectively defines opportunity as that part of outcomes that isn't about choices freely made, talent or brute luck.⁶

Regarding 'opportunity for whom?' empirical equality of opportunity calculations usually suggest what happens in childhood all counts as exogenous, although note any broad definition of the good life would surely include the quality of its first eighteen years. Again, most discussions are concerned about the opportunities of the native born within a state –putting little or no weight on those born or living abroad.

People may want the opportunity set required for high income, long life, liberty, happiness, their performance of duty, or their chances of heading to the preferred afterlife, for example. To add to the complexity, people usually want to achieve some mix of those ends (or others), differently prioritized and (often) inter-related. And while the constituents frequently mentioned in connection with these different maximands may be correlated, they are also distinct.

Take the association between health and income. While at any one time most countries see richer people living longer lives, the link over time between increased income and improved health is fragile at best at the cross-country level. Many of the most effective tools to increase life expectancy (vaccines, bed nets, antibiotics) are very cheap, and in middle income countries their rollout is more often constrained by institutional capacity or prioritization issues than any fundamental lack of income.⁷ This suggests the opportunity set to maximize health may be markedly different from that to maximize income.⁸

Theoretically, we can measure opportunities towards multiple maximands. We might come up with different measures of how much (inequality of) opportunity there is for making a large income, as compared to reporting oneself at a ten on a ten-point scale of life satisfaction, or living past ninety, and consider all three measures a valid contribution to a discussion of opportunity. We might even embark on a weighting exercise –a multidimensional opportunity index, as it might be—although any weighting would be arguable.

⁵ Compare Sen's capabilities: the ability to achieve particular functioning like adequate nutrition. S. Amartya, *Commodities and capabilities*, (Oxford University Press, 1999).

⁶ R. Aaberge, M. Mogstad, and V. Peragine, 'Measuring long-term inequality of opportunity,' *Journal of Public Economics* 95(3), 2011, pp. 193-204; P. Brunori, H.G. Ferreira and V. Peragine, "Inequality of opportunity, income inequality and economic mobility: some international comparisons." *World Bank Policy Research Working Paper* 6304 (2013). A closely related but empirically distinct definition is luck egalitarianism and is ex-post: there is inequality of opportunity if people who exert the same effort towards a particular maximand achieve different outcomes.

⁷ C. Kenny, *Getting Better Why Global Development Is Succeeding--And How We Can Improve the World Even More* (New York: Basic Books, 2012).

⁸ In part, this reflects the public good nature of health (and education) service provision –and that private income is only a partial measure of access to these public goods. In the late 1990s, 59 percent of urban South Africans living on less than \$2 a day had access to in-house tap water while 34 percent had access to electricity. Amongst urban Indonesians living on less than \$2, only 21 percent had access to in house tap water but 99 percent had access to electricity. Similar incomes translated into markedly different access levels to different public services. Note also that infant mortality was 2.6 percent amongst the Indonesian group compared to 6.9 percent in South Africa, while the percentage of girls aged 13-18 in school was 55 percent in Indonesia compared to 92 percent in South Africa. Banerjee, Abhijit V., and Esther Duflo. "The economic lives of the poor." *The journal of economic perspectives: a journal of the American Economic Association* 21.1 (2007): 141.

For tractability in what follows, I will focus for the time being on the single maximand of financial opportunities for native born adults. Income is the outcome most often used as the measure of success in exercises examining opportunities. But to repeat: this is a considerable over-simplification. People do *not* act solely to maximize income.⁹ Furthermore, the exclusion of non-native born is a morally questionable choice.

CRITICISMS OF THE EQUALITY OF OPPORTUNITY APPROACH

Dylan Matthews makes the broad point that our moral compass should be guided by humanitarianism more than egalitarianism: "I don't want more job opportunities available to people without high school diplomas because it's fairer... I want more opportunities for high school dropouts because I want their lives to be better."¹⁰

Furthermore, to maximize or equalize opportunity would involve massive state intrusion into the choices of parents in particular. Language and piano lessons for all or none (equalization), no language lessons for Jack if the same lessons would have a larger effect on the life chances of Jane and there is only one slot available (maximization), and so on.

The equality of opportunity framework also begs the question, 'what is in the control of the individual?' Not least, there are clear genetic elements to personality. Twin studies suggest genetics may have a significant role to play in levels of income and subjective wellbeing.¹¹ *In utero* conditions for fetuses also considerably impact subsequent outcomes all the way through high school and potentially beyond.¹²

Preferences not only have a potential genetic and in utero component, they are also socially constructed (who in their right mind would chose to wear bell-bottom jeans today opportunity or

⁹ The literature on subjective wellbeing suggests other things matter to quality of life, when you ask people they say other things matter, and when you look at philosophical accounts they suggest other things matter. There are circumstances that could increase opportunities to maximize income that would also considerably reduce circumstances involved in achieving other opportunities that people care about. I could increase my income by working during hours I currently spend with my family. Were I single and childless, the circumstance may well allow me to earn more. It is a trade-off I would not make. This raises another issue: were I to have four kids rather than two, I would have even less time to spend on income generating opportunities. I don't want two more children, but were I to have them I would doubtless value them far more than the lost income. The person presented the opportunity is not the same as the person who has taken it. Which person do we prioritize in our efforts to 'maximize opportunity'?

¹⁰ See Dylan Matthews, (21 September 2015), 'The Case Against Equality of Opportunity,' *Vox*, <http://www.vox.com/2015/9/21/9334215/equality-of-opportunity> (accessed 9/22/2015).

¹¹ Estimates of heritability of IQ within otherwise comparably similar populations range from 50 to 80%, personality traits from 20 to 50%, and height from 70 to 95%. At the same time, environment significantly influences outcomes. Genetically similar North and South Koreans, differ in average height by 6 inches. Johnson, Wendy, et al. "Beyond heritability twin studies in behavioral research." *Current Directions in Psychological Science*, 18 (4), 2009, pp. 217-220. Hyytinen, Ari, et al. "Heritability of Lifetime Income." *Helsinki Center of Economic Research Discussion Paper* 364 (2013). Related to this, note work suggesting that twin studies may over-estimate the role for genetics by studying a narrow socioeconomic range of twins –in samples that include twins from poorer families, for example, the impact of heritability on IQ is reduced to statistical insignificance Turkheimer, Eric, et al. "Socioeconomic status modifies heritability of IQ in young children." *Psychological science* 14.6 (2003): 623-628.

¹² Schlosser, Analia, and Adi Shany. "Out of Africa: Human Capital Consequences of in Utero Conditions." (2015), mimeo, University of Warwick.

no?).¹³ They can be determined by parental personalities and roles (I have no desire to be a king, Britain's Prince Charles undoubtedly does). This all makes a clear separation between choice and circumstance impossible.¹⁴ In short, choices are never completely 'freely made' –they are the product to some very large extent of our nature and nurture.¹⁵

While lack of a clear delineation between choice and opportunity is a concern regardless of the intent to equalize, expand or maximize opportunity, it poses the largest challenge to the concepts or goals of equalization and maximization.

Empirically, inequality of opportunity exercises traditionally divide populations into groups by shared exogenous factors and analyze how much of variation in outcomes is predicted by group membership. For example, de Barros takes measures of gender, race or ethnicity, birthplace, parental educational attainment and father's occupation for a sample of population from a number of Latin American countries and partitions that sample into groups so that all individuals in each group have exactly the same characteristics.¹⁶ de Barros argues that the differences in outcomes between groups can be attributed to inequality of opportunity. If we had a full set of exogenous factors that influence outcomes of interest, then the variance within groups would measure the impact of effort plus luck.¹⁷

But as well as missing the influence of randomly distributed factors like genetic predisposition within these groups as well as the impact of broader preferences, the coarser the groups into which society is divided for these 'inequality of opportunity' exercises, the more they will miss the impact of external environmental circumstances outside the control of the individual.¹⁸ This all suggests de Barros' measures should be seen as a minimum estimate of inequality of opportunity.

HOW IS AN APPROACH DESIGNED TO EXPAND OPPORTUNITY DIFFERENT FROM AN EQUALITY OR MAXIMIZATION OF OPPORTUNITY APPROACH?

If you assume random distribution of luck, talent and personality traits, then any difference in outcomes between two large groups of individuals sorted by exogenous factors is (in some sense) due

¹³See linked discussions in the development literature of 'empowerment' and 'agency.' Alsup and Heinsohn suggest empowerment is "the capacity to transform choices into desired actions and outcomes." Rather than separating outcomes into an opportunity component plus a choice component, they suggest outcomes are the function of choice *limited* by opportunities. They further divide empowerment into personal agency –the capacity to make a choice based on factors including psychology, education, finance and social capital—and an 'opportunity structure' of norms, regulations and laws (Alsup, Ruth, and Nina Heinsohn. "Measuring empowerment in practice: structuring analysis and framing indicators." *World Bank policy research working paper* 3510 (2005).

¹⁴ Kanbur, R. and A. Wagstaff (2014) How Useful is Inequality of Opportunity as a Policy Construct World Bank Policy Research Working Paper 6980

¹⁵ At its furthest extent this suggests determinism, which implies all outcomes are the result of 'luck,' so-defined.

¹⁶ de Barros, Ricardo Paes. (2009) *Measuring inequality of opportunities in Latin America and the Caribbean*. Washington DC: World Bank

¹⁷ Morally it is not clear why luck is considered an acceptable part of inequality in this calculation. Some of that luck may be the result of a conscious choice to take a given level of risk, but much will be the result of the whims of fortune (or 'brute luck'). Why should we consider dramatic differences based on such events 'fair,' even if they do not break the strict inequality of opportunity dictum?

¹⁸ On the other hand, note morality and public policy might suggest it is fair to penalize subgroups that see low average effort, or reward those that see high average effort, as a method to encourage future parents to switch subgroups before they have children. (For example, those who do not finish college have children who earn less. This is no fault of the child, but might encourage the child to finish college herself. That incentive would go away if public policy ensured children of parents who did not go to college had equal opportunities with those who did).

to those factors or their correlates. Improving equality of opportunity would involve reducing these exogenous differences between groups, or implementing policies which reduce their impact on outcomes. This might involve tools such as progressive taxation and transfers alongside ‘equalizing’ methods such as universal preschool access.

By contrast, expanding opportunity would involve improving or mitigating the impact of exogenous factors without (or at least with less) regard to distribution of resulting opportunities. Maximizing opportunity would involve improving or mitigating the impact of exogenous factors with the biggest ratio of benefit in terms of improved outcomes over costs to improve within a given resource constraint. If equality of opportunity is about ‘birth luck egalitarianism,’-minimizing the variance of birth luck—expanding or maximizing opportunity is about (efficiently) raising the average birth luck.¹⁹

An advantage of opportunity expansion over ‘opportunity equalization’ is that an accounting between free will and determinism is unnecessary –there is no need to estimate the impact of genetic or in utero factors, for example. We can focus on reducing the permanent impact of de Barros’ lower-bound broad-band measures that are less controversial such as gender, race or ethnicity, birthplace, or parental educational attainment. A further advantage of the concept of expansion over both maximization or equalization is that it does not set up (equal) opportunity as necessary maximand. Morally, we have seen this appears wise.

At the same time, ‘opportunity expansion’ creates the challenges associated with being at best a conditional maximand: which and whose opportunities are legitimately expanded by how much at whose cost? It is for this reason that it is not clear (to me) there is any advantage to using the language of opportunity or a framework borrowed from discussions of inequality if the practical purpose is to think about ways to increase the probability that poor people get a well-paying job or found a successful enterprise, as it might be. These are good ends simply because most people want them, and getting them will improve their welfare.

Practically, if we are worried about expanding or maximizing opportunities rather than equality of opportunities, the approach of defining equal opportunity as the state when measured exogenous factors have no bearings on relative outcomes does not apply. This is because we cannot take the stock (or flow) of outcomes as a given or an irrelevance. Empirically, variance in opportunities within countries is far smaller than variance across countries. This implies a focus on raising national average opportunity may have a far bigger payoff than redistributing opportunities or trying to raise the minimum opportunity to the mean within a country.

This is worth working through with an empirical example. A number of studies attempt to quantify inequality of opportunity based on different numbers of parental, socio-economic and locational factors across a range of countries. For example, Roemer and Trannoy collect a set of equality of opportunity analyses using indicators including parental income and education, family structure and number of siblings, IQ and body mass index at age 18.²⁰ Reviews suggest that the proportion of total in-country inequality of income that can be explained by such factors varies considerably—with (minimum) values above 30 percent in Guatemala and Panama to below ten percent in Poland and Slovenia.²¹

¹⁹ Term from Anderson, Elizabeth S. "What Is the Point of Equality?" *Ethics* 109.2 (1999): 287-337.

²⁰ Roemer, John E., and Alain Trannoy. "Equality of opportunity." (2013). Cowles Foundation Discussion Paper No. 1921

²¹ Brunori, Paolo, Francisco HG Ferreira, and Vito Peragine. "Inequality of opportunity, income inequality and economic mobility: some international comparisons." *World Bank Policy Research Working Paper* 6304 (2013).

Again, these are minimum estimates that depend on a very partial list of exogenous factors. But (for the sake of the example) take a fully determinist position on inequality within a country, that 100 percent of it is due to inequality of opportunity. Even under these circumstance it appears the role of in-country factors in determining total opportunity is dwarfed by variance between countries –at least in the case of income.

According to the World Bank's PovcalNet, the average monthly consumption of the bottom ten percent of Tanzanians was \$18 in 2012, compared to \$173 for the highest decile. Under our determinist position, assuming 'fixed national opportunities,' the poorest Tanzania might see their monthly rise to \$56 (the mean consumption) under complete equality of opportunity.²² But in the US, the lowest decile sees an average income of \$226 and the top ten percent \$4,848. There is simply no overlap between the income ranges of Tanzania and the US at the decile level. If you want to be rich, the most important exogenous determinant of your success at any one time is which country you are born in, not equality of opportunity within that country. Branko Milanovic suggests that "we can explain more than two-thirds of the variability in incomes across country/percentiles by only one variable – the country where people live."²³ That leaves one third of world income distribution to be explained by all exogenous factors within a country and the role played by effort and (in-country) luck.

Over time, that suggests the impact of economic growth will dwarf that in changers in inequality in determining the opportunity to earn income, as well. Inequality changes slowly, has a minimum value (total equality) and is weakly correlated with average income per capita. Incomes can grow comparatively rapidly and (to date) have no upper bound. In the fifteen years 1999-2013, being an average South African implied your income per capita increased 27 percent compared to being Chinese where incomes increased 248 percent.²⁴ Over a similar time period, South Africa's Gini index has worsened from 58 to 65, while China's has improved from 39 to 37. But the effect of those changes in within-country inequality on relative incomes of the poor across the two countries will be simply dwarfed by changes in relative average incomes between the two countries.

The opportunity set or confluence of circumstances that allows people to have high lifetime earnings involves personal circumstances (relative education, health, contacts, social skills and acceptability) but also and crucially national circumstances (a healthy employment market, a positive environment for founding a startup, national income, institutions and so on). Empirically, it appears that national circumstances matter more than relative personal circumstances in determining outcomes.

The same finding of the dominance of national factors is also suggested by existing exercises that look at potential 'opportunity sets'. Take math scores on PISA –an internationally comparable test of student achievement designed to capture variance in outcomes between well-functioning education systems. The average student in Peru scores the same as someone with the sixth percentile score in Denmark. The average student in Brazil is at the ninth percentile of Danish scores. Even the top ten percent in these countries are performing poorly compared to the European average (see Figure 1).²⁵ At the other end of the learning scale, measures of basic literacy vary between income groups within low- and lower-middle income countries but are bunched close to 100 percent for most upper-middle and high-income countries.

Or look at the availability of employment: there is a strong relationship between a country's GDP per capita and the percentage of a population that is employed by others rather than self-employed (Figure 2) –and between the share of formal sector jobs in all jobs, and between average wages and

²² Accessed 7/27/2015.

²³ <http://www.voxeu.org/article/income-inequality-and-citizenship>

²⁴ Using real PPP GNI per capita, from World Bank databank accessed 9/9/2015

²⁵ Pritchett, Lant. *The Rebirth of Education: Schooling Ain't Learning*. CGD Books, 2013.

GDP per capita.²⁶ Note that high self-employment is not the result of a vibrant individualistic earnings culture, but in the words of La Porta and Shliefer a high number of small informal firms that “far from being reservoirs of entrepreneurial energy.. are swamps of backwardness. They allow their owners and employees to survive, but not much more.”²⁷ As economies grow, they note, productivity and employment in the informal sector stagnates while labor force participation in the formal sector grows.

Efforts to quantify a range of inputs to opportunity come to similar conclusions. De Barros develops a “Human Opportunities Index” based on inputs to opportunity. He takes a subset of goods and services for children including vaccinations, education and access to infrastructure, and calls these ‘basic opportunities.’²⁸ Using a related set of indicators (school attendance for 10-14 year olds, timely primary completion, access to water sewage and electricity), Brunori et al create a human opportunities index for 39 countries that averages scores across these indicators. Because they are zero-one indicators, they do not simply translate to measures of inequality, but it is clear that redistribution within existing levels of service provision would help very little compared to increasing average levels of service provision: Rwanda scores 0.06 out of 100 on the access to sanitation indicator, for example, as compared to Uruguay on 97. And the index overall is very closely correlated to broader measures of development including GDP per capita and the Human Development Index.

This suggests that a focus on “expanding opportunity” would be far more focused on national development rather than redistribution. To put it bluntly, if income is the desired outcome, the most central opportunity maximization question becomes: “what causes economic growth?”

Two caveats are important. First, note that South Africa is so unequal that moving the average income of the poorest fifty percent to the mean income would increase their average incomes by a factor of five –inequality of opportunity within a country as unequal as this is certainly a major factor.²⁹

Second, there is an idea that dates back to at least Adam Smith involving a minimum level of income to allow “going about without shame.” Beyond the moral importance of providing such an income to (as close to) everyone (as possible), such provision can be economically advantageous. For Smith in England in 1776, that income involved ensuring people had sufficient resources to own a linen shirt and shoes. A broader conception would involve the minimum set of opportunities to ensure that, should people so choose, they could easily and fully participate in society. These opportunities might involve a minimum level of assets, but might also involve literacy, numeracy, higher levels of education, language skills, limits to discrimination on the basis of gender, caste and race, and so on.³⁰

Ensuring the minimum set of capacities which allow a person to be an active member of society would be good both for both increasing opportunity and also for reducing inequality of opportunity.

²⁶ World Bank (2013) *World Development Report 2013: Jobs* World Bank and Oxford University Press, Washington DC, 2013

²⁷ La Porta and Shliefer, 2014

²⁸ De Barros uses the extent to which these services are predicted by family income, parental education, gender, family structure and rural/urban location to construct an inequality of opportunity index.

²⁹ PovcalNet suggests mean income is \$320 and the average income of the bottom 50% is \$64.

³⁰ The mere public announcement of caste status before tests opens up large gaps between low and high-caste student test scores in India, suggesting the insidiousness of meaningless divisions on “going about without shame” Hoff, Karla, and Priyanka Pandey. “Belief systems and durable inequalities: An experimental investigation of Indian caste.” *World Bank Policy Research Working Paper* 3351 (2004).

For these reasons, and for all the goal of full equality of opportunity is both morally repulsive and practically elusive, *greater* equality of opportunity is likely to be a method to increase absolute levels of opportunity.

POLICIES FOR OPPORTUNITY

Practical approaches to equalize and enhance opportunity with a particular focus on the poor might (still) start with income. Cross country analysis makes starkly clear that countries with high inequality also see low economic mobility. In countries where the rich are a lot richer than the poor, the chance of moving from poor to rich is far lower. And it worth noting that the lowest share of measured inequality of opportunity in total inequality is found in the most equal countries –inequality of opportunity for income is highly correlated with inequality of income in a manner that is likely bi-causal.³¹ That is why inequality is itself a progenitor of inequality, as is also suggested by the strong stability of inequality levels over time (Figure 4).³² Doubtless related, it is clear that in countries where inequality of income is high also see a stronger correlation between adult wealth and child test scores.³³

The most important measure of global (income) opportunity is the adequate availability of formal sector jobs.³⁴ In turn the strongest correlate to both formal sector employment (and successful firm management) appears to be education levels –in the case of firm management in Brazil for example, 13 percent of informal sector firms are run by college-educated managers compared to 65 percent in the formal sector.³⁵ Again, the World Bank suggests “robust evidence from throughout the world” points to the idea that “an additional year of schooling raises earnings substantially, and that this earnings premium reflects the higher productivity of more educated workers.”

Beyond income and general employment opportunities would be the search for particularly powerful determinants of financial success –and in particular success in the labor market-that may be unequally

³¹ Roemer and Trannoy op. cit. Bricard et al suggest that looking at a European sample inequalities of opportunity for health account for about one half of total health inequalities as measured using subjective indicators Bricard, Damien, et al. "Inequality of Opportunities in Health and the Principle of Natural Reward: Evidence from European Countries." *Health and Inequality*. Emerald Group Publishing Limited, 2013. 335-370.

³² For potentially linked reasons, IMF studies suggest a link between equality of opportunity and 'opportunity maximization' as measured by incomes. Ostry, Mr Jonathan David, Mr Andrew Berg, and Mr Charalambos G. Tsangarides. *Redistribution, inequality, and growth*. International Monetary Fund, 2014.

³³ <http://www.cgdev.org/blog/great-gatsby-curve-younger-and-poorer-how-inequality-explains-learning-outcomes-around-world> Accessed 9/9/2015. In this regard, note the distinction between statuses associated with worse outcomes (for example gender, race, low parental education and income) and 'services' broadly defined that can reduce the impact of those statuses on final outcomes (for example universal health care or preschool provision). While only a few statuses can be morally or practically changed, low parental income can be --through taxes and transfers.

³⁴ Certainly this ranks as a top priority for people in surveys worldwide. C. Kenny, (17 October 2014), Politicians Really Can't Create Jobs, *Bloomberg Business*, <http://www.bloomberg.com/bw/articles/2014-10-27/politicians-really-cant-create-jobs>. It is worth emphasizing that opportunities to create successful formal-sector enterprises as a way out of poverty is a comparatively minor part of the story: the vast majority of informal firms worldwide are grossly inefficient and will remain small however much the barriers to formalization are reduced.

³⁵ La Porta and Shliefer note the median value added by informal firms across developing countries is 15% of that by formal firms (Informality and Development, *Journal of Economic Perspectives* 28, 3, 2014 109-126). They also provide evidence to suggest that informal firms remain small even when the biggest reported barrier to their growth (access to finance) is relaxed, and that regulation is a minor part of the reason that informal firms remain informal.

distributed: 'bottlenecks to opportunity.' Fishkin provides the example of college in the United States: if a college degree has become a widespread requirement for advancement beyond entry-level positions and college requires good grades and a lot of money, the more important are approaches to either (a) provide as close as possible to all adults the grades and financing to attend college or (b) reduce the pervasiveness of college degree requirements.³⁶

Another example of a 'bottleneck' moment might include early childhood development, perhaps best addressed through access to preschool, which has been found in some circumstances to reduce the impact of parental socioeconomic status on children's educational outcomes.³⁷ In Norway, socioeconomic status of parents is an insignificant factor in learning outcomes as measured by PISA test scores. This appears to be linked to a combination of low initial income inequality, widespread access to preschool and low variance in school quality.³⁸ Again, Denmark has done far better than Hungary in ensuring that parental education has little impact on distribution of children's income in part through more equal (pre-)schooling.³⁹

Norms can also be powerful bottlenecks. Despite the fact that gender outcomes in education have converged across large parts of the world, participation in the formal labor force and pay rates remain strongly skewed towards men. This suggests a considerable waste of women's human capital.⁴⁰

And, finally, overall economic policy from fiscal policy through infrastructure provision to business regulation can have a powerful impact on growth and formal sector employment. Reform of business regulations can help the formation and growth of new formal sector businesses, for example, while a considerably over-valued currency can be associated with slower growth.⁴¹

MEASURING OPPORTUNITIES

It is effectively impossible to come up with a non-contestable measure of equality of opportunity (or at least 'deserved equality of opportunity'). The same applies to opportunity more generally. Not least, any list of factors equalizing or increasing opportunity will be context- and inter-dependent in ways that will leave considerable space for empirical debate. The context-specificity of such an approach might limit the external validity even in the same country in a later period. As one example, poorer countries see a significant return to secondary education but China has seen the wage premium to secondary school stagnate between 1992 and 2008 all while that to a college education doubled.⁴²

Brunori et al use a 'dissimilarity index' which estimates variation in access to services that make up the human opportunities index across groups based on exogenous factors. They can find no significant link between their Human Opportunities Index and their inequality of opportunity measure (admittedly on a small sample of countries). Simply, it is difficult to find robust causal relationships

³⁶ Fishkin, J. The How of Unequal Opportunity *Philosophical Topics* 40, 1, Spring 2012.

³⁷ Cunha, Flavio, and James J. Heckman. "The economics and psychology of inequality and human development." *Journal of the European Economic Association* 7.2-3 (2009): 320-364.

³⁸ See, for example, Haveman, Robert, and Barbara Wolfe. "The determinants of children's attainments: A review of methods and findings." *Journal of economic literature* (1995): 1829-1878.

³⁹ Roemer, John E. "Economic development as opportunity equalization." *The World Bank Economic Review* (2013): lht023.

⁴⁰ <http://www.cgdev.org/blog/going-beyond-investment-close-gender-gap>? Accessed 9/9/2015.

⁴¹ World Bank, 2013

⁴² Ge, Suqin, and Dennis Tao Yang. "Changes in China's wage structure." *Journal of the European Economic Association* 12.2 (2014): 300-336.

across a range of circumstances between inputs and outcomes, with parsimonious approaches delivering much the same statistical strength as more complex analyses.

At the same time, it is possible to come up with a list of indicators that are at least sometimes correlated with improved equality, reduced impact of exogenous factors on outcomes, and/or (potentially) increased average outcomes. This might point in the direction of where policy interventions can help maximize (relative) opportunity.

One inevitable factor in opportunity is parental income. If your parents live on \$1 a day, the chance that you will live on \$1,000 a day is extremely limited. This is not even primarily because of the advantages of family inheritance but simply because most who live on \$1 a day live in poor parts of poor countries. The same applies to health and education, as Brunori et. al. have demonstrated by showing the human opportunities index is highly correlated with GDP per capita. A parsimonious approach to an individual's opportunity for earning income may well be limited simply to parental earnings.

What other factors beyond the control of the individual are at least sometimes correlated with lower or higher outcomes of concern?⁴³ At the level of the individual, school attendance, school completion and test scores, weekly hours of labor completed by children, access to water, sewage and electricity, vaccination rates, sleeping under a bed net, antibiotic access, basic health care and measures of nutrition have been proposed as factors. At the national level, factors including a healthy employment market, a positive environment for founding a startup, peace, security, corruption, rule of law, (anti-)discriminatory laws and norms that depress the opportunities for groups including women and minorities.⁴⁴

Looking specifically at access to (an existing stock of) jobs, the empirically most significant factors appear to be qualifications, location and transport (ability to move to where the jobs are) and lack of legal or social discrimination. With regard to the creation of additional jobs, this appears to require a stock of educated/qualified managers and a positive business environment (including infrastructure, regulation, and access to finance).⁴⁵

Given the advantage of parsimonious measures absent strong evidence for more complex approaches, to measure 'expanded opportunity' for income in middle-income developing countries, I would suggest opportunity indicators disaggregated by race/social group, gender and parental income for parental household income, stunting, cognitive abilities at age five, leaning outcomes at the high school level, final educational attainment and formal sector labor force participation.

How should these indicators be weighted? One approach (not so far taken) would be to weight them according to their influence on desired outcomes in a specific milieu at a specific time.⁴⁶ For example: the relation between stunting at age five and adult earnings in South Africa in 2015. Any such exercise would be open to considerable debate, and it may have to be accepted that (like the Human

⁴³Cornia, for example, suggests the decline in inequality in Latin America over the past two decades is linked to more progressive tax and transfer policies but also widening access to secondary education and stronger labor protections. Cornia, Giovanni Andrea. *Inequality trends and their determinants: Latin America over the period 1990–2010*. Oxford University Press, 2013.

⁴⁴Hoff, Karla, and Priyanka Pandey. "Discrimination, social identity, and durable inequalities." *The American economic review* (2006): 206-211.

⁴⁵World Bank, 2013

⁴⁶We might want to weight on the grounds of offense. Many countries appear more comfortable with advantage due to inherited wealth than those that are the result of discrimination on the grounds of race or sex, for example.

Development Index or the Multidimensional Poverty Index) a weighting exercise will be necessarily subjective.⁴⁷

Regardless of weighting, policies that increased the average while decreasing the variance of opportunity indicators would be considered very successful. Policies that achieved only one of increasing the average or decreasing the variance would be considered successful. Policies that had positive effects on one indicator and negative on the other would be considered marginal. Policies that did neither would be considered failures in terms of expanding opportunities.

Table One provides an illustrative set of policies related to particular targets and their potential impact on average and variance performance. It is partial and very much open to empirical challenge. Measuring the success of these policies would be achieved under the best of circumstances through randomized introduction and subsequent evaluation, failing that by using the natural experiment of legal or regulatory change.

CONCLUSION

Until this point, the focus has remained largely on income. Note again that people do *not* act solely to maximize income. What difference does having made that simplification imply?

In regard to other maximands as much as with income, moving from concern with 'equality of opportunity' to 'expanding opportunity' is likely to have a considerable impact on what are the primary policy concerns however 'opportunity of what' is defined. This is because for most other things that people might want to maximize—including health and (as we have seen) educational outcomes—the variance within countries is dwarfed by the variance between countries.⁴⁸ Take a fairly unarguable part of the good life—being alive in the first place. Looking at inequality of mortality outcomes within South Africa is important, but the South African average is also far below that in (as it might be) Norway. Minujin and Delmonica suggest bottom and top income quintiles within developing countries often see a twofold difference in child mortality, for example.⁴⁹ This compares to a six-fold difference in child mortality rates between the poorest and richest developing countries. Again, looking at potential maximands like 'liberty' these are clearly and significantly nationally determined.⁵⁰ Within a country no-one may have the right of free speech. There is no variation of outcome between groups, but that does not mean there is no opportunity set to be expanded.

If anything, a concentration on expanding access to opportunities for non-income components of the good life would move even further away from a focus on inequalities within a country. That is because even more than with income, there has been a strong global trend across all countries to better outcomes in areas covered by measures like the human opportunities index. Kenny and Casabonne find that even over periods as long as seven decades, more than ninety percent of the change in infant

⁴⁷ Note also this would only work for individual indicators. For national level factors that are empirically more important, a weighting exercise would be left to rely on highly questionable cross-country regressions. Kenny, Charles, and David Williams. "What do we know about economic growth? or, why don't we know very much?" *World development* 29.1 (2001): 1-22.

⁴⁸ This is not true of subjective wellbeing at least as usually measured—see Helliwell, John F., Richard Layard, and Jeffrey Sachs. "World Happiness Report." (2013), Columbia University.

⁴⁹ Alberto Minujin and Enrique Delamonica Mind the Gap! Widening Child Mortality Disparities *Journal of Human Development* Vol. 4, No. 3, November 2003

⁵⁰ Bricard et al suggest that looking at a European sample inequalities of opportunity for health account for about one half of total health inequalities as measured using subjective indicators. Bricard, Damien, et al. "Inequality of Opportunities in Health and the Principle of Natural Reward: Evidence from European Countries." *Health and Inequality*. Emerald Group Publishing Limited, 2013. 335-370

mortality over that time across countries can be explained by a common time trend –suggesting the considerable importance of global factors in explaining the dramatic decline in mortality.⁵¹ A policy of ‘maximizing opportunities’ so measured would not only prioritize national development but global technological progress like vaccine development.

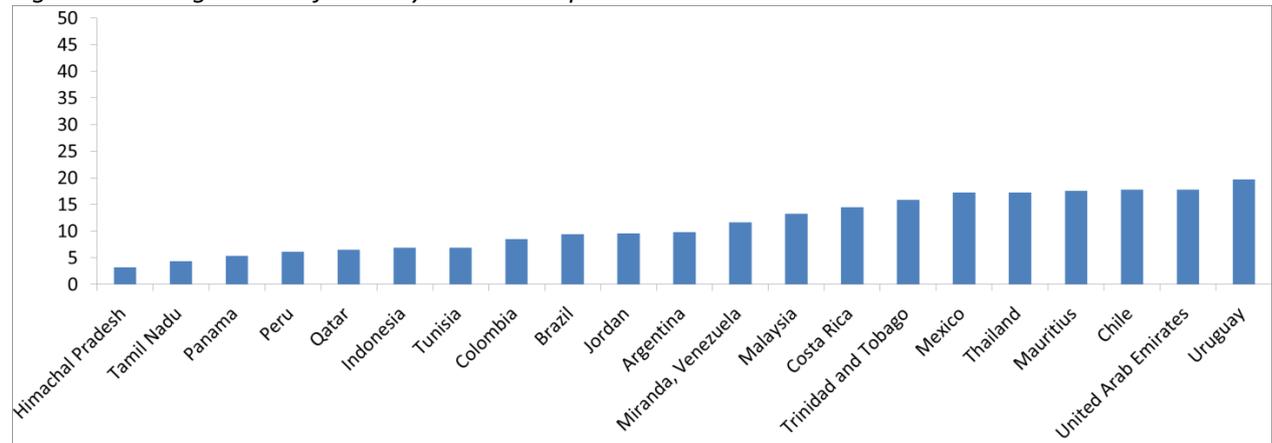
With regard to any potential maximand, it is worth broadening out from equality of opportunity purely on the grounds that everyone in a country might have avoidably constrained opportunity sets based on laws or practices. And fixing some of these practices (less police brutality, as it might be) are ‘free.’ But it is also worth repeating that efficiently expanding or maximizing opportunity is still likely to involve a focus on the opportunities of the most disadvantaged both because increasing their opportunity sets may require less resources than increasing the opportunity sets of the privileged but also because providing a minimum opportunity set to allow all people to participate in society is likely to be an opportunity-increasing improvement for all.

In developing countries in particular which are clearly a long way from any ‘binding constraint’ on maximum possible outcomes of interest, a focus on expansion rather than equalization of opportunity towards maximands seems appropriate –but one remains the adjunct of the other. And all countries see ‘dollar bills on the sidewalk’ when it comes to both increasing and equalizing opportunities— notably in discriminatory laws and practices.

⁵¹ Casabonne, Ursula, and Charles Kenny. "The best things in life are (nearly) free: technology, knowledge, and global health." *World Development* 40.1 (2012): 21-35.

APPENDIX 1

Figure 1: Average Score of Country Students Expressed as a Percentile Score on PISA Math Scores



Source: Pritchett

Figure 2: Percentage of Richest/Poorest Quintile by Country that Learned Basics in Reading



Source: <http://www.education-inequalities.org/>

Figure 3: Self Employment and Income

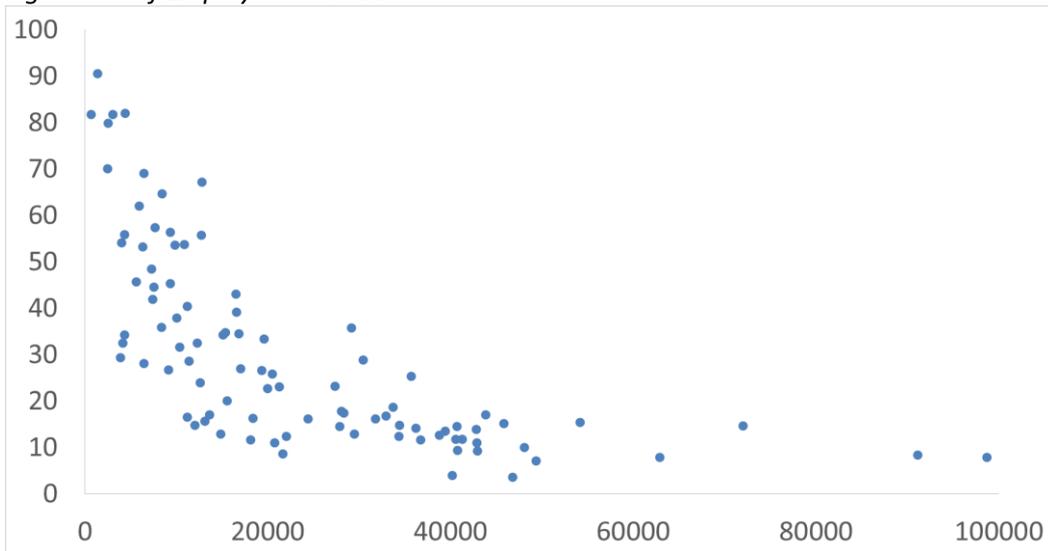
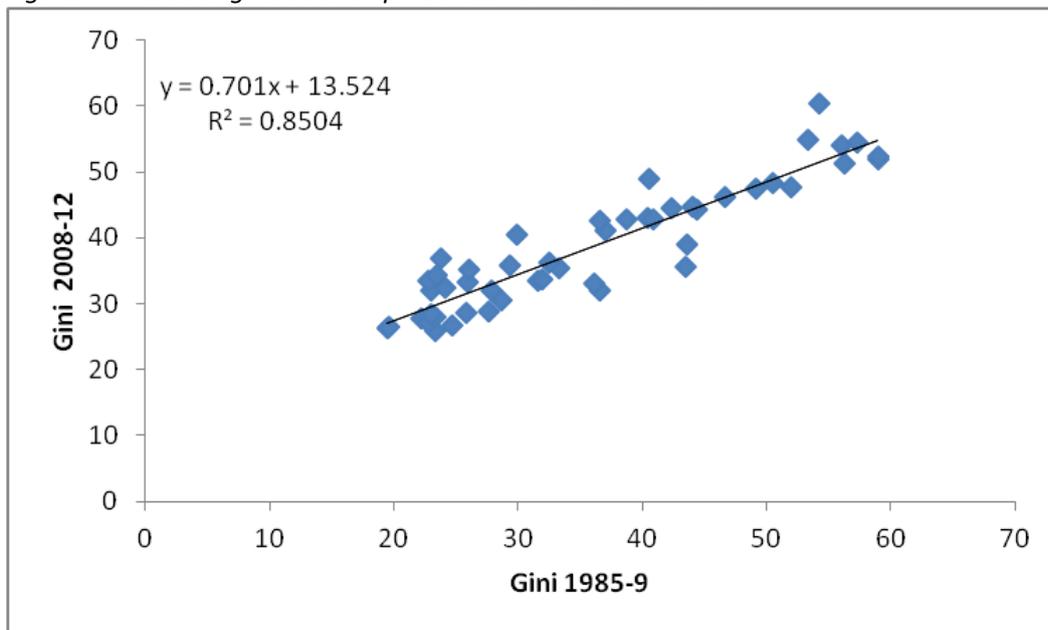


Figure 4: The Strong Relationship Between GINIs Over Time



Source: WDI (average Gini's over the two periods for 49 countries with data)

APPENDIX 2

Table One: Illustrative Scoring for Select Policies Designed to Improve Outcome Performance

Outcome	Policy	Impact on Average	Impact on Variance
Stunting	Universal vitamin A supplements	Increase	Reduce
Learning outcomes at high school level	Introduction of greater school choice/independence	Increase?	Increase?
Learning outcomes at high school level	Universal free secondary education	Decrease?	Reduce?
Formal labor force participation	Removing legal barriers to women's employment	Increase	Increase
Formal labor force participation	Remove limits on housing density in high-employment areas	Increase	Increase
Formal labor force participation	Minimum wage rules	Decrease?	Decrease?