Introduction to the symposium on “Inequality: new directions”

Frank Cowell · Ravi Kanbur

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Forty years ago economists’ thinking about inequality underwent a revolution. By explicitly linking inequality and welfare economics Tony Atkinson and Serge Kolm inspired fundamental work on the nature of economic inequality, on the role of social values and moral intuition in the assessment of income distributions and on the structure of several classes of related measurement problems in poverty, mobility, polarisation and other fields. The huge theoretical literature that resulted was accompanied by extensive empirical and policy analysis as abstract ideas were converted into practical tools. Kolm and Atkinson [1, 2] laid the basis for the field of distributional analysis as we know it today.

To mark this fortieth anniversary, in September 2009 Cornell University and the London School of Economics organized a conference, “Inequality: New Directions,” in Ithaca, New York. The focus was on identifying new challenges in the field and on taking stock of the extraordinary developments that followed the seminal contributions. This symposium grows out of that conference, with papers being selected subject to the standard refereeing procedures of the Journal of Economic Inequality.

Appropriately, the founders of the modern literature lead off this symposium. In “Lateral Thinking”, Tony Atkinson acknowledges the thinking that led him to draw on the then emerging literature on measurement of risk. But he cautions against simplistic extensions of the now common approach in measuring income inequality to the measurement of inequality in other dimensions such as health, or to the visual portrayal of achievements in multiple dimensions. He argues that the theory of copulas in the statistics literature can provide insights into measurement of multi-variate inequality, with the copula function as a tool to “separate changes in the

F. Cowell (✉)
London School of Economics, London, UK
e-mail: f.cowell@lse.ac.uk

R. Kanbur
Cornell University, Ithaca, NY, USA
URL: www.kanbur.dyson.cornell.edu

margins from changes in the degrees of interdependence.” Multidimensionality is also a focus of Serge-Christophe Kolm’s paper, “Inequality, New Directions: Full Ethical Foundations and Consequences.” Referring back to the equally distributed equivalent reference point introduced in the two seminal papers, Kolm argues that multidimensional inequalities can be characterized using “equal-equivalent manifolds.” The other ten papers pursue the following themes arising from the Atkinson-Kolm approach: Rankings and Dominance, Empirical and Policy Applications, Decomposition, and Multidimensional Issues.

1 Rankings and dominance

It is well known that when Lorenz curves intersect, so that second-order dominance does not hold, higher-order dominance conditions can be invoked, but that these are difficult to interpret. In their paper, “Robust Inequality Comparisons”, Rolf Aaberge and Magne Mogstad return to the problem of ranking Lorenz curves when they intersect. They relate generalized Gini families of inequality measures to different degrees of Lorenz dominance, and apply the theoretical results to the evolution of Norwegian income distribution.

Alessandra Michelangeli, Eugenio Peluso and Alain Trannoy introduce two new dominance orderings in their paper, “Detecting a Change in Wealth Concentration without the Knowledge of the Wealth Distribution.” They introduce a Generalized Top Lorenz (GTL) test and an associated “affluence ordering.” It is shown that if the relationship between consumption and wealth is concave, as established in standard consumer theory, then the GTL or affluence ordering test applied to consumption distributions also holds for the associated wealth distributions. The method is of great interest because of course consumption data are more readily available than data on wealth. The theoretical results are applied to US data, with a focus on the period 1980 to 2002.

2 Empirical and policy applications

Richard Burkhauser, Stephen Jenkins, Shuaizhang Feng and Jeff Larrimore highlight the importance of careful empirical work in actual measurement of inequality, whatever the normative foundations of inequality indices in play. In “Estimating Trends in US Income Inequality Using the Current Population Survey: the Importance of Controlling for Censoring,” they focus on the topcoding of incomes in the Current Population Survey (CPS), which inevitably means it is difficult to gauge changes at the top of the income distribution. This is remedied by using more complete internal Census Bureau versions of the CPS data. They conclude that the increase in US inequality slowed markedly after 1993.

The implications of alternative degrees of inequality aversion in the social welfare function for policy, particularly for tax policy, has been an important element of the public economics literature. In “Charitable Conservatism, Poverty Radicalism and Inequality Aversion” Ravi Kanbur and Matti Tuomala examine two formulations of the social-welfare function—“charitable conservatism” and “poverty radicalism”—in terms of their implications for optimal taxation and contrast the outcomes of these

criteria with those emerging from low or high inequality aversion within an Atkinson-Kolm framework.

3 Decomposition

Inequality decomposition by income source and by sub-group developed independently as separate strands within the post-Atkinson/Kolm literature. In “Inequality Decompositions: A Reconciliation,” Frank Cowell and Carlo Fiorio use regression-based methods to show how these two strands can be approached in a common analytical framework. The theory is then applied to an analysis of changing contributions to inequality in the United States and in Finland. It is shown that one can use the methodology to distinguish between explanations of inequality “that rely solely on a breakdown of the factors that underlie predicted income and the breakdown of inequality of observed income.”

Arthur Charpentier and Stéphane Mussard examine the Shapley-value approach to inequality decomposition in their “Income Inequality Games.” They extend the usual “additive income sources inequality games” to multiplicative inequality games and also to multiplicative poverty games. For inequality indices, they show that multiplicative games provide results that are dual to the conventional results. Moreover, multiplicative games can be the basis for interpreting Shapley value based decompositions of poverty indices such as the Sen-Shorrocks-Thon poverty index.

4 Multidimensional issues

Buhong Zheng’s “A New Approach to Measure Socioeconomic Inequality in Health,” uses an income-health matrix and poses the question “If a society can choose between two alternative income-health matrices, which matrix should it choose?” A dominance assumption is made which essentially means that higher income individuals have better expected health than lower income individuals. Given this the author derives conditions for ranking health distributions in terms of welfare-dominance and inequality-dominance. The theoretical results are then applied to data from the U.S. and Canada.

Joseph Deutsch and Jacques Silber’s paper, “An Ordinal Approach to the Study of Life Chances in Latin America” uses the Zheng results, but applied to matrices which show, for example, the income of an individual and the education level of that individual’s parents. They check for the dominance assumption for educational level of parents, and then proceed to check for dominance of matrices in comparison with each other.

François Bourguignon’s “Non-anonymous Growth Incidence Curves, Income Mobility and Social Welfare Dominance,” takes the two dimensions—today’s income and tomorrow’s income—to be continuous variables and develops techniques to assess the distributional incidence of growth. This is normally done through “growth incidence curves” which ignore any relationship between pre growth income and post growth income for a given individual. In other words this anonymity rules out of court any discussion of income mobility. The paper develops “non-anonymous” growth incidence curves, where income growth is plotted against the quantiles of

the pre-growth distribution. Dominance criteria are derived for these curves, which generalize the standard criteria for growth incidence curves, and are applied to cross-country data.

Suppose income is determined by several factors, some of which are more relevant than others in normative evaluation. How much inequality is left if we consider only “relevant” factors? The paper by Ingvild Almas, Tarjei Havnes and Magne Mogstad, “Baby Booming inequality? Demographic Change in Norway, 1967–2000,” focuses on the relationship between the age distribution of the population and income distribution. How much are changes in inequality over time due to changes in the age structure of the population? The authors show that as the large baby boom cohorts in Norway reached the peak of their lifetime earnings profile in the 1980s, this contributed to rising inequality in the national income distribution. But by how much? The answer depends on how the adjustment is done for the evolution of the age structure: the proposed method suggests a decline in age-adjusted inequality over the period 1967–2000.

Adjusting for factors that are not relevant for assessing inequality is at the heart of the growing literature on the measurement of inequality of opportunity. In “Measuring Inequality of Opportunity with Imperfect data: the case of Turkey,” Francisco Ferreira, Jérémie Gignoux and Melten Aran replace the actual distribution of income with a “smoothed” distribution, the smoothing being the replacement of each income in a salient group by the mean income of that group, and then constructing the national income distribution across these mutually exclusive and exhaustive groups. Inequality of opportunity is the “between-group” contribution to inequality arrived at through a decomposition by sub-groups. The value and power of the approach rests on the choice of groups, because it is argued that inequality within these groups should not matter to measurement of inequality (being the result of differences in “effort”), while inequality between these groups should matter (being the result of “circumstance”). The application to Turkey shows how existing data sources can be used to construct measures of inequality of opportunity.

The papers in this symposium show that the research on inequality which was started four decades ago with the publication of [1, 2] is vibrant and advancing in new directions. In theory, empirics and policy, the concerns of the foundational papers are still present, but are taking new forms and addressing new issues as they emerge.

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