Innovation and Inequality: A View from the South

Susan Cozzens, Georgia Institute of Technology
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Global inequality is a crucial problem, distinct from within-country or between-country inequalities. An examination of global inequality focuses on the gap between the world's richest households – some of whom live in poor countries – and its poorest – most of whom live in the Global South. The recent attention to inequality in the Northern press, politics, and scholarship has drawn attention to its rise in affluent countries, but has not fully come to grips with the global dynamics of the phenomenon. Converging technologies enabled by machine learning and artificial intelligence have been highlighted as an emerging threat to employment in countries with high skill levels, but the relevance of these changes for the vast numbers of unemployed living in the "black holes of the Information Economy" (Castells 1996) is not clear.

The basic argument of this note is that innovation and technological change has disproportionately helped the rich, both through the accumulation of wealth and through improvements in life capabilities. The gap between rich and poor in life capabilities will continue to widen unless the innovation agenda is transformed.

1. Global inequality

Global inequality is measured by combining data from household surveys in over 100 countries (Milanovic 2007, 2016).

- Global inequality is higher than the inequality within any one country, even the most unequal such as South Africa and Colombia. It has been rising steadily for several decades, if one sets aside the influence of China and more recently India.
- Rising incomes in China and India have been changing the shape of the global income distribution (Milanovic 2016, p. 32). What used to be a bimodal distribution with one hump for affluent and another for less affluent countries, is moving towards a single peak, as some Chinese and Indian families move into a "global middle class" (2016, p. 32). Household incomes are indeed merging into one global distribution.
- With this movement, the global Gini index has been declining (Milanovic 2016, p. 121), perhaps by as much as three points between 2008 and 2011, to about .67 (Milanovic 2016, p. 118). However,

  > In 2011, China's mean per capita income … was greater than the mean incomes of 49 percent of the people in the world. The world will very soon be in a position where China's high growth rate begins to add to global inequality, not detract from it. (Milanovic 2016, p. 173)

- Asian families account for the bulk of the change. Latin American and African economies are not converging with those of the West; some African countries indeed have lower income per capita now than in 1950 (Milanovic 2016, p. 172).

Poverty anchors the lower end of the global income distribution. One and a half billion people live on less than \$1.25 per day, and over four billion on less than \$5 per day.[1] The map by country of extreme poverty shows that more than 20 percent of the population of India are in that condition, and

[1] http://www.globalresearch.ca/one-and-a-half-billion-people-live-on-less-than-1-25-per-day/5443472.

over 40 percent in many African countries, some as high as 80 percent.[2] A map by national level, however, does not provide the relevant details. The large majority of the world's poor live in rural environments.[3] Poverty in the countryside has been driving people into the cities for decades, but economic opportunities have not met demand there. In countries that urbanized some time ago, the bulk of the poor are living in cities, often in crowded, infrastructure-poor areas called "slums" in the U.S., but "favelas," "barrios," or other local terms in other places. In these areas, housing is substandard and clean drinking water, basic sanitation, and electricity are often missing.

Can the lives of people living in these areas be transformed with radical changes in income distribution within their countries? Probably not. Redistributive policies have made a difference in some middle-income countries, as the bolsa familia did in Brazil. But as long as global wealth is concentrated in the North, redistribution within the South will not be enough to close the global gap. Do the cross-national economic relationships described in the latest writings on inequality affect the lives of these poor people? Certainly. When the returns on capital mostly leave the South and move North, local resources for development are depleted.

There is agreement on the basics needed to address the challenges of global poverty: quality education, more widely-spread; provision for basic health for everyone; decent housing with infrastructure for clean household water and adequate sanitation; and employment opportunities. These elements have been part of the international development goals for many years. Several recent studies (Cingano 2015, OECD 2015, IMF 2015) have called out the importance of "inclusive development," making equitable arrangements for these development basics, extending across genders, religious groups, and other divides within countries.

2. Global Innovation

Innovation broadly conceived can help to meet these development challenges, but in its current dominant form, it does not. In the classic literature of the economics of innovation, private firms are the driving force.[4] They seek competitive advantage in the market by introducing new products that give them a temporary monopoly. By charging high prices during the period of temporary monopoly, the firm makes profits and grows. Introducing new processes can result in competitive advantage if that step reduces costs or increases productivity. In this view, firms drive innovation in order to survive and win in the marketplace. Ideas about how firms innovate have evolved, as the process itself has evolved. In the 1950s and 1960s, the focus was research and development within firms. Companies invested strategically in in-house research in order to develop new products that would give them that temporary monopoly. In a later stage of competition, firms reduced their in-house efforts but reached out actively to university partners for the new ideas that could lead to new products. Firms are now seen, however, as information gathering and processing organizations, that draw from a wide array of sources both inside and outside to innovate in many ways to produce competitive advantage.

Drawing on this economic model of where technological innovation comes from, industrial policies for a country or region typically focus on creating the conditions for a set of firms in that geographic area to, at a minimum, achieve and maintain competitive advantage and therefore bring

[2] http://povertydata.worldbank.org/poverty/home/.
[3] http://www.un.org/en/globalissues/briefingpapers/ruralpov/index.shtml.
[4] This section draws on "Technologies and Innovations: Contributing to Peace, Stability, and Fairness," prepared as background for the Congress of Vienna 2015, supported by the Chumir Foundation.

jobs and wealth to the region; the dream is to create a disruptive technology that upgrades local wealth dramatically. The efforts of local or national leaders go into stimulating economic activity per se, on the assumption that what benefits some will eventually benefit all. The distributional approach is "trickle down." This approach has its prominent critics (for example, Arocena and Sutz 2010). Innovation in the public sector or at the community level is not easily explained with theories of temporary monopoly or market advantage, even when it has technological components. But innovation in these settings is nonetheless seen as a process that produces benefits by adopting or developing new technologies or processes. Therefore broader definitions of innovation and innovation policy are often adopted among those who study its potential for reducing inequalities, including attention to its outcomes (Chataway, Hanlin et al. 2014). In some key areas, public sector and private sector technological innovation are intertwined, for example, in the interdependence of the aerospace and computer industries with military technologies.

In this standard view, innovation is likely to be biased towards the needs of affluent consumers, since it seeks market success above all other goals (Cozzens 2010). National "innovation" policies reinforce that tendency, since they are oriented to economic growth above all other goals. International agreements like TRIPS, the trade related intellectual property agreements that are part of the World Trade Organization treaty, likewise reinforce the benefit to firms of using innovation to create a temporary monopoly and collect monopoly "rents." The digital age has made the global distribution of some products almost costless, thus making markets thousands of times bigger and allowing for larger profits in less time. Even for physical goods, decreased transportation costs and better production coordination through information technologies have allowed capital to become much more mobile. In turn, the mobility of capital decreases the ability of national policies to regulate production.

Thus, technological change becomes part of the global inequality problem, unless it is specifically designed to do the opposite (Cozzens 2008).

3. The Coalition for Change

The most prominent of the contemporary theorists of inequality, Piketty (2014), has rather apologetically proposed a tax on capital as part of the solution to what he sees as an inevitable gap between the return on capital and the return on labor. The idea matches the "punishment" to the "crime" very well, and he is apologetic because he cannot picture the decision making process that would bring it into practice.

This lack of imagination comes from not answering the question of what the fund would be used for. As soon as we assume that it will be used for development, the membership of the coalition for change becomes clear. Leadership might come from across the development community, including development banks, private foundations, billionaires, sovereign funds, or big corporations. Those who hold wealth are getting a handsome enough return to spare the tax, especially since everyone would benefit from the growth that would result in improving living standards for the world's poor. As compared with land reform or nationalization of assets, the tax on capital appears to be a moderate alternative.

Once the fund is established, how better could it be invested than in pro-poor innovation, the kind that makes lives better at the bottom of the global income scale? This might take the form of supporting grass-roots innovation and accompanying business opportunities in poor communities; frugal innovation that makes new capabilities available to more people by lowering costs; or programs that bring the expertise of researchers together with the wisdom of poor communities to solve the problems of daily life. While innovation for luxury markets is inevitably limited, innovation that serves needs across the full scale of global household incomes and creates livelihoods in poor communities has larger and more sustainable prospects, with benefits for everyone in the end.

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