Technological Innovation, Global Justice and Politics of Development

Theo Papaioannou

DIME, FINNOV, IKD Workshop on
Innovation and Inequality: New Indicators from Pharma and Beyond

Sant'Anna School of Advanced Studies, Pisa, Italy
15-16 May 2010

Introduction

- The importance of innovation in human development is undeniable.

- However, innovation has not been available to all individuals and their societies.

- Unequal generation and diffusion of innovation constitutes a major problem of global social justice: *whatever innovation is generated and how much is diffused are subjects to choices of human beings and therefore, these choices ought to be guided by political principles of justice* (Buchanan et al, 2009).

- The trouble is: neither innovation theory nor the theory of global justice alone provides solutions to this problem.

- The aim of this paper is to bridge the gulf between the literatures of technological innovation and global justice by addressing the following questions:

1. Can the innovation process as such be shaped by legitimate claims of distributive justice?

2. If so, what is the implication for politics of development?

The Argument

- Technological innovation can satisfy minimum requirements of global justice i.e. the elimination of extreme deprivation (lack adequate food, shelter, safe drinking water, serious preventable diseases, etc) through redistribution, successful public action and campaigning against unjust innovation diffusion.

- This implies that politics of development should strengthen redistributive systems (e.g. health systems) and support global social movements against current IPR regimes, providing alternative incentives for successful generation and application of new scientific knowledge especially in developing countries.

Innovation Theory Versus Global Justice?

Innovation Theory

- Technological innovation is the main source of economic dynamism within modern capitalism (Marx, 2000; Schumpeter, 1961).

- Productivity growth and increase per capita incomes depends upon a continuing process of technological change (Freeman, 1987).

- The recognition of relationship between innovation, dynamism and high rates productivity growth constitutes the very foundation of today's innovation theory.

- Indeed, recent experience of some Asian countries (e.g. China) reveals that increase of scientific and technological capabilities and high rates of economic growth have led to a reduction of absolute poverty.

- However, some other rapidly growing countries (e.g. India) have made little progress in the levels of absolute poverty.

- In many African countries poverty levels have grown despite high rates of growth (Sub-Saharan Africa has posted an increase of 1.2% a year between 2000 and 2005, according to UNDP, 2005b).

- Also, Latin America continues to be the most unequal region of the world (Sutz and Arocena, 2006).

What is Wrong with Innovation Theory?

- However crucial economic growth is for meeting the development needs of human beings, the overemphasis on this indicator divorces innovation from another essential element of development: social justice.

- Social justice = equal distribution of resources and/or capabilities to each member of society so that he/she can be free to choose the kind of life he/she wants to live.

- The problem is: theorising about justice is notoriously afflicted with both disagreement and uncertainty.

- Question: why innovation theory has so far refused to engage with questions of social justice?

- Reason 1: the very contradiction of capitalism i.e. innovation is presupposed of the development of new products (medical innovations, cell phones, Internet, etc) which have the potential to promote justice BUT promoting justice through innovation threatens the very existence of private property relations which provide profit incentives (Table 1).

- Reason 2: a false assumption i.e. innovation driven economic growth can be justly diffused through the process of the global market.

Table 1: Royalty and license fee payments and receipts

Developed and Developing Countries	Royalty and License Fee Payments (US $) 2007	Royalty and License Fee Receipts (US $) 2007
United States	24,656,000,000	83,824,000,000
Japan	16,677,792,511	23,228,586,013
UK	10,121,380,039	15,107,533,176
China	8,192,067,402	342,634,075
Brazil	2,259,433,000	319,410,000
India	1,159,824,391	163,126,497
South Africa	1,596,250,885	52,913,602
Mozambique	2,361,671	45,199
Uganda	4,792,886	512,486

Source: World Bank (2010)

Global Justice Versus Innovation?

Global Justice Theory

- If it is true that innovation theory has so far refused to engage with questions of justice, is it also true that the theory of global justice has so far ignored the prominence of new technologies in the fight against poverty and inequality?

- The answer is yes.

- The theory of global justice has discussed obligations to the poor and questions of distribution without considering the role of innovation in poverty reduction and equal development.

- For instance, according to the cosmopolitan argument of global justice (Beitz 2008; Nussbaum 2008; Singer 2008; Sen 2009; Caney 2005; O'Neill 2002; and Barry 1998) the political principles of individuality; equality and universality should determine the answers to three questions:

1. Who should be targeted by a global theory of justice?

2. What should be justly distributed?

3. How should goods be distributed? (Papaioannou et al, 2009).

What is Wrong with Global Justice Theory?

- Despite their different and competing accounts, global justice theorists implicitly agree on one thing: innovation as such is not significant from the point of view of justice.

- This agreement can be realised when one examines the writings of contemporary global justice theorist, including Beitz (2008) and Caney (2005), finding almost nothing about the role of innovation in distributive justice.

- Question: why the theory of global justice has so far refused to engage with questions of technological innovation?

- Reason 1: the ideal nature of the political concept of global justice i.e. political theorists often fail to ask the question of the extent to which their analysis of global justice should be governed by judgements about feasibility (Arrow 1997).

- Reason 2: a false assumption i.e. global justice can only be achieved through a deliberate process of global politics.

Bridging the Gulf between Technological Innovation and Global Justice

Innovation Theory Driven Proposals

- *Deliberate Political Action* (DPA)

➢ Recognition of the fact that diffusion of innovation through the global market fails to satisfy minimum requirements of justice (Table 2). Need for deliberate political action (Cozzens, 2007).

➢ Reduction of inequality in different areas of innovation e.g. competence building, process innovation, product and service innovation, functional and chain innovation (Cozzens and Kaplinsky, 2009).

   Problems: no egalitarian theory of global justice; no answer to Arocena and Sutz (2003) question: which types of progress toward less inequality are self-sustaining in the sense that they foster growth and innovation?

- *Global Public-private Partnerships* (GPPP)

➢ Need for GPPPs as specific problem-solving arrangements.

➢ GPPPs can promote equality in both generation and diffusion of innovation (Chataway et al 2007)

   Problems: GPPPs are not governed by explicit principles of global justice; hide power relations between public and private actors; have little impact on local health systems and lack political legitimacy.

innogen

www.genomicsnetwork.ac.uk/innogen

Table 2: US Drug companies earning from prescription drugs for diseases of affluence in US, 2001

Company	Drug	Profits
Pfizer	Norvasc [high blood pressure]	$7.8 billion
Merck	Zocor [high cholesterol]	$7.2 billion
Knoll	Synthroid [hormone treatment]	$1.5 billion
Pharmacia	Micronase [diabetes]	$1.5 billion

Source: Public Citizen (2003)

Global Justice Driven Proposals

- *Health Impact Fund (HIF)*
- ➤ Alternative IPR system (Patent 2 option) operating in parallel to the current IPR system (Patent 1 option) and requiring innovators to make public all information about their innovation but making them eligible for reward from an international HIF in proportion to the positive impact of their innovation on increasing health and decreasing poverty (Pogge, 2005; Hollis and Pogge, 2008)

  Problem: HIF is narrow (limited to one kind of innovation i.e. health innovation) and voluntary (firms might never invoke the Patent 2 option).

- *Global Institute for Justice in Innovation (GIJI)*
- ➤ GIJI would encourage the creation of useful innovations through prizes and grants for justice-promoting innovations and through offering extended patent life for innovations that have a positive impact on justice. Two assets: 'licensing option' and 'compensation option' through GIJI (Buchanan et al, 2009).

  Problem: difficult to receive political support and deal with the problem of lobbying in favour of big pharmaceuticals (Table 3).

Table 3: Drug companies lobby expenditures

Top Drug Companies	Amount Spent to Buy Congress (1997-2002)
Pfizer	$ 33.4 million
Merck & Co., Inc	$ 28.8 million
Eli Lilly & Company	$ 28.1 million
Schering-Plough Corporation	$ 28.00 million
Bristol-Myers Squibb	$ 24.0 million
Abbott Laboratories	$ 18.3 million
Wyeth	$ 15.2 million
Pharmacia	$ 15.0 million
Amgen	$ 14.1 million
Johnson & Johnson	$ 12.1 million
Total	$ 217.0 million

Source: Public Citizen (2002)

Alternatives and Implications for Politics of Development

Non-for-profit Incentives of Innovation

- If it is true that scarcity is the mother of all inventions (Srinivas and Sutz, 2008), then it must be also true that there exist non-for-profit incentives of innovation.

- Non-for-profit incentives are based on a conception of basic human need: IPRs and market signals can neither be necessary to decide what diseases to cure nor can be efficient means of deciding that.

- It is the rapid diffusion of basic needs-innovation and economic development that might provide rewards to inventors and not the current IPR system.

- Rewards might include: reasonable economic compensation for the time of inventors and innovation prizes but also social recognition and reputation.

- Inventors' rewards would be based on the impact of basic-needs innovation on the peoples' lives and institutions.

- This approach would reduce incentives for developing new products and services with, for example, little therapeutic benefit.

Politics of Development

- Politics of development can promote the just diffusion of innovation through:

1. Strengthening redistributive systems.
2. Global public action and campaigning.

- Politics of development can move away from idealist principles of global justice such as cosmopolitanism and focus on pragmatic ones generated through social and political agency of global movements.

- Pragmatic principles are grounded in causal understanding of the world, providing clear account of the direction in which this world should change (Dunn, 1990).

Conclusion

- Contemporary innovation literature has refused to address questions of justice due to its reluctance to systematically deal with internal contradictions of capitalism and the false assumption that growth is the only solution to justice.

- By contrast, contemporary global justice literature has refused to engage with questions of innovation due to its political idealism and the false assumption that global politics is the only solution to global justice.

- Although there are exceptions from both literatures, trying to bridge the gulf between innovation and justice, they fail to do so due to their reluctance to move away from profit incentives of innovation.

- The argument of this paper has been that the innovation process as such can be shaped by legitimate claims of global justice provided that the source of such claims are global public action and campaigning.

- This implies that politics of development should support global movements against unjust innovation diffusion in all sectors, including health.

innogen