

COMMENTARY

An economics Nobel Peace Prize

Ned Phelps certainly deserved to win this year's Nobel prize for economics [more correctly the Sveriges Riksbank Prize in Economic Sciences granted by [The Royal Swedish Academy of Sciences](#) in Memory of Alfred Nobel] for his *Analysis of Intertemporal Tradeoffs in Macroeconomic Policy*: a topic which is also at the centre of much of the research carried out at UNU-MERIT, particularly with respect to the role of human capital in the diffusion of new technologies.

But the most striking feature of this year's awards was undoubtedly the granting of the Nobel **Peace** Prize to the attempt of another economics professor, Muhammad Yunus, who hails not from a famous American university like Columbia, but from Chittagong University in Bangladesh. Yunus' greatest achievement was to put some of his ideas into practice and create the [Grameen bank](#) back in the mid seventies. The bank has risen to fame over the past thirty years, issuing loans of more than \$5 billion to more than 5 million poor recipients. This makes it a truly remarkable social innovation and it is not surprising that the model has since been imitated in many countries, both developing and developed.

In the Netherlands, princess Máxima, the future queen and herself an investment banker in her earlier life – she was the special UN envoy on micro-credit in 2005 - has highlighted the financial success of such micro-credit institutions. With her Argentinean roots, she has been keen to point to the success of micro-credit schemes not just in South Asia, but also in Latin America. As she put it in a [speech](#) at the Bank for International Settlements in Basel only a couple of days before the Nobel Prize was announced; “microfinance is one of those innovative approaches crucial to building inclusive financial systems.” She continued to list some examples. “.... Grameen Bank,

funded in 1976, has up to now an average repayment ratio of 99% - a figure that must surely arouse envy among traditional bankers. Or take Compartamos in Mexico with a portfolio at risk of 1%.....or Banco Los Andes in Bolivia: 2%, or ACSI in Ethiopia: 1.75%, or CERUDEB in Uganda: 4.21%. And the list goes on.”



A recipient of a small business loan, supported by a USAID programme in Uganda.
Photo credit: USAID Photo Library/ L. Lartigue

Bottom-of- the- pyramid innovation

I do not want to launch into a detailed discussion of the benefits and limits of micro-credit financing institutions. This is the subject of a number of PhD theses at UNU-MERIT - and who would be much better positioned to assess the contribution of micro-credit to economic development and reduction in rural poverty. Rather I would like to elaborate somewhat further on the notion that the Grameen model of social innovation ultimately involves a shift of attention from the “easy” top of the income pyramid - as the focal

point not just for entrepreneurship, but also for the introduction of new goods and services - towards the bottom or base of the income pyramid.

This shift has been popularized by business economists such as CK Prahalad in his now famous book: **The Fortune at the Bottom of the Pyramid (2004)** with the provocative subtitle: *Eradicating Poverty Through Profits*. I'm told by many business people that it has become obligatory bedtime reading for the CEOs of most international operating multinationals in the developed world, and The Netherlands in particular.

One of the best-known Prahalad examples of such Bottom of the Pyramid (BoP) innovations is the Dutch designed multiple-fuel stove innovation developed for the rural poor, in which cow dung and biomass (sticks and grass) can be used as cooking fuels. Traditionally these fuels are completely inefficient, and even dangerous, due to the smoke inhaled from indoor fires. With the so-called "combination stove" that costs less than \$20, the user can switch instantly from biomass to natural gas, according to his/her

needs. "If it succeeds in India..." Prahalad notes, "...it will be rolled out across multiple geographies, with potentially immense impact on the quality of life of people throughout the developing world."

Drawing on this typical BoP innovation, Prahalad observes that "the process of designing these breakthrough innovations started with the identification of the following four conditions — all of which are difficult to realize, even when taken one at a time:

1. The innovation must result in a product or service of world-class quality.
2. The innovation must achieve a significant price reduction — at least 90 percent off the cost of a comparable product or service in the West.
3. The innovation must be scalable: It must be able to be produced, marketed, and used in many locales and circumstances.
4. The innovation must be affordable at the bottom of the economic pyramid, reaching people with the lowest levels of income in any given society."

(CK Prahalad, [*The Innovation Sandbox*](#))

Incidentally, the economics Nobel Prize winner, Ned Phelps, who is particularly fond of Rawls, seems also strongly convinced about the contribution of entrepreneurship to the "least advantaged" in society. See his latest [interview](#) with the Wall Street Journal on the benefits of US dynamic capitalism over the European continental one.

"What would be the consequence, from this Rawlsian point of view, of releasing entrepreneurs onto the economy? In the classic case to which Rawls devoted his attention, the lowest score is always that of workers with the lowest wage, whom he called the "least advantaged": Their self-realization lies mostly in marrying, raising children and participating in the community, and it will be greater the higher their wage. So if the increased dynamism created by liberating private entrepreneurs and financiers tends to raise productivity, as I argue--and if that in turn pulls up those bottom wages, or at any rate does not lower them--it is not unjust. Does anyone doubt that the past two centuries of commercial innovations have pulled up wage rates at the low end and everywhere else in the distribution? Yet the tone here is wrong. As Kant also said, persons are not to be made instruments for the gain of others. Suppose the wage of the lowest-paid workers was foreseen to be reduced over the entire future by innovations conceived by entrepreneurs. Are those whose dream is to find personal development through a career as an entrepreneur not to be permitted to pursue their dream? To respond, we have to go outside Rawls's classical model, in which work is all about money. In an economy in which entrepreneurs are forbidden to pursue their self-realization, they have the bottom scores in self-realization--no matter if they take paying jobs instead--and that counts whether or not they were born the "least advantaged." So even if their activities did come at the expense of the lowest-paid workers, Rawlsian justice in this extended sense requires that entrepreneurs be accorded enough opportunity to raise their self-realization score up to the level of the lowest-paid workers--and higher, of course, if workers are not damaged by support for entrepreneurship. In this case, too, then, the introduction of entrepreneurial dynamism serves to raise Rawls's bottom scores."

From an innovation studies perspective there are, however, two striking observations underlying this shift towards the BoP paradigm:

First, there is growing recognition by the international business community of the problems posed by rising inequality within countries, whether developed, emerging or developing. Manufacturers of consumer goods, in particular, are increasingly concerned about how they will be able to realize their long term output targets in a global market in which high and middle income populations are growing at a much slower rate than that of lower income groups and the absolute poor.

In his latest book titled *Making Globalization Work*, Jo Stiglitz has argued that inequality has become an intrinsic feature of the globalization process as we know it, and appears closely linked to the disparity between the globalization of capital - and may we add information - and that of labour. Responding to questions in a recent [blog](#) on this subject, Stiglitz notes: “Enormous energy has been focused on facilitating the flows of investment and capital, while movements of labour remain highly restricted. This is so, even though the gains to global economic efficiency from liberalizing labour flows are an order of magnitude greater than the gains from liberalizing capital flows.... This disparity has large distributional consequences. Because capital can move easily, it threatens to leave a country if it is taxed, or if wages are not tamed, or worker benefits are not cut. The disparity in liberalization is one of the reasons for the growing inequality in incomes that have marked most countries around the world. It is one of the reasons that even when globalization has brought increases in GDP, it has led to the lowering of incomes of many workers... inequality within most countries, and the disparity between the richest and the poorest countries, have been increasing ...”

It is the ultimate paradox of inequality: the business community is becoming concerned that too much inequality is limiting its own long-term growth potential

In short, while globalization of capital and information flows has brought about more global financial transparency, with short term capital arbitrage opportunities, and also much more transparency about the consumption patterns of rich and poor, the actual labour adjustments to such rising income opportunities have become more difficult to realize. This holds with respect to labour mobility within countries, for instance from rural areas towards urban centres with the resulting rise in urban poverty and criminality. It is also evidenced in labour mobility between sectors, with rising incomes for workers/employees in export oriented, often foreign-oriented “enclaves” and loss of jobs and poverty in traditional domestic sectors. Similarly at the international level, there are the dramatically increased migration pressures from poor to rich countries.

However, beyond the population dynamics resulting directly from the unequal distribution of the gains and losses of globalization, there has been a much more politically-driven inequality process within rich countries. An example is the weakening of progressive income taxation policies in many highly developed countries in continental Europe and Scandinavia, reducing the universality of social benefits to the lower income and the poor. Thus, even countries that have traditionally enjoyed low income disparities are witnessing a substantial rise in inequality.

It is hardly surprising therefore, that in the absence of any growth enhancing - one might say Keynesian - global consumption policies, the international business community is widening its focus beyond the 100 million people or so earning more than an average Dutch income per capita of \$30,000 (the top of the world income pyramid) to the 4 billion people or so at the bottom, earning less than \$5 a day. Up to a point this trend is similar to what happened in the US at the beginning of the 20th Century period - also a period of growth and rising income inequality - when Henry Ford introduced the **Ford Model T**. His “putting America on wheels” strategy

centred on assembly line production and on paying workers wages so as to create a lasting market for the car.

Today, this need to create a “lasting, global, mass market for consumer goods,” represents a much more dramatic challenge, but the similarity and the timing of such business concerns is striking. It is in a certain sense the ultimate paradox of inequality: the business community itself is becoming concerned that too much inequality is limiting its long-term growth potential.

The second BoP innovation trend highlighted by CK Prahalad represents in many ways a fundamental shift away from the “traditional” innovation paradigm, which was centred around the needs of the higher income classes of society and driven by professional-use requirements. One might call this the extreme “*tip*” of the pyramid. Research centred by and large on a continuous search for new qualitative features being added to existing goods. For instance with respect to audio and sound, vision and clarity, miniaturization and mobility, weight and shock/water resistance, feeling and ergonomiticity, and so on.

The continuous demand for such quality improvements often arose from extreme professional, sometimes military use circumstances, but thanks to the media - which typically emphasized the sheer natural image of such professional use using symbol figures such as sport athletes or movie actors - the average, non-professional consumer could easily become convinced that he or she was also in need of new goods with technologically sophisticated professional quality characteristics even though they would add only marginally to their utility for the average consumer. This “*professional-use driven*” innovation circle

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has been the main source for extracting innovation rents out of consumer goods – ranging from consumer electronics, sport goods, shoe wear, household equipment, computers, mobile telephony, medical diagnostics, sleeping comfort, and so on - with a “too long” *physical* life time. It has been the central factor behind the West’s continuous growth path of rising income with increasing consumer goods’ production *and* consumption. As if consumer goods - contrary to food - would remain totally unaffected by Engel’s law.

For multinational corporations, the risks of pursuing this relatively straightforward professional-use driven innovation strategy have increased significantly, not in the least because of globalization. While the world market for new innovative goods appears at first sight gigantic and without any doubt sufficient to recoup investments relatively quickly, the huge research, development, prototype and global marketing costs, coupled with ever-increasing numbers of competing international players means that the length of time that a company can enjoy its innovation rents is diminishing very rapidly. Hence, despite the growing high income classes in some of the very large emerging economies such as China, India, Brazil or Mexico, the new generation of goods being sold to the elites in those countries will be insufficient in actual earning opportunities to fund both the shift towards mass production and the development of the next technology generation of the good in question. Having developed incredibly sophisticated technological new goods, many firms are quickly encountering major global sales problems due to over-saturated markets.

Innovating for Equitable Development

And so we are back to the BoP income segment of the population, representing the market with the biggest growth potential but with only limited purchasing power. And this is of course where the particular contribution of micro-finance re-emerges. If, through institutions such as the Grameen Bank, one can succeed in raising

incomes and purchasing power amongst the poor so that as Mohammed Yunus put it, you no longer have a bank of the poor but a bank of the “former poor,” the result will be to increase the purchasing power of those segments of the world population with the greatest needs, offering the international business community the best guarantee for long term output growth.

It is in this sense that the Prahalad vision of innovation for the world wide “Bottom of the Pyramid” income groups provides interesting insights for innovation studies and for the development of successful innovation-for-development strategies.

Let me add to Prahalad’s list of conditions for successful BoP innovation (see above) the following three:

1. The likely and most successful location of BoP research activities will be close to *BoP users* contexts. If one is to believe the crucial role of users in the research and innovation process, as argued by innovation studies scholars such as MIT professor Eric von Hippel in his book: [*Democratizing Innovation*](#), this will involve, in the case of BoP research, BoP users. In other words, BoP laboratories will have to be embedded in such environments, a far cry from the conventional high tech R&D centres and enclaves in developed and developing countries.

2. The innovation process itself is likely to be reversed, starting with the design phase which will be confronted most directly with the attempt to find functional solutions to the BoP users framework conditions. This is, as Prahalad noticed, entails not just bringing the product to the market at a substantially lower price than existing goods, but adaptation to poor local infrastructure facilities, e.g. with respect to energy delivery systems, water access, transport infrastructure or digital access. The crucial role of design highlights the interest of firms from Scandinavian countries and the Netherlands in BoP innovations. Not surprisingly, many of Prahalad’s examples originate from multinationals in these countries.



A researcher at the Institute of Medical Biotechnology & Molecular Genetics, 2nd Military University, Shanghai. Monitoring the computer-controlled laboratory-scale fermentor used at the institute as part of the PfCP-2 malaria vaccine candidate development project. Photo *Credit: WHO/TDR/Crump*

3. The feedback from BoP users and from design development upstream towards more fundamental applied research in the core research labs of Western firms is possibly the most interesting new example of reverse transfer of technology (from the South to the North), re-invigorating and motivating the research community in the highly developed world increasingly “in search of relevance.” Not surprisingly, the main focus within the developed world at the moment is on BoP innovations in the health area, where applied medical research is increasingly dominated by access to new technologically sophisticated equipment (e.g. combined PET - positron emission tomography ct-scanners), and much less by more down to earth research questions about, and my list is non-exhaustive: anti-biotic resistance, infectious diseases or resistant tuberculosis. It follows then that the health sector is in dire need for what could be called a bottom of the pyramid research re-prioritization.

In short this is a truly *economics* Nobel Peace Prize.

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