



SCIENCE AND TECHNOLOGY

VIEWPOINT PAPER

Benefits and Costs of the Science and Technology Targets for the Post-2015 Development Agenda

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Post-2015 Consensus

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Introduction

A monetary metric in a benefit-cost ratio for science and technology policies in the post-2015 development is a well-grounded approach in standard economics practice. The evaluation by Keith Maskus of two possible policies indicate benefit cost ratios of 1.4 for a policy of raising the research and development investment ratio to GDP and a spectacular 30 for allowing an increase of university graduate circulation at the international level.

Viewpoint

One could raise the question, first, of whether the Maskus estimates, which rely on historical parameters are too conservative in estimating the scale of benefits, particularly in the case of the first policy of raising the R&D to GDP ratio. Is there a possibility that the raising the science and technology input particularly with regard to climate change response will be a “game changer?” Relying on existing parameters thus incorporates the political judgement – which may or may not be realistic – of international politics as usual (IPAU) obstructing wide-ranging social changes. (Others could also raise the question of whether a monetary metric is too constricting in evaluating post-2015 development policy proposals, but I will only note that objection here.)

One could raise a second question of whether the IPAU assumption is violated in the highlighting of the second policy of university graduate circulation with its suggestive and spectacular benefit-cost ratio (without questioning the details of methodology by which this estimate was derived and for which there are many possible objections). The proposal to internationally liberalize labor flows, in the same way as capital flows are already liberalized, is a long-standing argument, even hobby horse, in development discussions. Escaping the IPAU is even more difficult in the case of mobility restrictions on skilled workers since in reality developed countries already ‘allow’ low skill workers to move (albeit through vulnerable channels) but have severely restricted skilled workers from circulating. If IPAU is to be breached, will it be in the case of labor mobility or in respect to another policy NOT considered in the Maskus paper?

This raises the third question of what is the actual universe of policies that must be considered in considering the potential role of science and technology in the post-2015 development agenda. If the matter is a question of finding a subset in the universe of possible policies, some specific features of international science and technology can serve as guideposts in constructing possible alternative policies. Two features are particularly important and related to each other: (1) the wide gulf in science and technology capabilities between developed and developing countries and (2) the highly monopolized and privatized access to technology enforced through the intellectual property regime under the WTO and free trade agreements.

In fact, one key policy alternative to respond to this problem had been identified as early as 1992 in the UN framework convention for climate change when the problem was ‘only’ unsustainable development and pollution and fought over again in the same Brazilian city 20 years later in Rio+20 in 2012 when the problem had become sustained underdevelopment, pollution plus climate change. This policy alternative is Technology Transfer

for the purpose of sustainable development and climate change prevention. This policy alternative is not considered, except in a tangential way in the Maskus paper. In the Maskus paper, the benefit mechanism of the circulation of university graduates policy alternative occurs through wage differentials and not through technology upgrading in developing countries. Developing countries are where technological application has the greatest benefit – both for sustainable development and for climate change response (the latter because the mitigation potential is greatest in developing countries).

Between 1992 and 2012, of course, international technology transfer was privatized and incorporated the approach of monopoly enforcement, by public bodies, of private property through TRIPS and intellectual property provisions in free trade agreements. The existing regime was not IPAU in 1992, but it is IPAU now, though discussions have started in the United Nations on ‘technology banks’ as a workaround the international private monopoly regime.

Concluding Remarks

There are of course counter-arguments, some of it noted in the Maskus paper. Private ownership and pricing could be the smoothest and the fastest way to propagate technology and facilitate technology transfer. It is also claimed that private ownership and pricing stimulates research and risk-taking in upfront research costs. It is important to bring to bear rigorous economic analyses to evaluate the different claims as to the role of monopoly private ownership of science and technology. As the current regime becomes more entrenched, it is only natural that it is eliciting academic interest in evaluating its efficacy. (See, for example, Boldrin and Levine, “The Case against Patents,” St. Louis Fed, September 2012.) Recent research points to this regime being possibly an obstacle, instead of being a facilitator or stimulant, of scientific advance and propagation. (There are of course many historical cases to point to in the same vein.) It is also important to move towards quantifying these costs and benefits, since a well-defined regime exists and its costs and benefits can be estimated. The global governance system waded into, and continues to plunge more deeply into, monopolized private ownership of knowledge without an adequate evaluation of the benefits and costs of this approach.

To undertake the suggested evaluation is perhaps beyond the terms of reference of the project. To the extent that science and technology are key inputs to the post-2015 development agenda, such an agenda must pay attention to and address the negative impacts of the workings of the international regime of private monopoly ownership of knowledge. It should also seriously consider what is involved and what are the costs and benefits of the policy agreement on the importance of technology transfer.

This paper was written by Manuel F. Montes, Senior Advisor on Finance and Development, The South Centre. The project brings together more than 50 top economists, NGOs, international agencies and businesses to identify the goals with the greatest benefit-to-cost ratio for the next set of UN development goals.

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