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Time to rethink intellectual property laws?

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Patents on scientific knowledge may not be as useful — or valuable — as many claim them to be.

The speed of the global economic collapse is provoking a widespread — many would say belated — realisation that many of the beliefs underlying economic expansion over the past 20 years need close questioning, particularly those involving the relationship between the state and the market.

But so far the need to reassess the value of protecting intellectual property, and in particular, the claim that scientific and technological patents are essential for economic growth, has drawn little attention.

Few would deny that technological innovation needs some form of patent protection to prosper.

Without protection, no-one is likely to invest in developing innovations, since as soon as products were made public, others could immediately copy them at zero cost.

But just as the economic crisis can be ascribed to governments following bankers and speculators' decisions too closely, so there is a parallel danger in trusting strong science patents to promote social development.

Right to profits?

Take, for example, the aura that surrounds the 1980s US Bayh–Dole Act, which gave US universities, for the first time, ownership of patents arising from government-funded research.

There is a widely-held belief this helped the US economy's explosive growth in the following two decades, making many universities — and the scientists who work for them — rich in the process. Those with interests in the commercial, rather than the social value of science, actively promote this view.

This conviction, for example, has led South Africa to introduce similar legislation. And it has recently taken hold in India, where the government, urged on by its pharmaceutical and biotechnology industries (and supported by the US Chamber of Commerce), is proposing tightened patent legislation based explicitly on the Bayh–Dole approach, namely making it easier for publicly-funded research to be 'owned' by private entities.

Yet there is very little empirical evidence to show that the Bayh–Dole Act has had the claimed effect in the United States, let alone that it is appropriate for developing countries (see '[Indian patent bill: Let's not be too hasty](#)'). Critics point out for example, that only about five per cent of US universities' income comes from licensing inventions.

Counter collaboration

Conversely, there is widespread anecdotal evidence that the act created a mind-set among many researchers that their knowledge represents a potential goldmine not to be shared with potential competitors (i.e. those working in other universities) — at least until it has been protected by a patent application.



Critics question the effectiveness of patents
US Patent and Trademark
Office

Similarly the act has led to a flood of 'upstream' patents on basic scientific knowledge, leading to what some commentators describe as a virtually impenetrable 'patent thicket' blocking small-scale inventors from marketing their products. For example, restrictive software patents limit further development and commercialisation in the field of information technology.

As a group of academics recently stated, the present impetus for similar legislation in developing countries "is fueled by overstated and misleading claims about the economic impact of the Act in the US, which may lead developing countries to expect far more than they are likely to receive" (see '[Is Bayh–Dole good for developing countries? Lessons from the US experience](#)').

We have been here before. The dotcom boom in information technology companies at the end of the 1990s was accompanied by a similarly meteoric rise in the value of small biotechnology companies, as venture capitalists hunted around for other technology-related investment opportunities. In many cases, the companies' sole asset was the promise of a patent on some critical gene sequence data.

When the dotcom bubble burst, the value of the biotech companies also collapsed, leaving many investors nursing heavy losses. Their mistake was not so much the decision to invest in biotech stocks, as an inflated belief in the value of science-based patents.

Radical innovation

There are alternatives available to developing country governments. For example, they can focus patent legislation on genuine technological inventions, while leaving publicly-funded research openly accessible, and rewarding researchers who come up with socially-valuable inventions through other mechanisms, such as prizes.

More radically, governments could promote 'open innovation', where a wide range of individuals are encouraged to work towards technological breakthroughs. This approach has already been suggested in India, for example, to design new tuberculosis treatments.

Now is the time for radical thinking. We need new types of innovation strategy to meet future economic and social challenges, and also to avoid repeating the mistakes of the recent past.

Protecting intellectual property will legitimately remain part of such new strategies. But science can only effectively contribute to these if it remains as open as possible. Duplicating the Bayh–Dole approach, and building expectations only of science's commercial value, is not the way to go.

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<http://www.scidev.net/en/science-and-innovation-policy/innovation-policy/editorials/time-to-rethink-intellectual-property-laws-.html>

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