

The new IPR regime for publicly financed research – a question of balance

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The national policy environment for innovation has had an injection of impetus in recent years on the back of a comprehensive peer review of the South African National System of Innovation by the OECD (OECD, 2007)¹ and various other contributing factors including a directive by the South African cabinet to put measures into place to engage the ‘innovation chasm’ (Naidoo, 2009)². The DST responded with suite of policy measures Building on the policy platform laid by the White Paper on Science and Technology (1996)³ and the National Research and Development Strategy (2002)⁴.

The suite consisted of three fundamental interventions. The first is the new innovation policy platform called the DST ‘Ten Year’ Plan⁵. The plan elaborates on the rationale for the new innovation impetus and describes the innovation priority areas in the form of five ‘Grand Challenges’. The second was the introduction of a new legislative environment to ensure that projects funded through public research funds went through the rigour of examining intellectual property creation potential, and where this potential existed, the IP was developed, protected and managed so that any reasonable possibilities of commercialisation were duly followed. It is envisaged that such IP lends benefits to the real economy either through commercialisation for competitiveness or beneficial use in the public domain as a public good. This is expressed in the Intellectual Property Rights from Publicly Financed Research Act (2008) and its associated regulations. The Act also gives public institutions that receive public funds, like universities, the right to perform the research, ownership rights of the any emanating IP. It goes further to awarding the beneficiary rights to the university and its partners as regards the profits and revenues from the exploitation of the IP. The recipient institutions also have to regularly report on these activities to a new statutory structure called the National Intellectual Property Management Office (NIPMO).

The third leg of the suite is the establishment of the Technology Innovation Agency as a public funding mechanism to the development and commercialisation of products (Naidoo, 2009).

The legislation also demands that the recipients of public research funds need to establish the capacity to carry to ensure compliance with and take advantage of the opportunities emanating from the Act.

¹ OECD Peer Review of South Africa’s Innovation Policy Report, Draft Report, (2007). OECD

² Naidoo, DP (2009). The Technological Innovation Agency (TIA): A public support mechanism for technological innovation in a developing country. *African J of Science, Technology, innovation and Development*. 1(2&3); pp235-242.

³ White Paper on Science and Technology, “Preparing for the 21st Century” (1996), Department of Arts, Culture, Science and Technology, Republic of South Africa 1996.

⁴ The National Research and Development Strategy of South Africa (2002), Government of the Republic of South Africa.

⁵ Innovation towards a Knowledge-based economy, Ten Year Plan for South Africa [2008-2018](2008), Department of Science and Technology, South Africa.

Examining the pros and cons of the new legislative regime

The overall intent as expressed in the objectives of the act as its associated policy instruments is to organise to

1. Achieve a higher measure of support to develop South Africa's relative poor intellectual property portfolio.
2. To facilitate the harvesting of new knowledge generated in publicly funded research projects to be of direct benefit to the South African economy.
3. To empower South Africans to have access to this enlarged IP portfolio in order to express their entrepreneurship in a manner that enables sustainable livelihoods for themselves and others.
4. To also organise for the country to have access to this intellectual property cache in order to be better able to deal with national crises and emergencies.
5. Above all the new regime should seek to develop South Africa's intellectual property portfolio as an important tool to both improve her international competitiveness and improve the quality of life for all her peoples.

This describes fairly vividly the inherent conflicts associated with the new regime. It tries to create into a single ensemble, objectives that have a history of being on either side of a see-saw. This conflict plays out from its scripts in both the act as well as its supporting regulations.

The challenge is achieving the balance between regulation and the incentive/support mechanisms; the antagonism between stimulating new investment and protection from abuse.

The major cons in the new regime relates to three primary issues. These are:

- The overzealous reporting demands designed in an 'over-the-shoulder' positioning. The recipient institutions (the institutions that receive public funding for research and development) would have to develop and invest in substantive new capacity – human resources, technology platforms and institutional policies just to meet the baseline requirements of the reporting regime. This without either the requirement of any value-adding feedback from the NIPMO.
- The unreasonable obstacles and statutory approval procedures associated with exercising options on exclusive licensing and off-shore IP transactions. These mechanisms are fundamental in a globalised economy that has any notion of free market principles. This is a major issue. A core driver of the new regime is organising an environment that will stimulate and leverage private sector investment in R&D. For individual investor's non-exclusive licensing, which is positioned as the modality of choice in the act and regulations, would not be attractive. The more challenging regimen is associated with off-shore transactions. This is ironic as it does not support the overall South African government regimen that seeks to encourage an international outlook for South African business. This is based on the axiom that states that there is really only one market that matters and that is the global market. Local markets in fact only represent largely temporary niches in that global market. These transactions that we should be encouraging are massively over-regulated in the new regime.
- The most glaring challenge, however, has to be the state's march-in rights. These are expressed in two ways. The first is where the NIPMO is dissatisfied with the recipients' actions in the decisions it makes with regard to its IP transactions and steps in to take over those IP transactions on behalf of the country (not necessarily the state). These would usually be related to either in-action of insufficient actions to develop, protect or commercialise IP. This can be good as we all want a regime that builds our IP portfolio. The second relates to the rights of the state wrt IP emanating from publicly financed research expressed in clause 11(e) of the act and further emphasised in the regulations. It is the securing of the rights of the state to royalty-free licences to all IP in this portfolio for needs associated with emergency needs, health and other security. While the emergency needs of the Republic is easily defensible, the section would need to define how these

emergency needs are expressed e.g. the declaration of a state of emergency or disaster through the current prescribed mechanisms. The health and security needs of the republic are even less explicit and would need to be defined explicitly and have a prescribed mechanism for the expression of these needs in order to afford the state the 'irrevocable and royalty-free licence' that the clause refers to. This leaves great with partners and represents an unnecessary risk and therefore a disincentive to investment.

The pros of the act are several and have to be celebrated, nurtured and protected. The highlights here include:

- The possibility of using the new regime to build a culture of innovation and entrepreneurship that South Africa needs.
- The further develop our collective abilities to introduce a knowledge based economy that will allow South African companies to compete much more successfully in the global market.
- The realisation of supporting the conversion of our small hill of academic research into meaningful interventions that allow us to better realise the aspirations of our peoples all the way from meeting basic needs and expanding the frontiers of dignity to developing a highly successful economy.
- The diversification of career options for our graduate which hopefully in turn draw much larger numbers of people to complete secondary education and draw larger number of young people into tertiary education and higher levels of education.
- The promise of greater state investment to stimulate all of these activities.

The regime also very usefully highlights the role of universities as agents of successful economic transformation. All public universities in any country and in any circumstance have a fundamental responsibility in this regard. And any society must continue to invest and nurture its academic institutions to be better enabled to perform this function.

The University as a partner in economic development

Michael Porter, one of the world's more famous scholars on competition and innovation notes that there is an 'inescapable linkage' between the levels of prosperity of economies and the state of their universities (Porter, 2007)⁶. This is both related to a university's role as employer, purchaser, and a centre for human capital development, source of expert advice and network builder, but also technology transformer and incubator of new businesses and in some cases new industrial platforms through its innovation activities. This picture is corroborated with examples world-wide. Huggins and Cook (1997)⁷, for example, estimated that the University of Cardiff, in the absence of a significant innovation and technology transfer portfolio, still managed to contribute GBP 97.19m in Cardiff in the period 1994-1997. This extended to a contribution of GBP 102.11m to the region of South East Wales.

Of particular significance to this paper is the contribution of a university to economic development through its innovation and technology transfer activities. An example of the role of the University of California in the development of a healthy economically vibrant state is illustrated in the box below.

⁶ Porter, M (2007). Colleges and universities and regional economic development. *2007 Forum for the future of higher education*. Cambridge, Mass.

⁷ Huggins, R, Cooke, P (1997). The economic impact of Cardiff University: innovation, learning and job creation. *GeoJournal*; 41(4); pp325-337

Box 1: Contributions of UC to the economic development of California through its innovation and technology development and transfer initiatives.

UC's contribution to the important California Key Industry Clusters through providing talent, industry knowledge and applied research has been considerable. The key clusters are aerospace, agriculture, bioscience, computers and semi-conductors, ICT and digital media and entertainment. The UC contributions include:

- The UC developed and patented new varieties of fuel that enabled California's \$767m strawberry industry to operate year round.
- 95% of the wine grapes grown for California's wine industry comes from UC certified planting stock.
- UC science and engineering graduates working in the California clusters generated \$ 887m in GRP in 2002, and projected to generate \$ 7.4bn in the period 2002-11.
- UC's R&D is projected to realise productivity gains estimated at \$ 5.2bn for 2001-11, which has an associated job creation potential of 104 000 jobs.
- From the financial years 1998/9 to 2000/1, UC reported 2 600 inventions created with university resources.
- More than 160 companies were founded on the basis of technology licensing agreements with UC, and many more with companies formed by UC professors, students and alumni.
- The value as an example of UC related start-ups is Chiron, Inktomi and Agility Communications, founded by UC graduates with combined revenues of \$ 1.2bn in 2001.

University of California: at the heart of a healthy, economically vibrant California, ICF Consulting impact study, 2002.

Conclusions

The new regime is currently being experimented with and although many aspects still need to be finalized it has been functional to a significant degree for at least a year. The challenges have presented themselves very early and many of the difficult aspects of the new regimes are currently being tackled by the various partners. As difficult as this has been, all the partners have engaged this in a positive, solution oriented spirit and this may have been its first significant externality viz. a new vibrant dialogue between the research and business sectors of what it will take to build a successful South African economy.
