



Choices and Responsibilities: Higher Education in the Knowledge Society

Programme on Institutional Management in Higher Education (IMHE)

Political Instruments Employed by Governments to Enhance University Research and Knowledge Transfer Capacity

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This paper aims to explore cross-nationally the political instruments employed by governments of OECD countries to enhance university research capacity and knowledge transfer effectiveness. Across industrialised countries, governments and universities currently are actively experimenting with an increasingly diverse range of policy instruments or strategies to strengthen research activities and capture more effectively the benefits of research to support economic and social development, especially wealth generation and job creation (Geiger 2003; Goldfarb, & Henrekson 2003; Calvert & Patel 2002; Geuna 1999).

Comparatively little, however, is known about which policy instruments work best and in what situations, what contextual and policy factors impact on implementation, and why managers and decision-makers choose some instruments over others. Information is lacking on relative costs versus benefits of different efforts, about the extent to which current government programs are meeting intended purposes, and whether or not an apparent duplication in programs and agencies is detrimental to efficiency. Relatively little detailed analysis is available about who are the main beneficiaries of government support and regulatory mechanisms, while there are important issues that need to be addressed about the relative merits of government action versus initiative by universities, academic researchers and firms, often combined in various ways with various kinds of incentive systems.

The concept of policy instruments comes from recent literature on public on public policy. Policy instruments can be defined as strategies and resources employed by governments to facilitate designated ends and goals *vis-à-vis* target populations. The central idea behind theory on policy instruments is that governments can act through different instruments to achieve particular goals, and that the instruments chosen are important because they usually involve significantly different policy-making processes and produce different effects (Woodside 1986; Peters & van Nispen 2001). Different instruments for strengthening research commercialisation capacity, for example, include provision of information, persuasion and advocacy, economic incentives and disincentives (including subsidies, pricing structures and taxation concessions or charges), government provision or public ownership of facilities (such as establishment of new research centers or commercialisation agencies), and regulation (such as through legislation relating to intellectual property). Some of the least understood instruments for encouraging R&D and commercialization in Australia are taxation concessions such as the 125% deduction for R&D expenditure. Not surprisingly, many students of policy instruments treat taxation and taxation deductions as separate instruments to other kinds of financial instruments (Woodside 1986; Fenna 1998).

Key considerations with regard to policy instruments are the degree to which coercion versus incentives are used. Over three decades ago, Lowi (1972) emphasized the importance of differentiating between different instruments on the basis on whether coercion is remote or immediate, and whether or not policy seeks to control individual behaviour directly or through the environment. Building on a long tradition of work on coercion, Howlett and Ramesh (1995) distinguish three types of instruments based on the degree of coercion: voluntary instruments using persuasion and advocacy; mixed instruments using information, exhortation, subsidies, taxes and user charges based on a greater role for the state; and compulsory instruments including regulation, public provision and direct provision of services. In recent years, as the Canadians Atkinson and Nigol (1989) note, "governments, under pressure to restrain expenditures, have sought to employ less obtrusive means of intervention" and that "politicians prefer to use the least coercive instruments possible".

Bridgman and Davis (2000) suggest useful criteria for selection of suitable policy instruments for particular circumstances: appropriateness (is this a reasonable way for proceeding in this policy area?), efficiency (will this instrument be cost-effective?), effectiveness (can this instrument get the job done?), equity (are the likely consequences fair?), and workability (is the instrument simple and robust, and can it be implemented?). Linder and Peters (1989) point to the importance of attempting to understand the meanings ascribed to particular instruments by decision-makers who use them (or experts who design them) and the processes by which some come to be favoured over others.

The paper will draw on the author's original research plus extensive documentation that is readily available. This documentation includes scholarly literature, reports on national surveys of research commercialisation in the US and Canada (eg Association of University Technology Managers 2003), the UK (Higher Education Funding Council of England 2002) and Australia (*National Survey of Research Commercialisation* 2003), recent OECD reports (*Turning Science into Business* 2003; *Governance of Public Research* 2003) and studies commissioned by national governments (eg Australian Centre for Innovation 2003). While this literature and documentation is extensive, at the same time it is limited in terms of attention given to government and university strategies and their implementation

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