Policy goals and means

Policy is, by definition, goal-oriented, constituting deliberate courses of action in pursuit of some stated aim. Policy goals range from being very broad, for example, improving workforce skills, to being more specific, for example, increasing the number of female graduates in engineering schools (more specific goals are often described as policy objectives). Policy goals emerge from the agenda-setting activities of policy arenas. They are shaped by those interests participating in such arenas, as well as by commonly-held ideas, beliefs and conceptual models. There is also a great deal of path-dependency in policy goals, since once pursued, they attract a range of actors who commit various types of resources (‘sunk-costs’) to that end.

While the central actors in technological innovation are firms, other actors are also important, including governments. For instance, through regulation, financing and procurement, governments directly affect the innovation activities of firms. In a less direct way, government funding of education, research and physical infrastructures provide essential resources for innovation processes in firms (and elsewhere). The contributions of government to innovation are therefore far-reaching. These contributions can be and often are directed towards achieving stated high-level socio-economic goals (see Contributions to socio-economic objectives [1]).

High-level goals in innovation policy imply certain expectations of actors’ behaviours and their performance and outcomes. However, it is not uncommon for actors, such as firms, banks, and researchers, to behave differently from what is expected of them. The gap between desired and actual behaviours provide the rationale for policy intervention. The traditional rationale for innovation policy intervention is market failure. Further rationales for intervention have become more mainstream over the last decade, including system failures, which refer to weaknesses in the links between the various elements of the innovation system; capability and resource failures, which refer chiefly to weakly-developed organisational capabilities, but also to lack of funding and political support; and directionality failures, which refer to ‘lock-ins’ along undesirable development paths that are difficult to re-direct towards achieving high-level goals. At the same time, it might well be that government is ill-equipped to address these failures; or government might perform its existing expected roles, e.g. around regulation, poorly. These can be described as government failures and are an important consideration for policy intervention.

On the basis of high-level goals and the rationales for policy intervention, policy arenas articulate more specific policy objectives. Given the breadth of innovation policy, objectives can be extremely diverse in terms of the actors they target and the outcomes they seek to enact. Objectives also vary in their level of articulation – some can be high-level, such as increasing the commercialisation activities of universities, while others are more specific, such as setting-up technology transfer offices for this purpose. In fact, it can be useful for policy analysts and designers to outline a ‘hierarchy’ of objectives in innovation policy, with high-level policy goals at the top followed by subsequent levels of more specific policy objectives.

Finally, the means of innovation policy refers to the policy instruments used. These are varied in innovation policy, reflecting the field’s breadth. They can be classified in different ways, for example, by the predominant mechanisms they use, e.g. financial incentives, regulation, and information (sometimes referred to as ‘carrots, sticks and sermons’), by their targets, e.g. firms, universities etc., or by the objectives they are intended to address. It is not uncommon for countries to have a full set of innovation policy instruments, but the ways these are designed and implemented can vary greatly.

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