



Towards a dynamic (Schumpeterian) welfare economics

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Abstract

Knowledge plays an increasingly important role in shaping the dynamics of an economy. A static Paretian welfare economics is therefore inadequate, and needs to be supplemented by a dynamic (Schumpeterian) welfare theory. A dynamic welfare economics acknowledges the role of knowledge and communication. As knowledge develops cumulatively in a social environment, knowledge may not be readily diffused or exchanged. Different costs of communication need to be considered, each affecting the creation of new knowledge. Recent developments in Intellectual Property Right (IPR) law are evaluated to determine the extent to which they affect communication costs and thus future economic welfare.

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In chapter 17 of his *Capitalism, Socialism and Democracy*, Schumpeter (1943, p. 190, italics in original) has introduced some fundamentals for a dynamic welfare economics. One passage is especially worth noting:

“we shall call that system relatively more efficient which we see reason to expect would *in the long run* produce the larger stream of consumers’ goods per equal unit of time”

In this paper, I will start from the perspective that the newly emerging reality of our economies today is that they are knowledge economies (OECD, 1996). Baumol

(2002), for instance, claims that over 60% of the labor force in the United States are knowledge workers. This is recognized in diverse strands of thought in the economics discipline after the puzzling findings in the growth accounting literature (e.g. Denison, 1967). Romer (1986, 1993) has been developing ideas about how knowledge impacts on economic growth, better known as *New Growth Theory*. The work of Baumol (2002) relates to this. Studying a dynamic, knowledge-based economy requires that a conceptual understanding of knowledge and its role in society is developed and used in economics. The first section discusses this in some measure. My argument is that a welfare economics for the knowledge-based economy requires different, partly additional concepts that would allow one to evaluate developments in society or government policy. A second section will give a brief and admittedly

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incomplete outline of the welfare economic perspective that is now mostly adhered to, following Pareto. A dynamic, Schumpeterian welfare economics would emphasize the development of knowledge and its use in the economy. To wit, the argument in favor of competition in the market and dynamic efficiency is emphatically *not* based on Paretian considerations of perfect competition (Baumol, 2002, Blaug, 2001, Mokyr, 2002, Nelson, 1981, 2004). The third section suggests some elements for a welfare economic perspective. A much debated policy issue that is very relevant for the knowledge-based economy is subsequently looked at to evaluate some measures governments are currently implementing. How would a dynamic welfare economics evaluate changes in the system of Intellectual Property Right (IPR) law?

1. Knowledge and the dynamics of an economy

In recent years, it has come to be acknowledged that development of new knowledge is an important source of dynamics for an economy. Knowledge is, however, a very much heterogeneous entity and thus difficult to come to grips with – using the metaphor of capital to do so may, for instance, be criticized (Dolfsma, 2001). Knowledge has distinct features that are worth discussing in light of this article.

To paraphrase Isaac Newton, knowledge is developed by people who could see further because they stand on the shoulders of giants. This, of course, is a well-established observation about the cumulative nature of development of knowledge, but at the same time was a derisive remark against Newton's opponent in a discussion about the nature of gravity in Newton's letter in 1776 to Robert Hooke. Hooke was a short, hunchbacked man on whose shoulders one would not want to stand. Even if one did stand on his shoulders, one would not see far. Knowledge thus develops as much in a social context as it is cumulative. The literature on the sociology of science has made this clear (Mäki, 1993). There are at least two other characteristics of knowledge that entail that in assessing welfare effects, one needs a perspective that takes dynamic processes by which knowledge develops into account. The development of knowledge involves tacit dimensions, and requires coding and decoding. These four characteristics

are at work at the individual, the organizational,¹ the regional² as well as at a societal level (Mokyr, 2002). As at the latter three levels the knowledge development essentially involves individuals too, I will discuss this at some length. In addition, as the welfare perspective introduced below will take social welfare of a community (society) as a touchstone, the implications of the characteristics of knowledge development for the dynamics at the societal level are discussed as well.

Knowledge differs from information (data) in that it needs to be interpreted to make sense of. Polanyi (1983) has developed a theory of knowledge acquisition that should also be of interest to economists (see Scitovsky, 1977, but also social psychologist Bandura, 1986). Polanyi (1983, p. 7) argues that (tacit) knowledge is acquired in a process he calls 'subception.' Any piece of information to be transplanted from one person to somebody else is 'recepted' (ibid., p. 5) by this other person and integrated or 'subsumed' into a larger framework of knowledge in which meaning is given to this new piece of information (ibid., p. 19). To the extent that information is subsumed (and it has to be subsumed if it is to have any meaning) into a larger framework of knowledge, it is interiorized (ibid., p. 29), as it were, to become a part of the body (cf. Douglas, 1986, p. 13). From this, it follows that man cannot always accurately state what it is that he knows about a certain topic. Such knowledge is typically "fraught with further intimations of an indeterminate range" (Polanyi, 1983, p. 23), constituting what might be called a 'mountain of experience' (Dolfsma, 2002). Where knowledge relevant to the particular subject becomes irrelevant is difficult to ascertain; there is a difficulty of separating relevant from irrelevant knowledge. Veblen (1961, p. 74) goes even farther than this in asserting that man *is* "a coherent structure of propensities and habits" (cf. Dolfsma, 2002). Prior knowledge is thus needed to acquire knowledge, but additional information does not necessarily increase one's knowledge: there are costs involved in storing knowledge. Knowledge building is not automatic, but involves being able to discern patterns. Despite having the same information, people might hold different views of the world, which can make communication difficult (costly) as decoding

¹ See Hansen (1999), for instance, and similar research.

² See Saxenian (1994), and Van der Panne and Dolfsma (2003), and references therein.

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