



Why was Schumpeter not more concerned with patents?

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Abstract

Although Schumpeter is widely acknowledged as a pioneer of the economic analysis of innovation and although the patent system occupies an important place today in this field of research, Schumpeter did not see patents as playing a key role for fostering innovation. He mentioned them only a couple of times, in passing, and never developed any scientific analysis of the patent system. In this paper, we propose an explanation of this blind spot based on three characteristics of Schumpeter's thought: first, entrepreneurs are largely motivated by non-monetary elements; second, they enjoy a first-mover advantage because imitation is difficult; third, Schumpeter viewed the innovation process as a relentless race in which firms are doomed to innovate in order to avoid disappearing. The Schumpeterian view of the economic process therefore largely reduces the economic importance of patents.

Keywords Patents · Schumpeter · Innovation · Incentives · Creative destruction

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1 Introduction

Schumpeter's entire body of work examines the dynamics of capitalism, an analysis relying crucially on the central concept of innovation: as Baumol (2002) put it, for Schumpeter capitalism is nothing but an "innovation

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machine”. However, despite the importance he granted to innovation, imitation, entrepreneurship, etc., in 45 years of publications Schumpeter very rarely spoke about the patent system. When he did, it is mainly in chapter VIII of *Capitalism, Socialism and Democracy* (1942) in which he discusses “Monopolistic Practices”, a topic that is broader than the role of patents. The objective of this paper is thus to understand why Schumpeter was not more concerned with the patent system.¹

In the only paper that examines this question to our knowledge, Blaug (2005) argued that the reason for his neglect lies in the fact that the concept of intellectual property rights (IPR) only emerged in the 1970s. Therefore, Blaug claimed, Schumpeter could not study IPR because, in order to analyze a concept, one first needs to name it. Blaug concludes: “it was the rise of property rights economics in the 1970s, and especially the 1980s, that tied together the old labels of patents, copyrights and trademarks in one label of IPR, giving rise to our question that would simply have made no sense to anyone writing in 1942” (Blaug 2005, p. 72).

Yet, this explanation, while valid for the general concept of IPR, does not apply to patents. Indeed, patents had been the topic of major controversies in the nineteenth century. Many authors had questioned their utility.² Holland even decided to refuse to grant patents until the First World War. Schumpeter, who was passionate about history and innovation, must have been aware of these debates. This is all the more likely considering Fritz Machlup, who was one of his good friends, published a paper about these controversies at the end of Schumpeter’s life (Machlup and Penrose 1950). Furthermore, as Blaug notes, “Edward Chamberlin, teaching at the same university as Schumpeter (Harvard), included a section on patents and trade-marks in Chapter 4 of his *Theory of Monopolistic Competition* (1933)” (Blaug 2005, p. 71). While this is not evidence that Schumpeter was interested in these questions, it clearly shows that they were discussed in his time.

In this paper, we argue that, although Schumpeter was aware of patents and accepted their existence, his vision of economic dynamics led him to place patents only at the margin of the innovation process. Indeed, Schumpeter’s view of innovation is very different from the Arrow (1962) model, which has influenced most of the economics of innovation in the last decades, and which reduces innovation to a public good dilemma, thus placing incentives and patents at the heart of the innovation process. In Schumpeter’s view, firms embark in an innovation race. Innovation is a matter of life and death, meaning that firms have to innovate even if patent protection is not available. The main character of the innovation epic, the entrepreneur, is largely intrinsically motivated and does not need to be incentivized by the existence of patents. Furthermore, Schumpeter does not see the innovation process as an easily

¹ The minor role given to patents is all the more puzzling as Schumpeter did place market power at the heart of the innovation dynamics (Gilbert 2006). In line with the tradition of the classical economists, Schumpeter, for a long time, used the concept of free competition rather than the marginalist concept of perfect competition. In a famous citation he claimed that: “perfect competition is not only impossible but inferior and has no title to being set up as a model of ideal efficiency” (1942, p. 106).

² As Blaug (2005) mentions, Bentham, Adam Smith, McCulloch, John Stuart Mill and later Sidgwick and Pigou in Britain and Jean-Baptiste Say, Bastiat, Dupuit and Walras in France all participated in this debate.

replicable information production process. He clearly considers that imitation takes time and is costly. We argue that these differences explain why patents play a marginal role in order to incentivize firms to innovate in the Schumpeterian framework and why, while Schumpeter does mention patents a few times, he puts them in the backseat and not at the forefront of the innovation process.³

In the next section, we consider whether Schumpeter was a patent abolitionist (section 2). Then we analyze the place of patents in Schumpeter's thought, first by looking at the entrepreneur and its motivations (section 3) and, second, by presenting Schumpeter's dynamic view of the innovation process (section 4). Section 5 concludes.

2 Was Schumpeter a patent abolitionist?

Before going further, it is important to address an initial question: Since Schumpeter only incidentally refers to patents, does it mean that he was a patent abolitionist, i.e. that he believed that patents are welfare decreasing and should be banished? Clearly, this was not the case. Whenever Schumpeter mentioned patents, he never questioned their existence. For instance, *Capitalism, Socialism and Democracy* makes only rare references to patents (the word "patents" appears fewer than ten times in the book), but those are quite explicit:

"Hence it becomes necessary to resort to such protecting devices as patents or temporary secrecy of processes [...] That does not affect the proposition that the protection afforded by patents and so on is, in the condition of a profit economy, on balance a propelling and not an inhibiting factor" (Schumpeter 1942, p. 88).

This point is consolidated in a paper published by Schumpeter in 1947, which is often considered as one of the best syntheses of his thought (Antonelli 2015). That paper contains a section where Schumpeter analyzes how innovations generate benefits not only for innovators but also for the economy as a whole, since "fruits of the progress involved are handed to consumers and work-men" (Schumpeter 1947, p. 155). He then notes that the "practice of innovators striving to keep their returns alive by means of patents and in other ways" (p. 155) can slow down this process of diffusion of the benefits of innovation within the economy. However, overall, he concludes (in footnote 13) that this is a necessary evil because "the knowledge that such measures are available may be necessary in order to induce anyone to embark upon certain ventures" (p. 155).

These elements could be sufficient to dismiss the hypothesis of Schumpeter as a patent abolitionist. He believed that patents are necessary in order to provide incentives for innovation and to promote economic development. The

³ It is interesting to mention that incentives in general were not a central economic concern for Schumpeter. As Laffont and Martimort noted (2002, p. 11): "It is surprising to observe that Schumpeter (1954) does not mention the word of incentives in his monumental history of economic thought. How is it possible when today, for many economists, economics is to a large extent a matter of incentives". We interpret this as evidence that the issue of incentives emerged in economics mostly in the 1970s and 1980s, with the rise of the economics of information.

views of the people who knew him provide additional evidence: for example, his friend Machlup (McCraw 2007) categorized him squarely as a proponent of patents.⁴

However, while Schumpeter was clearly in favor of patents, two remarks can be added. First, Schumpeter sees patents as part of a broader range of monopolistic practices, i.e. in the absence of patents, innovative firms can rely on other strategies in order to secure monopoly power. Clearly, Schumpeter's interest lies in monopolistic practices that enable innovative firms temporarily to enjoy prices above marginal cost, and not specifically in patents. Second, Schumpeter does not refer only to the incentive property of patents, but gives a greater emphasis to their role in stabilizing business, to avoid "disorganization of the market" and to "secure long-range planning".⁵ The process of creative destruction indeed generates industry disorganization and uncertainty that might be harmful for business. Accordingly, Schumpeter appears to see patents and, more broadly, temporary monopolistic practices, as ways to help firms cope with the uncertainty arising from the restlessly changing nature of their competitive environment.

This discussion has shown that, when it comes to examining Schumpeter's relation to patents, the relevant question is not Was Schumpeter for or against patents? but rather Why are patents not more central in his work?

3 The elitist view of entrepreneurs

A first explanation relates to the motivations of the central character of the innovation epic in the Schumpeterian framework, namely the entrepreneur. In *Theory of Economic Development* (1934), Schumpeter introduces an opposition between the economic circular flow, in which economic actors merely adapt to exogenous conditions, to economic development, in which innovation occurs endogenously and disrupts the circular flow, thanks to entrepreneurs.⁶ For Schumpeter, the entrepreneur's function is to transform the invention into an innovation (i.e. to introduce the invention into the economy). The entrepreneur is a leader because "the entrepreneurial function consists in getting things done" (1942, p 132). "He leads the means of production into new

⁴ In his well-known study "An economics review of the patent system", submitted to the United States Senate in 1958, Machlup writes: "That society should protect, and thereby stimulate, investment in innovation -not just invention- has been held by many; but few were as consistent in their conclusions as Joseph A. Schumpeter, who on these grounds favored permitting monopolistic practices of various sorts. He argued that temporary security from competition, through cartels, patents, or other restraints, would encourage firms to put more venture capital into innovating investment" (Machlup 1958, p. 9).

⁵ He writes: "The main value to a concern of a single seller position that is secured by patent or monopolistic strategy does not consist so much in the opportunity to behave temporarily according to the monopolist schema, as in the protection it affords against temporary disorganization of the market and the space it secures for long-range planning" (Schumpeter 1942, p. 103).

⁶ "Walras would have said (and as a matter of fact he did say it to me the only time that I had the opportunity to converse with him) that of course *economic life is essentially passive and merely adapts* itself to the natural and social influences which may be acting on it, so that *the theory of a stationary process constitutes really the whole of theoretical economics* and that as economic theorists we cannot say much about the factors that account for historical change [...] I felt very strongly that this was wrong and that there was a *source of energy within the economic system which would of itself disrupt any equilibrium that might be attained*" (Schumpeter 1937, p. 166).

channels [...] He also leads other producers in his branch after him” (Schumpeter 1911, p.89). The entrepreneur’s main characteristics are “initiative, authority, and foresight” (Schumpeter 1911, p.75).

Now, one might wonder about the incentives and motivations of entrepreneurs. Why do they decide to innovate? According to Schumpeter, the entrepreneurs’ sources of motivation are mostly to be found outside the economic sphere:

“First of all, there is the dream and the will to found a private kingdom, usually, though not necessarily, also a dynasty [...] a sensation of power and independence [...] from spiritual ambition down to mere snobbery [...] Then there is the will to conquer: the impulse to fight, to prove oneself superior to others, to succeed for the sake, not of the fruits of success, but of success itself [...] the financial result is a secondary consideration [...] Finally there is the joy of creating, of getting things done, or simply of exercising one’s energy and ingenuity [...] Only with the first groups of motives is private property as the result of entrepreneurial activity an essential factor in making it operative” (Schumpeter 1911, p. 94)

We see that the Schumpeterian entrepreneur is not a homo-economicus who maximizes only expected monetary gains. He cares about expected profits but, as stated in the above quotation, only as “a secondary consideration”. The entrepreneur is largely intrinsically motivated. If profit is the reward of the successful entrepreneur, it is not his main motivation. Consequently, patents are only secondary in providing entrepreneurs with incentives to innovate. They might affect the repartition of the economic surplus created by entrepreneurs, but not (or only marginally) the amount of this surplus.

It is likely that Schumpeter’s conceptualization of entrepreneurship is based on his thorough knowledge of theories of elite developed by many thinkers of the late nineteenth century (Andersen 2009). More particularly, Schumpeter’s approach seems quite close to that of Vilfredo Pareto, who defined the elite in terms of its capacity to excel in a given social field (economic, artistic, etc.).⁷ This extensive view of entrepreneurship, despite the very distinctive fields in which it operates, is characterized by extraordinary people considered as naturally endowed by leadership and will. On that point, Schumpeter might have been inspired by his professor Friedrich von Wieser, who considered that any society is organized by the natural leadership of a few over the masses (von Wieser 1914). This elitist view of entrepreneurs implies that, while entrepreneurs can only emerge in the very specific social conditions of the capitalist economy, their leadership and their energetic determination to create are not rooted in pecuniary incentive schemes.

However, one flaw remains in this line of reasoning. While entrepreneurs are primarily intrinsically motivated and do not need patents to innovate, this is not the case of investors. Therefore, patents might still be essential for convincing investors to invest into entrepreneurs’ projects. Without patents, expected profits decrease, and

⁷ This can also be observed in Schumpeter’s parallels between economics and art. Schumpeter was indeed deeply interested in the history of art, particularly about how and why artistic evolutions occur in society. As for the economy, he observes that a minority of not necessarily profit-minded individuals drive changes in art.

capital markets might be more reluctant to finance innovative activities. As we have seen in the section 2, Schumpeter mentions this point but only one time, in a succinct footnote from his late work *The Creative Response in Economic History* (1947), although he attributes much importance to credit and capital markets in order to finance entrepreneurs. Why did Schumpeter, when he clearly perceived the importance of credit, not pay more attention to the role of patents in ensuring enough expected benefits to entrepreneurial projects? A possible explanation is given in the next section. Given the properties of the Schumpeterian innovation process, it is quite likely that the expected profits of innovators remain high enough even without patent protection.

4 Creative destruction and the restless dynamics of innovation

In his later work, Schumpeter draws a fundamental distinction between the competitive and liberal era of capitalism during the nineteenth century and the trustified capitalism of the twentieth century. In this new context, where the entrepreneurial function relies less on intrinsically motivated individuals, it is more difficult to justify the lack of centrality of patents. However, once again, Schumpeter does not seem to be concerned about the patent system as a key factor for explaining the new dynamics of capitalism. This is arguably due to his views on knowledge and the innovation process. In Schumpeter's work, knowledge is not a perfect public good in the sense of today's economics of information. Imitation always takes time, which enables firms to profit from their innovations. Present in Schumpeter's later work, this idea was already found in *Theory of Economic Development*:

“He has also triumphed for others, blazed the trail and created a model for them which they can copy. They can and will follow him, first individuals and then whole crowds. Again that process of reorganization occurs which must result in the annihilation of the surplus over costs, when the new business form has become part of the circular flow. But previously profits were made” (1934, p. 133).

This quotation yields two insights into the contrast between Schumpeter's view and the standard characterization of knowledge as a “public good”. The first has to do with his aforementioned “elitist” understanding of entrepreneurship. Schumpeter suggests that innovation breaks the conventional way of doing business. The entrepreneur has to spend time and effort not only to create, but also to spread his innovation to the crowd. Then, for the very same reasons, it takes time for potential followers to see the opportunity to imitate and improve the innovation. Only after a certain threshold of acceptance, and then a certain timeline, does full imitation take place and profit disappear. In other words, imitation requires a form of mental endorsement found primarily in individuals who share the same “entrepreneurial capability”, in opposition to the reluctance and the passivity of the “mass”.⁸

⁸ For example, he wrote: “Economic history of capitalism would be different from what it is if new ideas had been currently and smoothly adopted, as a matter of course, by all firms to whose business they were relevant. However, they were not. It is in most cases only one man or a few men who see the new possibility and are able to cope with the resistances and difficulties” (Schumpeter 1947, p. 152).

The second insight relates to what may be seen as the cognitive approach to the same intuition and echoes economic evolutionist theory, which posits that much of the knowledge embodied in an innovation is not easily transferable. Although the concept of “tacit knowledge” was developed after Schumpeter’s writings, his understanding of knowledge dynamics is arguably similarly determined by social interactions between agents and path dependency constraints. In line with his Wieserian conception of economic sociology, Schumpeter does not consider imitation as a trivial task because of the idiosyncratic nature of knowledge encapsulated in any innovation. In these conditions innovator necessarily enjoys a “first-mover advantage” enabling him and his financiers to make a profit, even though there is no patent to protect them.

Finally, Schumpeter’s vision of the capitalist system leads him to consider that firms have no choice but to innovate. In *Capitalism, Socialism and Democracy* (1942), Schumpeter describes capitalist economy as “incessantly being revolutionized from within by new enterprises, i.e. by the intrusion of new commodities or new methods of production or new commercial opportunities into the industrial structure” (1942, pp. 31–32). This is because innovation does not only affect the input/output scheme of a given market by transforming the initial equilibrium into a new equilibrium that is determined by the initial one. It rather generates “situations from which there is no bridge to those situations that might have emerged in its absence” (Schumpeter 1947, p. 150). Put differently, once the innovation is introduced, it raises out-of-equilibrium conditions urging competitors to develop a creative answer to this new distribution of knowledge externalities and prices, which in turn generate new out-of-equilibrium conditions, again implying new creative possibilities for firms, etc. (Antonelli 2015).

Hence, within this incessant process of creative destruction, the role of patents in incentivizing economic actors to innovate is at best marginal. Firms that do not invest in R&D are running the risk to be overruled by the new out-of-equilibrium conditions and ultimately to be driven out of the market. This latter point is consistent with Schumpeter’s critique of the standard opposition between monopoly and perfect competition. Indeed, Schumpeter considers that there is no such thing as pure perfect competition or pure monopoly in the real economic world. With regard to monopoly, for example, he argues that, while a firm can put barriers to entry on a market, it cannot put barriers to entry on what has not yet come – namely, further innovations. Consequently, the best way to strengthen a market position is to anticipate novelty by remaining one step ahead.

5 Conclusion

This paper has offered an explanation as to why Schumpeter wrote so little about patents in his abundant output. We have argued that Schumpeter’s own vision of knowledge and of the innovation process led him to downplay radically the importance of patents for encouraging innovation. Our explanation relied on three main characteristics of Schumpeter’s thought: first, entrepreneurs are largely motivated by non-monetary elements; second, they enjoy a first-mover advantage because imitation is difficult; third, Schumpeter viewed the innovation process as a relentless race in which firms are doomed to innovate in order to avoid disappearing. As Antonelli (2015) noted, the latest Schumpeterian vision of capitalism has moved toward a more complex

and evolutionary understanding of economic change according to which it becomes clear that the best, if not the only, means to compete is to innovate. To Schumpeter, competition is similar to an innovation race based on creative destruction; within this race, there is no such thing as a public good dilemma because firms cannot stop innovating. Our explanation of Schumpeter's lack of interest in patents, therefore, sharply contrasts with the standard Arrovian view of knowledge and of the innovation process.

Building on this work, we believe that it could be useful to investigate further how such evolutionary accounts of knowledge and innovation processes might challenge or confirm conventional justifications of patents. An interesting avenue of research would be to compare Schumpeter's insights to those of Hayek. Indeed, Schumpeter's analytical shift from price equilibrium to the inherent complexity of economic evolution echoes the Hayekian appraisal of market mechanisms (Metcalf 2010). Now, it is worth noting that Hayek seemed to be even much more skeptical toward patents, and more generally toward IPR in general,⁹ than Schumpeter. In the Hayekian framework, patents could be systematically detrimental as they affect both the dissemination and the nature of knowledge, which, in turn, may disturb the spontaneous order of the market. Obviously, Schumpeter would not endorse such a view. In that sense, his position on patents seems to reflect his broader position as an economist: in the middle ground between neoclassical orthodoxy and Austrian heterodoxy. This in-between position would be worthwhile investigating further in order to achieve a more balanced understanding of the benefits and drawbacks of the patent system.

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Compliance with ethical standards

Conflict of interest The authors declare that they have no conflict of interest.

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⁹ On patents, Hayek wrote: "It seems to me beyond doubt that in these fields a slavish application of the concept of property as it has been developed for material things has done a great deal to foster the growth of monopoly and that here drastic reforms may be required if competition is to be made to work. [...] Patents, in particular, are specially interesting from our point of view because they provide so clear an illustration of how it is necessary in all such instances not to apply a ready-made formula but to go back to the rationale of the market system and to decide for each class what the precise rights are to be which the government ought to protect." (1948, p. 114).

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