APPENDIX A3: BASIC PATENT THEORY

Patents serve to protect disclosed intellectual property. They provide a mechanism for an inventor to disclose the design of an invention in return for time-limited monopolistic rights to said item or process. In theory, there are positive and negative aspects of patents.

Some theory paints a positive picture of the effects of patents. Patents may spur the development of new inventions. Disclosing an invention allows others to observe its invention and to license the use of said invention if an agreement is made with a patent holder. This encourages the spread of knowledge. Additionally, disclosure could allow others to innovate further on the item which was publicly disclosed. Others could find novel uses for inventions that have been publicly disclosed.

Patents may also encourage higher investment in innovation. Patents allow the monopolization of an item for 20 years, which can lead to profits which could be used to recoup investment costs. This increases the incentive to innovate, leading to inventions which would not have otherwise been pursued. This is particularly relevant to pharmaceuticals, as the price of research is extremely high. Having a patent may also increase availability and marketing for patented products because of the artificial monopoly.

Patents may also have negative effects. The standard model of a monopoly suggests that the price and quantity that will occur are not efficient. Besides the abstract deadweight loss, this can be thought about in more concrete terms. A lower than optimal availability of life-saving drugs could lead to deaths. Gold et al. (2009) find that patents do increase the cost of pharmaceuticals in high, middle, and low-income countries.

The benefits of increased knowledge may be offset by the long length of time that patents last for. This could also hamper any innovation that builds upon inventions that have been patented, as many new inventions contain hundreds of parts which each may be patented. This makes innovation build upon prior work extremely difficult. Creating an invention may involve untangling a legal webwork of prior patents.

Very simple inventions – inventions as simple as 1-click checkout (Dewitt, 2017) – may be patented, which could reduce the usage of certain inventions well below the optimal level. Hall and Harhoff (2012) state that "firms and individuals that are endowed with such a rather complex legal instrument will learn to use it strategically in ways that may not serve the intent of the legislation that created the instrument." Between patenting trivial ideas and taking advantage of regulatory framework, inefficiencies may arise.

TRIPS creates a global framework for patents. We would expect to observe some results related to some or all the theories above as well. Kyle and McGahan (2009) find that the TRIPS agreement and patents led to more innovation in developed countries, but not in the poorest countries. They also found that most corporations focused on research for wealthier countries since the highest profits could be found in those countries.