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Patent maintaining and premature expiration of utility models in Taiwan

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ABSTRACT

The most commonly seen patents are invention patents, utility models and design patents. Among them, utility models are the most controversial type. The purpose of utility models is to quickly protect creations of lower technological levels or with a shorter life cycle. Nonetheless, the most optimal length of the term of utility models remains an open question. Utility models in Taiwan are the focus of this study, and International Patent Classification (IPC) was used here for the random sampling of the utility models. The investigators discussed the granting of the utility model and the expiring of utility models prematurely in Taiwan over the past ten years (2003–2012). The results suggest that compared to other sections, Section A (human necessities) and Section E (fixed constructions) of IPC have a shorter term of utility model maintaining. Aside from a higher expiration rate, their utility model terms are on average just over 3 years. As for the Section H (electricity) and Section C (chemistry, metallurgy), their utility model terms are slightly longer than those of other utility model sections and the number of renewed cases are also greater. In addition to a lower expiration rate, the utility model terms of these two sections are sometimes longer than five years. The study results can perhaps also be used as a reference by countries interested in introducing the utility model for determining the term of utility models.

1. Introduction

Among nations with a patent system, most of them protect invention patents, but not many of them include the utility model. Taking the USA as an example, patents under US patent law are classified into three types: utility patents, design patents and plant patents [1]. According to Beneito [2], utility patents can be further divided into patents and utility models.

The three most commonly used patent types by countries worldwide are invention patents, utility models, and design patents. The utility model is the most controversial one. The purpose of invention patents is to protect technological inventions, while the purpose of design patents is to protect the style and appearance of a creation. After a long evolvement, these two types of patents are relatively stable in terms of the examining system. The position of the utility model, however, is ambiguous. Countries with the utility model system use it to quickly protect simple technological inventions by granting the right rapidly. Taiwan as an example, patent types include Invention Patent, Utility Model, and Design Patent. Table 1 shows the three types of patents in Taiwan and their features.

Germany introduced its utility model law [3] in 1891, becoming the first country adopting the utility model among industrial countries in Europe. The objective of the utility model is to quickly protect creations with a lower technological level and a shorter life cycle [4–6]. In other words, the utility model has a shorter examination process [7].

Although Trade-Related Aspects of Intellectual Property Rights (TRIPs) does not cover the utility model, the majority of countries worldwide have still established a utility model system based on the features of their industries. For example, Brazil, China, Germany, Korea, Netherlands, and Taiwan all use the utility model to protect the domestic industries [8–13].

According to the patent law in Taiwan, a utility model is the creation of technical ideas relating to the shape or structure of an article or combination of articles, utilizing the laws of nature. The term of a utility model shall expire after a period of ten (10) years starting from the filing date [14]. Only articles with a shape and structure or assemblies of these articles are eligible for utility model applications. Manufacturing methods, application methods,

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Table 1
Types and features of patents in Taiwan.

Patent type	Invention patent	Utility model	Design patent
Patent examination	Substantive examination system	Formality examination system	Substantive examination system
Targets of protection	Higher technological creations	Lower technological creations	Appearance and style related creations
Patentability requirements	Industrially applicable, novelty, and non-obviousness	Industrially applicable, novelty, and non-obviousness	Industrially applicable, novelty, and creativity
Time for the examination	18–36 months	4–6 months	12–18 months
Patent protection term	20 years	10 years	12 years

treatment methods of articles and chemicals or chemical compounds without a specific volume or shape are not qualified for the utility model, and thus they are not eligible for utility model applications.

The patent protection term varies among countries depending on the type of patents and the industrial development. Nevertheless, many patent holders do not wait until the end of the term but voluntarily renounce the patent at any time to stop paying for the patent maintenance fee.

After implementing patent law, the government can revise the law according to the condition of the industries. For example, Japan revised its patent law in 2006 to extend the patent term. The term of patent protection can be prolonged according to the life cycle of the product after commercializing the patent as well as the public's need for patent right extension [15]. During the revision of the patent law in 2013, Taiwan also proposed regulations and procedure for extending the term of patents, especially for pharmaceutical products and other articles requiring a longer research and development period.

On February 6, 2003, Taiwan revised its patent law to change the examination benchmark of the utility model from a substantive examination system to a formality examination system. This change impacted the innovation and patenting activities at universities in Taiwan [16]. A formality examination system means that the examination of a utility model application will be based on whether the specification, scope of the utility model for application, abstract, and figures meet the formal requirements. During the formality examination, there is neither prior art search nor substantive examination on whether the creation qualifies for the utility model requirements. An advantage of the formality examination is the shorter examination time, which allows applicants to obtain the utility model right faster. Although the term of protection for utility models is limited to ten years, products with a shorter life cycle, such as cell phones, tablet computers and other consumer electronics, can be quickly and conveniently protected.

Nonetheless, the length of the utility model protection remains unsettled. In Taiwan, the majority of patent applications are for the utility models. In this study, the investigators chose utility models of Taiwan as the study samples. In Taiwan, the term of the utility models is ten years. In this study, patent sampling was based on International Patent Classification (IPC). The investigators explored the situations of the granting of utility models and premature expiration over the past ten years (2003–2012). The investigators also analyzed the term of utility models to discuss the ideal length of patent protection term of each patent class. The objectives of the study are as follows. First, the main trend of the renewal and premature expiration of utility models in Taiwan over the past ten years is investigated and discussed. Second, renewal and expiration statistics were determined for each of the eight major sections of utility models by classifying the research samples based on the IPC. Third, among the eight sections, those with the shortest and the longest duration are to be analyzed, and possible explanations for the phenomenon will be offered.

2. Research samples

To make the study more general, the investigators did the random sampling using International Patent Classification (IPC), which was established according to Strasbourg Agreement Concerning the International Patent Classification and enacted by World Intellectual Property Organization (WIPO). The earlier editions of IPC were application oriented, but in view of the global trends, the classification of the contents of patent technology in the latter IPC editions has been both functionality and application based.

IPC has a hierarchical classification system, and mutually independent symbols are used to represent the patent technology of each domain. There are a total of six levels—sections, subsections, classes, subclasses, groups, and subgroups. In this study, the random sampling was done at the section level only. A total of ten years (from 2003 to 2012) were included in the sampling in order to match with the ten-year utility model protection term. From 2003 to 2012, the investigators picked the first issued utility model on the first day of each month and included it in the study samples. From each section (Sections A–H), 120 utility models were randomly sampled, and in total, there were 960 cases. The study used each section to compute the ratio between utility model renewal and utility model expiration. The data can be used to explore if the premature expiration of utility models differs among the sections.

3. Validity and expiration rate of utility models in Taiwan

The study analyzed the data based on the system sampling described above, and the results are presented in Table 2. Among a total of 960 randomly sampled cases, 507 of them were renewed cases (52.81%), while 453 of them were expired cases (47.19%). More specifically, Section A ($N = 69$) and section E ($N = 67$) had the highest number of expired cases, while Section C ($N = 43$) had the lowest number of expired cases.

To further examine the rate of total renewal, the total number of renewed cases of all sections, i.e., 507, was used as the denominator, while the number of renewed cases of each section was the numerator. Take Section A as an example, the number of renewed

Table 2
The renewal and the expiration rates of Sections A–H.

Section	The number of cases of renewed (a)	The number of cases of expired (b)	The renewal rate (a/a + b)	The expiration rate (b/a + b)
A	51	69	0.42	0.58
B	65	55	0.54	0.46
C	66	54	0.55	0.45
D	71	49	0.59	0.41
E	53	67	0.44	0.56
F	62	58	0.52	0.48
G	62	58	0.52	0.48
H	77	43	0.64	0.36
Sum	507	453	0.53	0.47