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# **The Potential for Optimising the Swiss National Patent System**

**Management Summary**



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## Foreword

Even the tried and tested should be questioned from time to time. Institutional changes, technical developments or simply the passage of time often result in new, undiscovered possibilities for optimising existing sets of regulations. The Swiss patent system has stood the test of time over the years and has made a significant contribution to ensuring that Switzerland is a global leader in key innovation indicators. However, this doesn't necessarily mean that this system can also meet the coming challenges. Asian nations such as Korea and China, which are advancing to become patent superpowers, and developments concerning the planned European unitary patent are shifting the balance of power towards the international innovation map.

Therefore, to find out if the Swiss patent system can also hold its own in the patent landscape of the future, the Swiss Federal Institute of Intellectual Property (IPI) mandated the economic consulting companies Polynomics and Fronter Economics to compile the present study. The goal of the study was to identify potential for improvement and – if any was found – to make recommendations on how this could be rendered usable for the public at large.

It is gratifying to see that the existing system scores well in the investigation. It provides a good balance between the demands from various sides, although the results also show that there is room for improvement, particularly with regard to national Swiss patents. Even though this national IP right is only of minor economic importance, an appropriate reform could increase its value and consequently make it more attractive. This is the area in which the study particularly makes a good contribution for further discussion.

I would like to thank the researchers from Polynomics and Frontier Economics for successfully carrying out this demanding task. I am also indebted to all experts who made themselves available for an interview. And my thanks go, not least, to all those who took the time to participate in the electronic survey. You are all collectively responsible for ensuring that we now have a clearer picture of the potential for optimisation that still exists in the Swiss patent system.

**Roland Grossenbacher**  
*Director General of the Swiss Federal Institute of Intellectual Property*

Bern, May 2015

## The essentials in brief

Is there a need to reform the Swiss patent system? And if so, what measures can be taken to harness the potential for optimisation for the benefit of the stakeholder groups concerned and the entire economy? To answer these questions, more than 20 structured interviews were initially carried out with experts from key stakeholder groups. As a result, four possible aspects of reform were identified in addition to the option ‘abolishing the national Swiss patent’: switching to a fully examined patent, adding a utility model, introducing a grace period and strengthening international cooperation.

An extensive survey of all stakeholder groups in Switzerland revealed that around 20 percent want to abolish or replace the Swiss patent with a utility model. A good third prefer to maintain the status quo or complement it with a novelty grace period, and almost half are in favour of introducing a fully examined patent.

From an economic point of view, those reform options that reduce uncertainty in the system hold special advantage. Additionally, a comparison with other countries shows that many national patent systems have had positive experiences with different forms of a full patent examination. As a result, subsequent investigations were restricted to variants of a full patent examination.

Full patent examination-with ...	Qualitative economic analysis	International comparison	Survey	Evaluation
Grace period	Additional legal uncertainty Research results available more quickly	e.g. KR, JP, ES, UK, SG Used little	Negative willingness to pay, i.e. clear rejection	Additional costs (legal uncertainty) higher than additional benefit
Utility model	Possibility of easy protection (like today)	Popular mainly in emerging markets But also often used in DE	Regarded as an important supplement Positive willingness to pay exists	Benefits appear to outweigh costs
International cooperation	Possible improvement in efficiency Reduction of costs and duration of the examination Possibly quality issues when taking on examination results	Cooperation often takes place wherever examination takes place	Regarded as an important supplement Positive willingness to pay exists	Makes sense so long as problems with quality can be avoided.

Based on the economic analysis, an international comparison and the survey, the following are recommended:

- No abolition of the national Swiss patent
- No change to the scope of protection nor exceptions to protection within the current system
- No introduction of a utility model / grace period to the current Swiss patent
- The introduction of a full patent examination (with a utility model and international cooperation)
- Based on the results concerning willingness to pay, doubling the fees for a fully examined patent would be possible.

# 1. Management Summary

## 1.1. Is a reform of the Swiss patent system necessary?

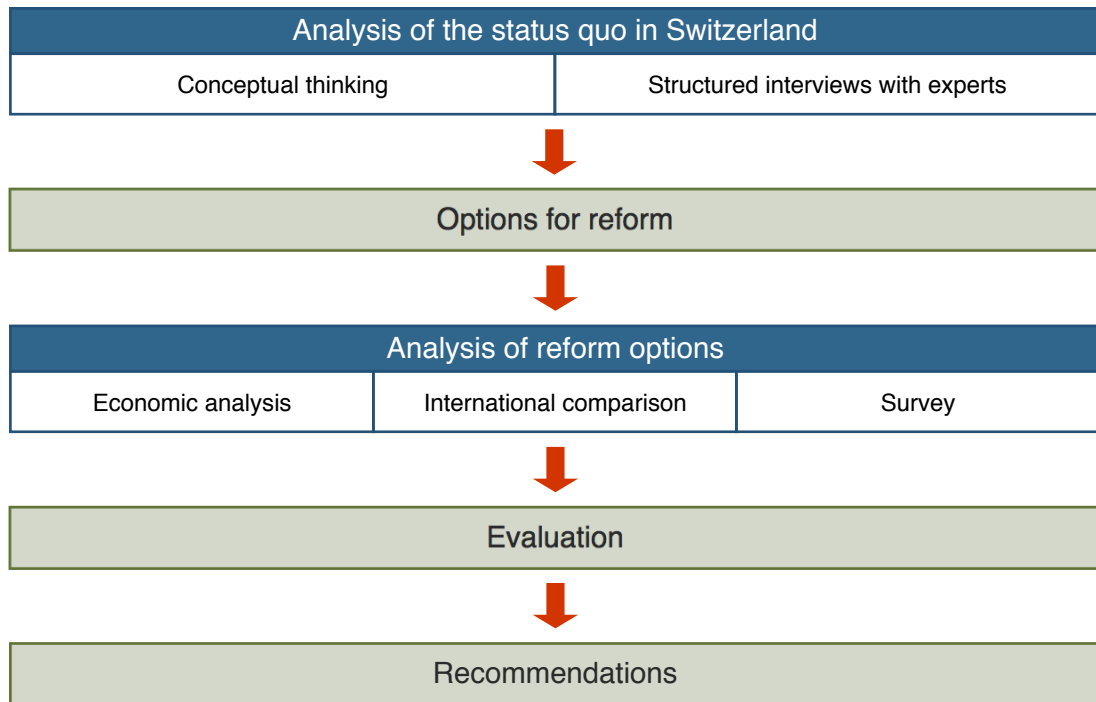
In Switzerland today, a patent application is not examined for novelty or inventive step. Neither is there a utility model nor is a grace period granted. However, looking at the development of the patent system in Switzerland, this was not always the case. The question of a fully examined patent (historically referred to as a 'preliminary examination') was often discussed in the past within the framework of revising the Patents Act. With the third Patents Act of 1954, the preliminary examination was implemented gradually, initially for the textile industry and for timekeeping technology. Electrical engineering and other industries should also have been introduced in a second phase, but instead the fully examined patent was abolished for the textile industry and watches in 1995. The introduction of a utility model has also been the subject of continual controversy since the 1960s, but it has still not been introduced to this day. A comparison of the Swiss patent system with national systems in other countries also reveals certain differences. In most countries, patents are fully examined, which promotes international cooperation within the scope of the Patent Prosecution Highway Program (PPH). Various countries also offer a utility model in addition to a fully examined patent and grant the patent and/or utility model a grace period. In light of this historic development and the differences internationally, the Swiss Federal Institute of Intellectual Property (IPI), as the Swiss Confederation's centre of competence for intellectual property rights, requested Polynomics AG and Frontier Economics Ltd to address the issue of possible options for reforming the Swiss patent system. This was also carried out in view of discussions on introducing a European unitary patent and its impact on the Swiss patent system.

## 1.2. Multi-stage procedure for identifying and evaluating the options for reform

To identify and evaluate the options for reform from various perspectives, we proceeded as follows (see Figure 1):

1. *Analysis of the status quo:* For this analysis, we carried out in-depth conceptual thinking on the function of a patent system and the configuration of different variants concerning how patents can be examined. We also carried out interviews by means of a structured questionnaire with around two dozen experts (lawyers), inventors (small and large companies), associations (patent attorney associations, trade associations, non-profit organisations) and with experts from the administration.
2. *Options for reform:* As a result of analysing the status quo, we identified four possible aspects of reform:
  - Introducing a fully examined patent
  - Introducing a utility model
  - Introducing a grace period
  - Intensifying international cooperation

**Figure 1 Overview of the levels of analysis and individual stages**



*This figure illustrates the process for identifying and evaluating the possible options for reform. Based on an analysis of the situation in Switzerland in the form of conceptual thinking and interviews with experts, possible options for reform were identified. The evaluation of these reform options was made based on economic considerations, an international comparison and on the basis of an extensive survey of diverse stakeholder groups (lawyers and patent attorneys, inventors, NGOs, the administration, academia, etc.) The evaluation of the results of the various stages served as a basis for recommended actions.*

Source: Polynomics / Frontier Economics (2015).

3. *Analysis of the reform options:* The options for reform identified were examined on the basis of three analytical approaches:
  - (1) An *economic analysis* allowed for a theoretical discussion on the costs and benefits to the stakeholder groups affected by the potential options for reform.
  - (2) An *international comparison* served to contrast the options for reform with the experiences of other countries, in this case Germany, Austria, Spain, the Netherlands, Great Britain, Singapore, Korea and Japan.
  - (3) An extensive *survey* also allowed the reform options to be directly evaluated by the parties concerned. For this, we carried out a broad-based survey with inventors, lawyers and patent attorneys, as well as other stakeholder groups such as NGOs, the administration and academia. The IPI contacted all relevant stakeholder groups that were interviewed as part of the last revision of the Patents Act. Overall, we received 211 responses, with 20 per cent of those being from the French-speaking region of Switzerland. On the basis of these responses, it was possible for us to determine the various preferences of the stakeholder groups and to ascertain their willingness to pay for the different reform options.



4. *Evaluation*: The options for reform were evaluated by combining the results of the analyses carried out in step three.
5. *Recommendations*: We made recommendations to the IPI based on the preceding steps.

We have summarised our results in the following sections.

### **1.3. Summary of the results**

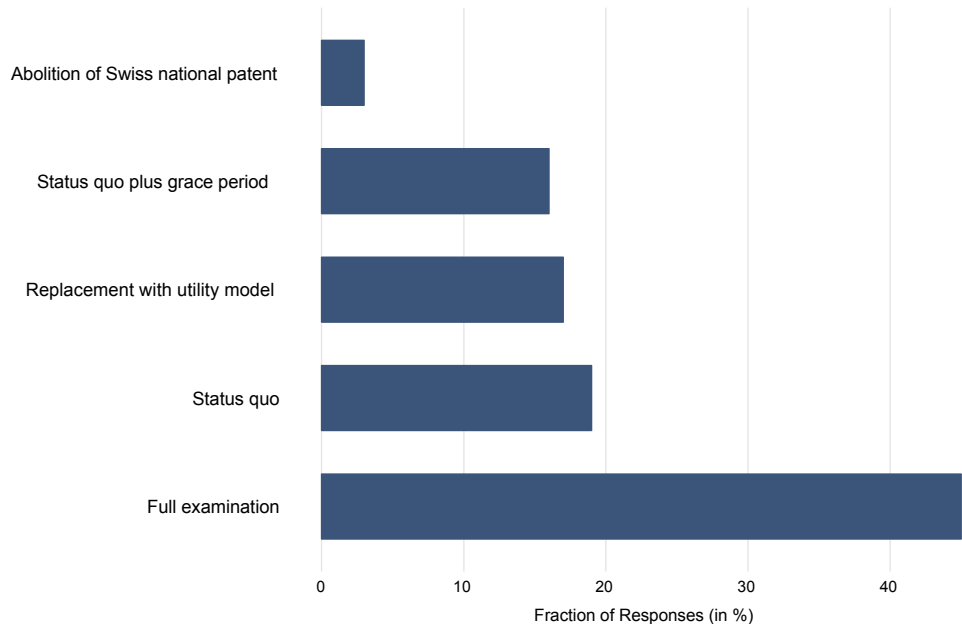
#### **1.3.1. No abolition of the Swiss patent and no ‘minor’ reform**

The goal of a patent system reform must be to substantially improve it. In particular, this can be in the form of increasing certainty for users. Based on the reform options identified, a multitude of combinations ranging from abolishing the Swiss patent and maintaining the status quo to introducing a fully examined patent are possible. Internationally, many combinations exist. The economic analysis suggests focusing on the variants with a fully examined patent due to the greater legal certainty of the validity of a fully examined patent, possibly in combination with the option of abolishing the national patent. Finally, the results of the survey largely show a preference for a fully examined patent in various forms.

In the survey, respondents could choose from three system options (see Figure 2):

1. *Abolishing the national Swiss patent and replacing it with a utility model*: While only three per cent of those questioned were in favour of a complete abolition of the national Swiss patent, the option of replacing it with a utility model was, nevertheless, a viable option for 17 per cent of respondents.
2. *Maintaining the present system with and without additional reform options*: We proposed to those surveyed the additional option of introducing a grace period as a supplement to the present system, which received more support than abolishing the Swiss national patent. By combining support for maintaining the status quo (almost 20 per cent) with supplementing the status quo with a grace period (around 15 per cent), the proportion of those interested in maintaining the status quo or in a ‘minor’ revision represents a good third.
3. *Introducing a fully examined patent*, whereby a patent filed in Switzerland is also examined for novelty and inventive step. This reform option was the most popular with those surveyed, with 45 per cent being in favour of it. Large companies and patent attorneys that represent them were particularly supportive of a fully examined patent in comparison to maintaining the status quo.

**Figure 2** Choice of system options



*Those surveyed could choose from five system options. This figure illustrates that around 20 per cent want to abolish or replace the Swiss patent with a utility model. A good third prefer to maintain the status quo or replace it with a grace period, and almost half are in favour of introducing a fully examined patent.*

Source: Polynomics / Frontier Economics (2015).

### 1.3.2. Introduction of a fully examined patent as a key reform proposal

As international experience shows and the expert interviews in Switzerland suggested, there are various possible forms of a fully examined patent. For this reason, we presented those surveyed with a choice of systems with a fully examined patent. In the survey, respondents had to choose ten times between the present Swiss patent system and an alternative system with a fully examined patent. For the options with a fully examined patent, we varied the duration of the patent examination (three years or 18 months), the utility model (with and without), the grace period (with and without) and the extent of international cooperation (none, European or worldwide). The various options for a fully examined patent were also differentiated by the annual payable fee.

A look at international experience shows that the fully examined patent is widely used. Only the Netherlands is an exception among the countries studied; it abolished the fully examined national patent in 1995 (in light of the possibility of still being able to obtain a fully examined patent via the European route). Even though the fully examined patent is prevalent internationally, the specific structure and quality of such an examination differs greatly between the countries. Not only is the level of detail in the examination varied (it sometimes only extends to certain sectors), but also the duration of the patent examination is different from one country to the next.

*From a theoretical point of view, it can be assumed that the examination would be more intensive and as a result more expensive than it is today. Different stakeholders would be*

fully affected by the higher costs, depending on the degree to which new resources at the IPI would need to be put in place for a full patent examination, and to what extent the higher costs would be translated into higher fees. Simultaneously, the risk to an inventor of not being granted a patent if the invention fails the examination for novelty and inventive step would increase in comparison to today. It is also to be expected that due to a more intensive substantive examination, the duration of the examination would increase. Particularly affected by these developments would be inventors, who currently benefit from the relatively rapid process of the Swiss patent system, which does not include an examination for novelty and inventive step.

*Our survey results* also reflect the limited benefits of a fully examined patent without any additional reform options. Those surveyed would be significantly less inclined to opt for a Swiss patent system that includes an examination for novelty and inventive step than a system in which the full patent examination is supplemented with additional features. In other words, they are not prepared to bear higher costs simply for an additional patent examination. Interestingly, this also holds true for the option in which a patent examined for novelty and inventive step would be granted within 18 months.

Our analyses therefore demonstrate that the high level of acceptance of a fully examined patent can only be explained by taking into account other supplementary reform options.

### **Introduction of a grace period with a fully examined patent**

One possibility of supplementing a fully examined patent is to introduce a grace period. This option, which is particularly supported by academia, means that even though the subject matter of protection has been made public, a patent may still be filed within a specified time limit.

*Internationally*, seven of the eight countries investigated have a grace period for utility models (five countries) and/or patents (five countries), but it is relatively rarely requested. In those countries without a grace period for patents, the biggest demand for their introduction comes from research institutes and universities, whereas other interest groups are often sceptical about introducing them.

*From a theoretical point of view*, a grace period results in less security, particularly with companies whose research and development activities are based on previously published scientific findings, since it is unclear which results may be effectively used. This decrease in legal certainty is compensated by the fact that, with a grace period, findings are more rapidly available to the public, which can result in a greater level of knowledge exchange.

The survey clearly shows that the majority of those questioned are not in favour of a grace period due to the decrease in legal certainty expected. Regardless of whether a patent system with a fully examined patent in Switzerland is accompanied by a grace period for patents or utility models (if these were also to be introduced), the probability of such a patent system being chosen is significantly lower than alternative patent systems with a fully examined patent. This is also illustrated by our calculations concerning willingness to pay, which is either non-existent (grace period for utility models) or even negative (grace period for patents), which means that in order to get users to opt for a system with a fully examined patent, they would have to be compensated to do so.

It therefore appears that for stakeholder groups, other options are relevant in their choice of a Swiss patent system with a fully examined patent.

### **Introduction of a utility model with a fully examined patent**

One such option would be the introduction of a utility model together with a fully examined patent. *International practice* shows that around half of the countries investigated use a utility model, with them being particularly popular in Germany and Korea.

*From a theoretical point of view*, the advantage of supplementing a fully examined national patent with a utility model is that inventors can essentially remain in the present system. Moreover, this option would provide inventors with a choice between the current patent (which is not examined for novelty and inventive step) in the new form of a utility model, and a new fully examined patent. The utility model would also give inventors the possibility of protecting their invention from imitation in a first step, and perhaps opting to convert it into a patent at a later date. In other words, inventors would be given an additional option. However, they would have to bear higher costs compared to maintaining the status quo as two systems would exist in parallel.

The evaluation of *the survey* illustrates that introducing a utility model together with a fully examined patent is an important factor from the point of view of the stakeholder groups. When the fully examined patent is combined with a utility model, the likelihood of this option being chosen in comparison to alternative versions with a full patent examination increases. The calculation concerning the willingness to pay also shows that users are prepared to pay approximately double the current fee (excluding patent attorney costs) for a fully examined national patent in this form.

### **Intensifying international cooperation with a fully examined patent**

Finally, as a further option to a system with a fully examined patent, we also proposed the possibility of intensifying international cooperation together with the examination. We combined varying degrees of international cooperation together with each patent system with a full patent examination.

*International comparison* shows that international cooperation is used by all countries investigated to varying degrees. In those countries that participate in the so-called Patent Prosecution Highways (PPH), cooperation has resulted in reduced processing times and a minimal backlog in the processing of patent applications. In addition, patent offices appreciate the increased quality in patent examining and granting procedures, as well as an improvement in efficiency.

*From a theoretical point of view*, the advantage of international cooperation is that patent examination costs at the national patent offices can be reduced as can the duration of the examination. Furthermore, it can be expected that it will assist patent offices in harmonising their evaluations in patent examining, which in turn increases certainty from the point-of-view of the inventor. Mutual recognition of granted patents, however, could pose the risk of a potential decline in the quality of examination in those partner offices with the higher standard, which would ultimately decrease legal certainty.

According to the *results of our survey*, increased efficiency from the perspective of the inventor seems to prevail. When the fully examined patent is combined with enhanced international cooperation, the likelihood of this system being chosen in comparison to alternative versions with a full patent examination increases. This is also reflected in the willingness to pay. Those surveyed are prepared to pay around double the current annual fees (excluding patent attorney fees) for a fully examined national Swiss patent benefiting from international cooperation. From the perspective of those surveyed, it is irrelevant

whether such international cooperation – through participation in a PPH – takes place with selected European countries or with selected countries worldwide.

### **1.3.3. Possible forms of the Swiss patent system with a fully examined patent**

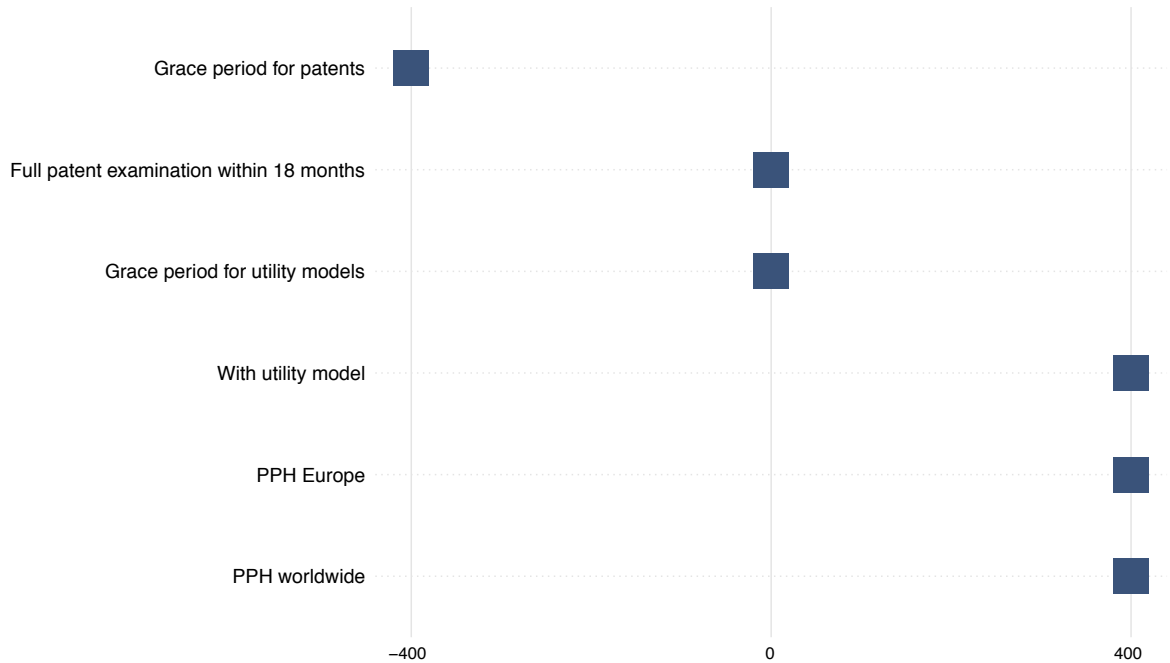
The great level of approval expressed in our survey regarding a national Swiss patent with an examination for novelty and inventive step (full examination) must be put into perspective. Only the option of introducing a utility model and intensifying international cooperation by participating in a PPH leads to users being prepared to pay a higher fee, i.e. this option has more value (see Figure 3).

Without both of these elements, there would be no reason for those surveyed to give preference to a fully examined patent over maintaining the status quo. The weighting of individual reform options differs according to the various stakeholder groups. Whereas a fully examined patent combined with a utility model is particularly important for patent attorneys, participating in international PPH programmes is at the forefront for inventors. Interestingly, survey participants do not see any significant benefit from a guaranteed maximum processing time of 18 months for a patent application.

An analysis of the willingness to pay revealed that for a fully examined patent, the IPI could charge around double the fee of the current unexamined patent, while the fees for a utility model should correspond approximately to the fees for the current unexamined patent. With a change in the patent system, it is also possible that the number of patent applications will increase.

Almost 40 per cent of those surveyed indicated that they would file more patent applications in Switzerland with their preferred option for reform. The survey provides indications that this could result in a 1.5 per cent increase of current annual national patent applications. In a system with a fully examined national Swiss patent and a utility model, it is expected that almost half of these applications would be for a utility model.

**Figure 3 Willingness to pay for a patent system with a fully examined patent combined with additional reform options**



*This figure illustrates how much those surveyed are prepared to pay for a patent system with a fully examined patent. If the system with a fully examined patent combined with a grace period for patents were introduced, it would be necessary to recompense users with CHF 400 per year. If a new patent system with a fully examined patent included either granting the patent within a guaranteed 18-month period or a grace period for utility models, users would not be willing to pay more than the present system. On the other hand, those surveyed would be prepared to pay double the amount of their current CHF 500 per year for a Swiss patent (fees for the term of the patent converted into an annual fee, excluding patent attorney fees) if a fully examined patent were to be introduced combined with a utility model or international cooperation (European or worldwide).*

Source: Polynomics / Frontier Economics (2015).

#### 1.4. Recommendations

On the basis of the expert interviews carried out, an analysis of other national patent systems, the survey carried out and the theoretical economic analysis, the following recommendations can be made:

##### **Recommendation 1:**

Abolishing the national Swiss patent is not advisable.

##### **Recommendation 2:**

A major change to the scope of protection and exceptions to protection is not advisable.

### Recommendation 3:

Changes to the present national patent without a fully examined patent such as the introduction of a grace period or a utility model are not advisable.

### Recommendation 4:

Based on the survey results, the introduction of a fully examined patent is advisable (in combination with the possibility of a utility model and participation in international cooperation (PPH) but without a grace period).

### Recommendation 5:

Based on the results concerning willingness to pay, it is possible that the fees for a patent today can be doubled for a fully examined patent. The fees for a utility model should correspond to the fees for a patent today.

Table 1 puts these five recommendations for Switzerland into context internationally. Roughly speaking, the Swiss patent system would correspond to the patent systems in Germany and Austria if the recommendations were implemented.

**Table 1**      **Approximate categorisation of the recommendations compared internationally**

	A fully examined patent	Grace period for patents	Utility model	International co-operation
Switzerland today	x	x	x	x
Netherlands	x	x	x	x
Korea, Japan, Spain	✓	✓	✓	✓
UK, Singapore	✓	✓	x	✓
Germany, Austria	✓	x	✓	✓
Recommendation for Switzerland	✓	x	✓	✓

*If the recommendations are implemented, the Swiss patent system will have similar features to the systems in Germany and Austria (x means 'does not exist' and ✓ means 'exists').*

Source: Polynomics / Frontier Economics (2015).

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