

# Political Economy of the Patent System: the Mechanisms of Patent Inflation

<http://swpat.ffii.org/analysis/inflation/swpattisna.en.html>

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During the last 200 years, the patent system has continually expanded. This expansion is not so much the result of conscious economic policy but rather to some automatic dynamics of political organisations, similar to monetary inflation or to the arms race. This article identifies several causes of patent inflation, traces their evolution and tries to look into the future.

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## **1 corporate patent departments “standardising on” the most “liberal” patent system**

Generally it is believed that large corporations like IBM and Siemens are interested in extending the patent system, because they profit from keeping small companies out. But that is at best half of the truth.

In fact, large corporations are not those who benefit most from the patent system. Some smaller companies who focus entirely on developing patents rather than products are even better fit for survival in a patent-cluttered environment. Companies like Qualcomm, Priceline, TechSearch etc and many others can be a pain in the neck for Siemens or IBM and may be causing these companies to lose more than they can gain through software patents.

Why is it then that large corporations are pushing for an extension of patentability in Europe?

An recent article by Arno Körber<sup>1</sup>, head of the patent department of Siemens, gives the answer.

Körber regrets the loss of “patent peace” in the area of micro-electronics and software and ascribes this to decisions by US lawcourts, namely the CAFC, in the early 1980s. He describes how this has adversely affected interoperability, and he does not claim that it has brought any benefit either to Siemens or the economy as a whole.

Yet Körber says that Siemens has been pushing German patent courts and patent offices to emulate the US practise. The reason for this is that Siemens is oriented toward the global market, and this market has come under a strong impact of the US patent system. In order to make sure Siemens obtains as many patents as its US-based competitors, the patent department must make sure Siemens employees are motivated to patent everything they develop. According to Körber, they will not be sufficiently motivated, if they can not obtain a valid patent at home as well as in the US.

Körber’s patent department developed various various incentive systems for motivating Siemens employees to patent what they can, and Körber writes that they have proven a great success. He does not explain why incentive systems alone could not be enough of a motivation in those cases, where a patent can be obtained only in the US. Given the global nature of Siemens and of the communication standard negotiations for which Siemens needs the US patents, it is hard to believe that the motivation gap cannot be overcome. It is however clear that being able to file patents at home makes life somewhat easier for the Siemens patent department.

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<sup>1</sup><http://swpat.ffii.org/papers/boch97-koerber/boch97-koerber.de.html>

In general, global monoculture is very attractive for executives of global companies. Just as they like to “standardise on Microsoft”, they also tend to orient their company toward one national patent system, viewing all others as cost-generating deviations. There can be little reason for the corporate patent department not to orient its work to the most expansive regional patent system, especially when that is found in a country like the US which has been acting as the world’s trend setter in many areas for many decades.

## **2 patent legislators reinforcing their social position**

Körber writes that Siemens contributed its part to pushing German caselaw into the direction of software patentability. In fact, Siemens and IBM have fought various borderline cases through to the highest courts and obtained rule-setting decisions that extended patentability step by step. Those companies who might suffer from an infringement lawsuit usually have no interest to push for a rule-setting decision but only in protecting themselves from a particular patent, and they will usually not fight this through to the supreme level of jurisdiction. Before patent offices and patent courts, the voice of patentees is heard earlier and more prominently than the voice of occasional “infringers” and “opponents”. The voice of the general public is not heard at all. This has even led patent law scholars to formulate a principle of “in dubio pro inventore” – in case of doubt a lawcourt will side with the patentee.

Moreover, in general it is the patent department that decides a company’s policy on patentability. And, as Körber points out, thanks to the recent extension of patentability, the patent department of Siemens has become very important. It is no longer a mere service facility but a center of entrepreneurial activities. It is a well known reality that any department will tend to opt in favor of those principles that allow its representatives to dominate the organisation. Whether these are good for the organisation as a whole is only a secondary matter.

Similar principles apply to patent offices and patent lawcourts. The more patents they grant, the more important they become.

## **3 patent offices and courts biased to the applicant’s perspective**

Patent inflation has been pushed ahead at the level of caselaw, and legislatures were, if consulted at all, usually just lobbied to rubberstamp the established facts created by lawcourts and patent offices.

Lawcourts and patent offices have for some decades consistently rejected attempts from companies and individuals to obtain patents on non-technical mental achievements such as “rules of computation and organisation”.

Even in the US the patent office stood up against this pressure and bravely refused software patents throughout the 1960s and (in part) 70s. In Germany they persisted until 1992.

During all these years, the courts faced pressure from only one side: the applicant, a dissatisfied large corporation and associated published opinion in patent law journals. The other side, the large public which needs to preserve its freedom of ideas, was not represented in the courtroom.

In patent offices, the matter was even worse.

In the late 80s and 90s, in the wake of a “lean administration” campaign, public administrations were exhorted to behave like service agencies rather than like wielders of state power, i.e. to consider citizens as their “customers” rather than their subjects. While this may be an attractive metaphor for citizens who have been subjected to long waiting and unfriendly treatment by bureaucrats, it is essentially misleading, because the public administration does have to consider the whole public interest and not just the perspective of the visible “customer” with whom it happens to be dealing.

Patent offices took the exhortation to treat applicants as its “customers” very seriously and literally.

It became commonplace in speeches and publicized slogans to portray the patent office as an agency whose sole aim it is to deliver patents to its customers, the applicants.

The president of the US patent office even connected this to the following mission statement:

We are the patent office, not the rejection office.

When one customer has, even by chance, received particularly friendly treatment by the service provider, the other customers usually want a “most-favored-customer status” for themselves. There is no way back. Service quality can only be improved, not cut back. This inevitably leads to patent inflation.

## **4 patent gold-rush as pre-election doping**

When a national patent administration decides to loosen the standards of patentability, this can create a short-term rush to the patent office and thus stimulate business activity and even R&D investments, such as e.g. in gene sequencing.

In the long-term, the gold-rush may well calm down and give way to a suffocating situation of monopolism, which discourages business and investment in an over-patented area.

But for politicians who want to win the next election, the short-term perspective is regularly more interesting.

Thus patent inflation policies can always expect to get support in the incumbent administration of the country.

This adds to the already formidable power that patent expert lobbies tend to wield in various departments of governmental administrations.

It has been suspected that at several junctures in recent history, including the Plaza conference of 1985 and the Uruguay round 1992-3, the patentability screw was loosened precisely for this reason.

## **5 snowball scheme benefitting first mover**

When it can be expected that patentability standards will soon erode, it is advantageous for a country to move first.

The first-moving country will be able to mobilise its local industry to get most of the basic patents in the area it has just opened up to patentability.

This policy is especially attractive for a country like the US, which has for a long time acted as an independent trend-setter whom the whole world tends to imitate.

For a country like Japan, which does not have this record, such a policy is not an option.

Moreover, since Japanese and, to a slightly lesser extent, European politicians, tend to see themselves as followers of a pre-conceived global trend rather than as originators of any policy, it is highly likely that Japan and Europe, and thereby the whole world, will compete to be rapid second-movers to any patent inflation decision that the US takes.

The US reaps the full first-mover advantage, and by the time Japan and Europe have come along, the markets are already monopolised to the advantage of the US, as far as this really constitutes an advantage for anybody.

The system can as a whole then serve to keep newly rising tiger states and under-developed countries at bay.

It seems that in the 80s this was in fact one of the political considerations in the US which gave rise to the “pro patent” movement. It was found that market economics alone no longer was able to secure high wages and a privileged position of the west. Especially the rise of Japan and East-Asian “tiger states” was seen as a threat. Therefore, under the name of free trade, a new network of informal trade barriers had to be established, and a snowball system starting from the USA was the natural way to establish it.

## **6 Seclusion of the Patent World, In-breeding and Formalisation of Patent Law Doctrines**

The patent system has been driven by a specialised set of organisations, including patent offices, legal departments of large companies, patent lawyers and, to a lesser extent, so called inventors’ organisations.

These people have mainly determined the policies of the patent system by an internal discussion among their own. There were certain phases in history when a larger public took interest in the patent system, but in recent decades the patent world was largely on its own and free to indulge in mental in-breeding.

Mental in-breeding generally leads to a departure from generally valid philosophical concepts into an esoteric language, an elevation of what had once been auxiliary concepts to the level of central concepts, confusion of means and ends, formalisation of decision methodologies.

Formalised methodologies work great for ensuring that a BigMac will be the same everywhere in the world. They may also help make patent granting decisions predictable in an environment where independent thinking by patent examiners can not be taken

for granted. But the predictability benefits mainly those who take advantage of the formalisms in order to push unmerited patents through the meshes of the net and thereby gradually render this net useless.

An striking example of formalisation can be found in the approaches of the EPO to make patentability more and more dependent on the claim language and certain formalised rules of how to interpret this claim language (e.g. what “comprising” vs “consisting” should be deemed to mean), as well as certain sequences of how the validity of claims should be tested. The EPO has meanwhile become so preoccupied with these esoteric secondary concepts that it tends to lose sight of what it is really granting patents for.

In contrast to current EPO jurisprudence, the German law before 1978 used more general concepts. The law encouraged examiners to disregard the claim language and instead analyse the “general inventive thought” (allgemeiner Erfindungsgedanke). This led to stronger and fewer patents. On the one hand it was less easy to circumvent a patent by a method that formally fell outside the claim scope, e.g. by creating a product that did not literally “consist of” the claimed ingredients but used the same teaching. On the other, the teaching itself was isolated more stringently from the prior art and tested equally stringently for its physical substance. There was no way of patenting abstract rules of calculation by dressing them up in some claim language that muddled the borders between the prior art and the allegedly new teaching. Likewise examiners found it easier to reject an application as obvious, since there was no formalised procedure of examining “inventive step”.

Currently patent law in Europe seems to have reached a climax of formalisation. Patent law scholars have, unlike in the 70s, plunged deeply into procedural concepts and become incapable of arguing in general philosophical terms in a form that could claim to have any validity or value outside the narrow circle of patent lawyers. They are pressing to increasingly impose this result of intellectual in-breeding on European citizens. The process is similar to the gradual de-functionalisation and self-orientation which can be observed in many large organisations in history. Expansive juggernauts of this type will stop only, when they meet a strong external opposition. By that time, they may be in such bad shape that they suddenly collapse.

## **7 Exhaustion of Inventive Resources**

One reason for the degradation of patentability standards may lie in the fact that after centuries of progress mankind has already gone to the limits of harnessing the forces of nature and not many real inventions are left for us to make. In order to continue keep the patent business working, it becomes necessary to grant patents for every trifling idea and shade of a shade of an invention. Patent departments of large companies start shooting real fireworks of trivial inventions and building card-houses from thousands of petty little patents. For a normal small inventor, such patents would tend to be unenforceable and worthless. But in an area of complex systems, where most of these patents just consists in a logical functionality, it may become possible to turn a large portfolio into a powerful

weapon for deterring newcomers, exacting taxes and keeping up a certain advantage in the market. Although this situation is highly unsatisfactory for the market as a whole, it may rationally be the only way out for certain forces of inertia who want to keep the wheels of the patent system rolling on at normal pace. The result is however that the number of patents explodes and the system is inflated.

## 8 Annotated Links

- **Arno Körber: Patentschutz aus der Sicht eines Großunternehmens<sup>2</sup>**

Der Autor, Arno Körber, geb 1934, war bis Oktober 1997 Leiter der Patentabteilung der Siemens AG und ist seitdem Repräsentant des Hauses Siemens im gewerblichen Rechtsschutz gegenüber staatlichen und nichtstaatlichen Einrichtungen und Organisationen. Er nimmt Vorstandsfunktionen in zahlreichen Verbandsgremien wahr. Körber blickt auf die letzten Jahrzehnte zurück. Bis vor kurzem entfalteten Patente ihre Wirkung vor allem in forschungsintensiven Gebieten wie der Chemie und Pharmazie. In diesen Gebieten ist der Ausschluss von Wettbewerbern sowohl wichtig als auch, dank Stoffpatenten, leicht durchführbar. In Elektronik und Informationstechnik herrschte Patentfrieden. U.a. im Interesse der Interoperabilität wurden Patente nur defensiv eingesetzt. Mit der Umorientierung des amerikanischen Patentsystems nach Einrichtung des CAFC änderte sich dies jedoch zusehends. Heute ist es unerlässlich für Unternehmen, die beider Verabschiedung von informatischen Standards ein Wörtchen mitreden wollen, über ein geeignetes Patentportfolio zu verfügen. Um 1990 stagnierte die Zahl der Patentanmeldungen der Siemens-Mitarbeiter bei ca 2000 pro Jahr. Das lag u.a. daran, dass die Entwickler glaubten, Softwarelösungen seien in Europa nicht patentierbar und in diesem Glauben von konservativen Patentgerichten und Patentämtern bestärkt wurden. Daher leistete Siemens einen aktiven Beitrag zur Rechtsfortbildung. Ferner wurden Prämien-systeme für Patentanmelder eingeführt. In wenigen Jahren verdoppelten sich die Anmeldezahlen.

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<sup>2</sup><http://swpat.ffii.org/papers/boch97-koerber/boch97-koerber.de.html>

- **Kolle 1977: Technik, Datenverarbeitung und Patentrecht**<sup>3</sup>

Gert Kolle, today in charge of the EPO's international affairs department, was in the 1970s the leading law scholar on questions of patentability of computer programs. He acted as a "scientific adviser and rapporteur of the German delegation" at various patent legislation conferences of the 1970s. He always strove to interpret the current jurisdiction in a scholarly and systematic manner, far from what he called "ideological petrification of the software patentability debate" even in those days, and in this article of 1977, published in the leading German IP law journal, he explains, why computer programs cannot be considered to be "technical", and why any attempt to "naively or willingly" open up the patent system for computer programs would inevitably lead to unlimited patentability and to dangerous monopolisations of the sphere of pure reason, which, although thinkable under the EPC, go far beyond what a responsible judge may be allowed to decide. Kolle says that conservatism on this matter is a virtue, and a judge should be proud to wear the label "stuck in 19th century thinking", that software patentability proponents of the 1970s were eager to post onto their critics.

- **The Expansion of the Patent System: Politics and Political Economy**<sup>4</sup>

- **Phil Karn: The US Patent System is Out of Control**<sup>5</sup>

Phil Karn, un développeur travaillant pour Qualcomm, une compagnie qui vit largement des licences de brevets, trouve que le système de brevets, en dehors d'apporter des revenus aux compagnies telles que Qualcomm, n'apporte que peu de bien pour l'industrie logicielle dans son ensemble.

- **EPO statistics on patent license revenues**<sup>6</sup>

According to this report from the European Patent Office, license revenues world wide have grown from 10 bn in 1990 to 100 bn USD in 2000. Assuming that this did not correspond to a significant growth in the output rate of real inventions, we arrive at a patent inflation rate of 1000\percent in 10 years or 26\percent per year.

Thanks to Prof. Lenz for the hint<sup>7</sup>.

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<sup>3</sup><http://swpat.ffii.org/papers/grur-kolle77/grur-kolle77.de.html>

<sup>4</sup>[http://firstmonday.org/issues/issue6\\_1/kahin/](http://firstmonday.org/issues/issue6_1/kahin/)

<sup>5</sup><http://people.qualcomm.com/karn/patents/patents.html>

<sup>6</sup>[http://www.european-patent-office.org/epo/facts\\_figures/facts2000/e/5\\_e.htm](http://www.european-patent-office.org/epo/facts_figures/facts2000/e/5_e.htm)

<sup>7</sup><http://lists.ffii.org/archive/emails/swpat/2002/Mar/0007.html>

- **European Patent Office: High Above Legality**<sup>8</sup>

contains some details about the stages of decay of patentability standards in Europe during the last few decades

- **Bronwyn H. Hall & Rose Marie Ham: The Patent Paradox Revisited**<sup>9</sup>

Research work done at Univ. of California, Berkely, published 1999 by National Bureau of Economic Research Inc. Finds that the surge in patents in the semiconductor industry in the 1980-90s does not reflect a surge in R&D activity.

- **Erich Bieramperl about the exhaustion of inventive resources**<sup>10</sup>

Phenomena of patent inflation observed from the perspective of a long-time individual inventor and holder of patents in the measuring technology field.

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<sup>8</sup><http://swpat.ffii.org/players/epo/swpatepo.en.html>

<sup>9</sup><http://swpat.ffii.org/papers/nber-hallham99/nber-hallham99.en.html>

<sup>10</sup><http://www.patentology.com>