Charity of the Anticommons:

How Program-Related Investments Can Help Patents Promote Progress

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Introduction

The Constitution gives Congress the power to “promote the Progress of Science and useful Arts, by securing for limited Times to Authors and Inventors the exclusive Right to their respective Writings and Discoveries.”¹ Pursuant to this grant, Congress has since 1790 authorized the issuance of patents. A patent gives an inventor a monopoly over his or her discoveries in exchange for disclosing the invention to the public in a manner sufficient to enable a person of ordinary skill in the relevant field to utilize it.² Currently, a patent will generally have a term lasting from the date of U.S. Patent and Trademark Office issuance up until twenty years from the patent’s initial filing date.³

It is not hard to see how patents could promote the progress of useful arts. Patents can give inventors a very strong incentive to innovate. The patent would enable the patentee to charge monopoly prices and therefore potentially reap large profits from the invention. This large profit potential is often necessary to justify investing large sums of time, labor, and capital into research and development. Without the possibility of patent protection, many entrepreneurs would find it difficult if not impossible to raise funds for high-risk, high-reward innovative new

¹ U.S. Constitution, Article I, Section 8, Clause 8
² 35 USC §112
³ 35 USC §154
ventures. Additionally, patents encourage the disclosure of new creations. Without patent protection, many discoveries would be hidden from the public and protected as internal trade secrets. Such a regime would prevent future innovators from inventing new technologies incorporating previous discoveries.

In recent years, however, there is concern that patents may in fact be inhibiting the progress of useful arts. This concern has been raised about both the expansion of the number of patents issued, as well as the expansion of what discoveries can qualify for patent protection. Both of these concerns are evidenced by the fact that, in the past two decades, some forty thousand DNA-related patents have issued.\(^4\) Associated with this increase in patents is an increase in individual patentees. As will be explained in this paper, the increase in patentees can lead to a dramatic increase in the transaction costs necessary to carry out the research, development, safety testing, and commercialization of new technologies. This transaction-cost inhibition of progress is best known as the tragedy of the anticommons.\(^5\)

The expansion of patent-eligible subject matter can also pose a threat to progress. In the past, many discoveries in basic research were not patented. This was because it was thought that they were not eligible for patent protection and because of the regulations regarding research funded by Federal grants. As explained below, two major events in 1980 upended this status quo. Since then, the discoveries of basic research are routinely patented. This paper will explore the ramifications of this vis-à-vis the inhibition of progress by examining the issues surrounding gene patents.

Any solution to these issues would require balancing the benefits of any reining in of the progress-inhibiting aspects of patents with the potential associated diminution to the progress-

\(^4\) Heller M.A., Authors @Google, July 18, 2008, http://www.youtube.com/watch?v=9n89Ec3DFtk

\(^5\) Heller, M.A. and Eisenberg, R.S. Can Patents Deter Innovation? The Anticommons in Biomedical Research, Science 280, 698 (1998)
promoting incentives that patent law affords. Congress, the Federal Judiciary, and industry
would all have roles to play. An additional player in this process can be the philanthropic field.
This paper proposes such a role that philanthropy, more specifically private foundations, can
play.

Private foundations, such as the Gates Foundation and the Ford Foundation, are required
to annually distribute five-percent of their assets. Generally these distributions are made as
grants, often to non-profit organizations. However, since the Tax Reform Act of 1969, the tax
code has also allowed private foundations to count “program-related investments” as part of their
five-percent requirement. This paper presents the definition of program-related investments
under the Internal Revenue Code and IRS regulations and explains why they are not currently
widely used. This paper, focusing on patents in the medical field, then argues that private
foundations can in certain circumstances count the acquisition of progress-inhibiting patents as
program-related investments, thus counting towards their required five-percent annual
distribution. Foundations can then license out these patents to third parties in a non-
discriminatory fashion with a royalty rate set only to recoup their initial investment, not to make
a profit. Pursuant to theses licenses, the third parties can then do the research, development,
safety-testing, and commercialization is currently not possible. This paper will lay out the
benefits that such program-related investments can have for the public, patentees, and private
foundations.

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6 26 USC §4942
7 Schmidt, E., Vermont's Social Hybrid Pioneers: Early Observation and Questions to Ponder, Vermont Law
Review, Vol. 35, No. 1, pp. 163-209, Fall 2010
8 Higgins, E. and Bishop, C.G., Program-Related Investments of Private Foundations, Tax Management
Memorandum, Vol. 81, No. 16, p.3, 1981
The Tragedy of the Anticommons

The tragedy of the anticommons is a term coined by Columbia Law professor Michael Heller in 1998. The term calls to mind the tragedy of the commons, which occurs when a shared resource, such as a forest or a fishery, is overused and depleted by independent actors – despite the fact that it is in their collective overall interest for the resource to be managed in a way that ensures its long-term survival. Heller used the term tragedy of the anticommons to first describe an interesting phenomenon he observed in Russia after the fall of the Soviet Union. He saw that storefronts and shopping malls were empty, while street kiosks were selling anything you could want. When he inquired about why the kiosks are not moving indoors, he found out that the reason had to do with how privatization occurred. Instead of selling an entire retail mall to a private party, different rights were given to different people. Someone was given the right to own, others the right to lease, and further others the right to use, to name a few. As a result, it was impossible for any of the kiosk operators to get a lease to a storefront because they needed permission from all the rights-holders, who were never able to come to an agreement. Therefore, by having too many people with ownership stakes, under-use occurred because it was impossible to deal with all of them.

Heller further applied the tragedy of the anticommons analysis to intellectual property. In the case of patents, new and innovative technologies may not be made and marketed because they involve aggregating together and improving upon technologies that could be covered by dozens or hundreds of separate patents. If there are dozens of patents, then there are also likely

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9 Heller, MA, *The Tragedy of the Anticommons: Property in the Transition from Marx to Markets*
11 note 9
12 note 5
to be dozens of patentees. Refusal to get a patent from any one patentee can make the innovation impossible. Therefore, every patentee can argue that their patent is the critical step and they can all demand exorbitant rates because they know that a profitable technology can be blocked without their permission. Thus, just as in the post-Soviet Russian example, if there are too many parties with ownership stakes, there can be under-use stemming from the impossibility of dealing with all of them; creating, testing, or selling a technology that incorporates all their inventions does not happen because of the mammoth transaction costs. In the case of medical technology, this under-usage can lead to loss of life.

The reason that the expansion of patents and patentees would lead to under-usage is that innovators do not want to be found liable for patent infringement. Infringing a valid patent can be very costly. Infringement occurs when someone makes, uses, sells, offers to sell, or imports a patented invention without the permission of the patentee.\textsuperscript{13} If infringement occurs, the patentee’s recourse is to bring a civil action in Federal Court.\textsuperscript{14} If the patentee-plaintiff is successful, the infringer-defendant will have to pay the higher of the plaintiff’s lost profits or what would be a reasonable royalty rate for licensing the infringed patent.\textsuperscript{15} Additionally, if the defendant is found to have willfully infringed the patent, the court may, as a punitive measure, increase the damages up to treble the original amount.\textsuperscript{16} The court may also award attorney fees in exceptional cases.\textsuperscript{17}

While the damages can be quite costly, often the most feared result of an infringement action is an injunction. As an equitable measure, courts are allowed to issue preliminary and

\begin{footnotesize}
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\item\footnotesize 35 USC §271
\item\footnotesize 35 USC §281
\item\footnotesize 35 USC §284
\item\footnotesize Id
\item\footnotesize 35 USC §285
\end{enumerate}
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permanent injunctions in patent cases. An injunction can prevent a defendant from making, selling, or using products and processes for which it has potentially billions of developing and marketing dollars. This is relevant to the tragedy of the anticommons; if a product is made that is covered by hundreds of patents, but the manufacturer does not get a license on just one patent (perhaps because it had no idea that the patent existed or that it could be interpreted to cover their product), an injunction can shut down the whole operation. Companies, investors, and researchers do not want to bear the risk of such a shutdown jeopardizing their operations. Thus, if there are many patents in a field, they may decide that it is not worth the risk of missing one and being hit by an injunction.

This risk is exemplified by what happened to Research in Motion, the Canadian manufacturers of Blackberry phones. In 2000, NTP, Inc. sued Research in Motion alleging infringement of their patent for wireless email. NTP prevailed at trial and was awarded damages of $57.5 million. Additionally, they received an injunction that would have shut down the Blackberry system in the United States. After appeals to the Federal Circuit and the Supreme Court and amicus briefs from the Department of Defense and the Department of Justice detailing the federal government’s reliance on the Blackberry system, Research in Motion eventually agreed to pay NTP $612.5 million in 2006 to settle all claims, and therefore allow Blackberry email to work in the United States. Therefore, one missed patent can be very costly and the tragedy of the anticommons occurs when this risk prevents groundbreaking or life-saving discoveries from being made and brought to market.

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18 section §283  
19 McKenna, Waldie, and Avery, *Patently Absurd*, The Globe and Mail, April 5, 2009  
http://www.theglobeandmail.com/archives/article814090.ece  
20 Id  
21 NTP, Inc. - *RIM patent infringement litigation*,  
22 Associated Press, *Settlement reached in BlackBerry patent case*, March 3, 2006,  
http://www.msnbc.msn.com/id/11659304/wid/11915829
One way that industries have gotten around this problem is by forming patent pools. A patent pool is a consortium of companies who agree to pool together their patents and license them together as a whole to enable a technology to be practiced with as little transaction costs as possible. An example of a patent pool is the DVD6C Licensing Group in the DVD industry.\(^{23}\) DVD6C is a patent pool involving nine companies and forty patents that sets a license rate to license all of the patents for use in DVDs, DVD players, and DVD drives. Without such a patent pool, any company wishing to release a DVD or manufacture a DVD player would potentially need to negotiate with all 9 companies for all 40 patents, which would greatly increase the costs of bringing the media to market.

The risk of infringement and injunction is not borne solely by industry. University and non-profit researchers can also be found liable for infringement and potentially the subject of an injunction. It is of note that United States patent law generally does not protect researchers from being found liable for infringement. Therefore, a university researcher investigating cancer treatments can be sued if he uses methods or compounds that are under patent and for which he does not have a license. The only statutory protection that researchers have is a limited Hatch-Waxman exemption designed to protect generic drug manufacturers from being sued for doing the testing necessary to have FDA approval in place to launch their product once a patent runs out.\(^{24}\) There is also a very limited common-law research exemption.\(^{25}\) However, this exemption only covers research done for “amusement, to satisfy idle curiosity, or for strictly philosophical inquiry,” and not the research done by research universities and institutions.\(^{26}\)

\(^{23}\) http://www.dvd6cla.com/
\(^{24}\) section §271(e)(1)
\(^{25}\) Madey v. Duke University 307 F.3d 1351, 1362 (Fed. Cir. 2002)
\(^{26}\) Id.
tragedy of the anticommons is not just a problem for commercial innovation, but also for university and research institute laboratories doing basic and applied research.

Heller has described the tragedy of the anti-commons situation occurring in the medical field in the case of a groundbreaking Alzheimer's disease treatment. A company could not carry out the safety research necessary to bring the product to market because there were some fifty patents owned by different biotech companies covering brain pathways. They would need to have licenses for all fifty patents in order to test for side effects. The company tried to negotiate with all of the patentees, but the negotiations broke down because every patentee thought that their patent was the most significant and they wanted to capture a disproportionate share of the potential profits. As a result of this gridlock, a drug that could potentially save hundreds of thousands of lives is sitting on the shelf.

The number of patents in the biological and medical field has increased since the passage of the Bayh-Dole Act in 1980. The Bayh-Dole act allowed research institutions such as universities to own the patents in inventions where research was funded by the Federal government. As such, many results of basic research are being patented. For example, there are now some 40,000 patents on various DNA-related discoveries. This is largely responsible for a boom in biotech investing and entrepreneurship. However, as results of basic research are being patented, future researchers cannot use those results for their own research to make their own discoveries without obtaining a license. If there are many patents in the field, then it can become impossible to do life-saving medical research because of the mammoth transaction costs in getting all the necessary licenses. This has created an interesting situation where the amount of

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27 note 4
28 http://en.wikipedia.org/wiki/Bayh%E2%80%93Dole_Act
29 note 4
money being invested in biotechnology research and development is going up while the number of drugs that treat diseases coming to market is going down.\textsuperscript{30}

Therefore, because of the expansion in the number of patents, innovation and progress may be stifled because it may often be impossible to do research or create products since too many parties own patents on component inventions, resulting in humongous transactional costs.

\textbf{Gene Patents}

Patents can be potentially progress-inhibitive in certain fields even when there are only one or a few relevant patents. Gene patents are an example of this situation because if an entity owns the patent on a gene, they can block others from doing any research on it. Further, they will have a monopoly on all tests and treatments involving the gene, meaning that they can charge monopoly prices and shut out people who need such tests and treatment to save their lives.

The monopoly prices associated with gene patents can however motivate investment into the discovery of genes and the mutations that can lead to disease. However, this means that by dint of being the first to discover a gene mutation, a patent holder has an exclusive monopoly over a period where such that it is the only one with the right to test for that defect. They can therefore charge high prices, such as the $3,000+ per test that Myriad Genetics has charged for the breast cancer BRCA tests, when it could be done for ~$300.\textsuperscript{31} This makes it difficult for people to learn about their disease risk and take preventative measures, and makes second opinions prohibitive. Plus, the patent owner can block further research on the gene in question.

\textsuperscript{30} Id.
\textsuperscript{31} 60 Minutes \textit{Patented Genes}, April 4, 2010 http://www.cbsnews.com/video/watch?id=6362525n
and innovation is stifled because no one can make a competing product without the patent owners’ permission.

There is currently a great deal of controversy over whether genes are patent-eligible material. The justification for patenting genes stems from the 1980 case *Diamond v. Chakrabarty*, where the Supreme Court held that human-made micro-organisms were patentable.\(^\text{32}\) In *Chakrabarty*, the micro-organisms were bacteria that broke down oil spilled in the ocean. This case opened the door to patents in the biotechnology field, including patenting the discovery of newly-discovered genes in humans and other species. This decision, along with the Bayh-Dole Act – also from 1980 – has resulted in a regime where the results of genetic research have come under patent protection; in fact, obtaining patent rights has become a major goal of such research. This has represented a shift in the incentives involved in basic research. Previously, the major incentives at play in such research (in addition to the search for truth and improving the world) entailed getting published and obtaining tenure with the results of such research going to the public domain.

Gene patents are controversial, because many see them as phenomena of nature. Mere phenomena of nature cannot be patented.\(^\text{33}\) Further, the idea of someone “owning” a gene is also morally repulsive to many. Last year, a district court invalidated Myriad Genetics’ BRCA patents, ruling that genes are unpatentable products of nature.\(^\text{34}\) The case is currently being appealed to the Federal Circuit.

This paper now turns to tax laws and regulations that govern private foundations, to show that a potential solution to these progress-inhibiting patent issues entailing the use of program-related investments.


\(^{33}\) *Funk Brothers Seed Co. v. Kalo Inoculant Co.*, 333 U.S. 127 (1948)

\(^{34}\) *Assn for Molecular Pathology v. United States PTO*, 2010 U.S. Dist. LEXIS 35418
Program-Related Investments

Private Foundations are negatively defined by 26 USC § 509 to be all 501(c)(3) tax exempt organizations except those that fit into certain classes (e.g. churches, hospitals, colleges, or organizations that are primarily funded by grants and contributions rather than investment income). The number of private foundations is increasing. As of 2009, there are 120,617 private foundations, which is 55% higher than the amount in 1999.35

Private foundations are a creation of the Tax Reform Act of 1969, which established them as a way to prevent wealthy individuals from starting charities to carry out personal or business activities while avoiding taxes.36 In this spirit, private foundations have restrictions on self-dealing, the amount that can be deducted for charitable donations each year, and how much of a private business it can own.37 Further, private foundations have strict requirements that they must follow, laid out in 26 USC § 4940-5. Notably, they must give out 5% of the fair market value of their total assets, minus the debt taken on to acquire the assets, every year in qualifying distributions.38 These funds are typically given out in grants, often to operating nonprofit organizations. However, the foundations could also use the 5% to make program-related investments, or PRI.39

Program-Related investments are defined by IRS Reg. 53.4944-3 as investments by foundations such that:

36 note 8
37 Id.
38 26 USC § 4942
39 IRS Reg. 53.4942(a)-2(c)(3)(ii)(d)
(i) The primary purpose of the investment is to accomplish one or more of the purposes described in section 170(c)(2)(B) – religious, charitable, scientific, literary, or educational purposes

(ii) No significant purpose of the investment is the production of income or the appreciation of property;

(iii) No purpose of the investment is to accomplish political lobbying

Prong (i) can be established if “the investment would not have been made but for such relationship between the investment and the accomplishment of the foundation's exempt activities.” For prong (ii), “it shall be relevant whether investors solely engaged in the investment for profit would be likely to make the investment on the same terms as the private foundation. However, the fact that an investment produces significant income or capital appreciation shall not, in the absence of other factors, be conclusive evidence of a significant purpose involving the production of income or the appreciation of property.”

IRS Reg. 53.4944-3 offers some examples of program-related investments. They include loans to a small business located in a deteriorated urban area and owned by members of an economically disadvantaged minority at below-market interest rates, as well as equity investments in such businesses. The purpose of these investments is not to obtain profit, but to spur business development in these disadvantaged neighborhoods. Further, below-market rate loans made to financially stable publicly-traded companies in order to establish a new plant in a deteriorating neighborhood would also qualify because, again, the purpose is not profit (as it is below market), but to promote development in the neighborhood.

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40 IRS Regulation 53.4944-3
41 Id.
42 Id.
43 Id.
affordable housing and below-market student loans to disadvantaged youth have also been made as program-related investment.

A substantial advantage to a foundation from using part or all of its required 5% payout to make program-related investments instead of grants is that the foundation can potentially retain its assets with the program-related investment. For example, if a foundation makes a below-market rate loan to a minority business in an economically depressed neighborhood, then when the loan is paid back, it can loan out the money again. This allows the foundation to recycle its resources by in essence using the same money over and over again by making program-related investments. With grants, however, the foundation will only be able to spend its money once.

Despite their advantages, private foundations do not make very many program-related investments. In 2006, less than 200 private foundations made program-related investments.44 The total amount of program-related investments made that year was $365 Million, less than 1% of total foundation distributions.45

One reason for this is that unless the foundation gets a private letter ruling blessing from the IRS beforehand, it can be very risky to invest in a potential program-related investment.46 If the foundation invests in something that it thinks is a program-related investment, but the IRS determines that it is not, the foundation would therefore be below the 5% it needs to pay out. This would trigger draconian taxes, including a 30% tax and a separate 100% tax on any deficiency.47 One way around this risk is to request a private letter ruling from the IRS.

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44 Note 7
45 Id.
46 A private letter ruling is a non-precedent agreement by the IRS that it will not challenge a proposed tax plan
47 sections 4940-5
However, the process of obtaining a private letter ruling is not simple. It can cost tens of thousands of dollars of IRS and attorney fees and take 12-18 months.\textsuperscript{48}

Additionally, if an investment is determined to not be a program-related investment, the IRS could potentially determine that such investments are jeopardy investments.\textsuperscript{49} These are defined as investments that jeopardize the carrying out of a foundation’s exempt purpose.\textsuperscript{50} Such a finding is especially prone to occur if the putative program-related investment was of a high-risk nature. If an investment is determined to be a jeopardizing investment, both the foundation and its managers can be subject to punitive taxes.\textsuperscript{51}

There is also the issue that foundations are generally not used to making program-related investments.\textsuperscript{52} The people in foundations who have experience and expertise making grants are likely not comfortable making loans or equity investments. The people in foundations who are in charge of investing and growing the foundation’s money have experience and expertise in seeking out profit, not in making investments that carry out a charitable function. Therefore, many foundations simply may not feel like they are up to the task of making program-related investments or simply find them to be outside their comfort zone.

It is also unclear whether money received from a program-related investment would be subject to UBIT – unrelated business income tax.\textsuperscript{53} This is a tax that tax-exempt organizations have to pay on income they receive from carrying on a business (with exceptions, as found in 26 U.S.C. §§ 512-3).\textsuperscript{54} The reason that unrelated business income tax is assessed is so that tax-exempt organizations that conduct business do not have an unfair advantage over for-profit

\begin{footnotes}
\item[49] note 8
\item[50] 26 USC §4944
\item[51] Id
\item[52] note 7
\item[53] 26 U.S.C. §511
\item[54] note 8
\end{footnotes}
entities stemming from not having to pay federal income tax. Tax-exempt organizations generally prefer not to pay unrelated business income tax, because if they are going to be conducting business and taxed as such, they would rather be a for-profit and not deal with the restrictions stemming from their tax-exempt status.

Program-related investments have recently been receiving attention in the non-profit/philanthropy world because of the recent development of low-profit limited liability companies, or L3Cs. L3Cs are limited liability companies under state law, with the additional requirement of having to satisfy the 3 prongs of the IRS Reg. 53.4944-3 definition of program-related investments. Since 2008, nine states have authorized L3Cs, and more are currently considering them in their state legislatures. The laws that enable L3Cs are usually amendments to the state limited liability company act. The reasoning behind L3Cs is that they would be considered to be automatic program-related investments in which foundations could easily invest. Therefore a bike rental program, community theatre, or affordable housing project would incorporate itself as an L3C so that private foundations know that they can invest in the project as a program-related investment. However, the IRS has not agreed to this and it is unlikely that many foundations will blindly assume that an investment is a valid program-related investment just because it is organized as an L3C.

An interesting fact about program-related investments is that there is zero case law whatsoever on what kinds of investments constitute program-related investments. This is to be expected if private foundations are receiving private letter rulings from the IRS before making program-related investments. If the foundation operates under the terms of the private letter ruling, the IRS will not challenge program-related investments administratively or in court.

55 note 7
56 Id
57 http://en.wikipedia.org/wiki/L3C
However, as more states adopt L3Cs, it is certainly possible that at some point some foundations will treat them as automatic program-related investments, and the IRS will disagree, resulting in a trial.

**Patent Acquisition as a Program-Related Investment**

Private foundations can address the above-mentioned problems of patents inhibiting progress in the health field by purchasing such inhibitory patents as program-related investments. For example, if a gene patent is preventing research on cures and tests for diseases with which the gene is associated, foundations could buy the patent as program-related investment and then lease it out non-discriminatorily so that any researcher can develop life-saving innovations. Similarly, if there are a dozen patents covering different pathways in multiple sclerosis, then foundations could buy them and license them out to researchers. This would drastically reduce the transactions costs that can cause such patents to inhibit progress. An advantage of this solution over perhaps saying that certain medical discoveries are not patent eligible is that this will still allow for some payout to justify research and development expenditures of time, labor, and capital.

After the purchase, the foundation would license the patent in a nondiscriminatory way for a royalty that was set only for the foundation to get back the money it spent – not to make a profit. If making a profit were the motivation for the purchase, it would not be a program-related investment.\(^5\) In effect, the foundation would license out the patent as a compulsory license – not

\(^5\) IRS Regulation 53.4944-3
unlike the situation with the copyrights of songs.\textsuperscript{59} Perhaps like song copyrights, a Harry Fox-style agency could be set up among foundations that own patents so that getting a license becomes as simple as submitting a form.\textsuperscript{60}

In fact, IRS regulations suggest that it might be necessary for foundations to license the patents non-discriminatorily. IRS regulations hold that an organization will not be regarded as organized and operated for the purpose of carrying on scientific research in the public interest if …the organization (1) directly or indirectly retains “ownership or control of more than an insubstantial portion of the patents, copyrights, processes, or formulae” that result from its research activities, and (2) ‘does not make such patents, copyrights, processes, or formulae available to the public" on a nondiscriminatory basis.”\textsuperscript{61} While the foundations here would not be carrying out research, the IRS may expect that the patents are licensed out in a nondiscriminatory manner in order for the purchase and licensing to qualify as program-related investment.

Purchasing progress-inhibiting patents as program-related investments has advantages to the public, to researchers, to the foundation, and to the patentees. The main advantage for the public is that the patents will no longer act as barriers to innovation. Therefore, researchers can innovate, companies can compete to develop better products, and consumers will see more advanced products often at lower prices. Products, drugs, and tests that would have been buried, shelved, or never even conceived because making or testing them would be patent infringement will be made and available on the market.

\textsuperscript{59} 17 USC §115 – Once a song has been initially made into a song recording, then any second comer may also make a recording of the same song, so long as he or she does not change the basic melody or fundamental character of the work, does certain reporting, and pays a royalty set by the copyright royalty board to the owner of the song copyright
\textsuperscript{60} \url{http://www.harryfox.com/public/} - the Harry Fox Agency is a music industry service that streamlines the process of recording cover songs and paying royalties under section 115.
\textsuperscript{61} IRS Reg. 1.501(c)(3)-1(d)(5)(iv)
Likewise, the advantage to researchers would be a dramatic reduction of transaction costs; they could easily obtain a license for all the necessary patents from foundations rather than haggling with dozens of patentees trying to all squeeze a maximum payment. If a researcher can easily obtain all the licenses they will not be in fear that missing one patent can lead to an injunction. Investors can then feel much more comfortable in funding innovative research. Further, university researchers would not be blocked in carrying out basic research; perhaps foundations could put together blanket license packages for universities so that their researchers could be able to conduct research using any technology covered by patents that are purchased as program-related investments. Such an arrangement would be similar to performance rights organizations in the music industry. 62

The foundations that make these program-related investments will also benefit. They will be making the world a better place and carrying out their charitable missions by promoting public health and scientific research. Unlike grant-making, however, they will be able to get their investment back in the form of royalty payments, so that they can recoup and recycle the money. Also, royalties are not subject to UBIT. 63

The patentees will also benefit under from these investments. They will get to sell their patent off for a lump-sum liquidity event rather than recoup their costs in royalties over the life of the patent. Many venture-backed patentees would especially prefer this because their financial backers want to cash in on their investment sooner rather than later – because the high-growth phase is over and they want to recycle their money into new start-ups. Also, it is conceivable that many of these patents are currently not generating any income at all. Since their

62 Performance rights organizations, such as ASCAP, BMI, and SESAC, are creatures of the music industry. Songwriters and publishers affiliate their song copyrights with one of the organizations, which then license out the right to publicly perform all the songs affiliated with them for a blanket license fee.
63 26 U.S.C. § 512
patents are often of no value unless a potential licensee can license dozens of other patents, the overwhelming transaction costs of negotiating with every patentee will mean that none of them will get anything for their patents. In fact, many patentees are likely not even able to practice their own respective patented inventions because they too would need to license every other patent in order to do something useful. Therefore, selling their patents to foundations may be the only way that many of these patentees are able to recoup anything for the research and development put into them.

L3Cs can also play a role in this process. If one foundation does not have enough money to buy a patent or all the patents relevant to a branch of medical research, multiple foundations can pool their resources into an L3C. This L3C could buy the patents, license them out, and distribute the royalties back to the investing foundations. In fact, an entrepreneur could start an L3C and then solicit foundations for program-related investment resources with a plan to buy patents. Additionally, a number of foundations could combine the patents they purchase into a patent pool, akin to what the DVD industry has done. For example, if private foundations acquire patents covering all the brain pathways relevant to Alzheimer’s disease, they can put them into a patent pool to non-discriminatorily license to any researcher who needs to test the safety and efficacy of an Alzheimer’s treatment.

L3Cs can used to apply social pressure upon patentees to assign their patent rights to program-related investment purchasers. Michael Heller has discussed the roles that shame and social pressure played in getting the patentees who were blocking the use of vitamin A-enriched golden rice to acquiesce and grant humanitarian licenses. If a group of prominent foundations pooled PRI resources together to form a Consortium to Cure Cancer (or Alzheimer's, etc) and did so with much fanfare and a public face (a la Bono or Bill Gates), there would be immense public,  

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64 Note 4
political, and peer pressure on patentees to assign their patent rights for a fair price (especially if the tragedy of the anti-commons effectively means that they cannot even practically use their own patent). This pressure would be extraordinarily helpful in nudging over patentees who would be insistent on holding out and blocking the R&D of groundbreaking treatments.

An issue that would arise is how to price the patents. A big part of the issue now is that if a researcher needs to license fifty patents in order to test a treatment, all of the patentees would likely feel that they should be paid a premium since they feel that their patent is the most relevant, and they know that they can block the whole endeavor unless they give a license. However, if private foundations do see purchasing patents as program-related investments as a good way to promote science and public health as well as to maintain their assets, there may likely be a demand for acquiring them. Therefore, multiple foundations may want to purchase the same patents, and something of a market can form. The offers and counter-offers can help set a market price so that patentees have some idea what their patent is actually worth. Further, if private foundations make their purchase price and licensing rates available to the public, there will be a body of comparable prices available to set a framework for negotiations.

Internal Revenue Service Precedent

A primary advantage of using program-related investments to fix situations where patents inhibit progress is it does not require any change in the law. Under the current law, if purchasing patents to license them out promotes the progress of science and public health, then they will qualify as program-related investments. Although there is no case law on the subject of program-related investments, this assertion is backed up by IRS precedent.
First of all, such investments fit the three-part definition of program-related investments. The primary purpose of these investments is the promotion of health. The IRS considers the promotion of health is considered to be a charitable purpose. Additionally, the IRS considers whether the investment would not have been made but for such relationship between the investment and the accomplishment of the foundation's exempt activities. This is the case here. The investment is not being made to make a profit, but to promote science and health. Therefore, the primary purpose of the investment is charitable and the first prong is satisfied.

The production of income is not a significant purpose of the investment because the license rate is set so that the foundation breaks even. The IRS considers whether investors solely engaged in the investment for profit would be likely to make the investment on the same terms as the private foundation. A for-profit corporation would not do this investment as it is not designed to make a profit but to break even. This is further evidenced by the fact that private investors have not done this in the health field. Therefore the second prong is satisfied. Since there is no political lobbying in this investment, the third prong is satisfied. Hence, all three prongs of the definition of program-related investments are satisfied and therefore the patent investment qualifies.

Additionally, the IRS has blessed similar arrangements in prior private letter rulings. At the end of private letter rulings, the IRS makes clear that the rulings are directed only at the organization that requested it. In fact, the Internal Revenue Code states that such private letter

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65 IRS Reg. 53.4944-3
66 IRS Rev. Ruling 69-545
67 IRS Reg. 53.4944-3
68 Id
rulings are not to be used as precedent.\textsuperscript{69} Despite this, private letter rulings do shed a light onto the IRS’s interpretation of the code and regulations. Two relevant prior letter rulings are PLR 200148078 and PLR 9608039.

PLR 200148078 is an IRS private letter ruling from 2001. The ruling was requested by a private foundation that has been operating as a research center for clinical studies focusing on a particular condition. That private foundation realized that it would need to engage in transactions with pharmaceutical manufacturers in order to influence the development and testing of drugs to treat its target disease and related conditions. In order to carry this out, the foundation proposed setting up a for-profit subsidiary. The subsidiary would have the sole purpose of conducting research in the target disease and related disorders. Through the subsidiary, the foundation could use its databases and experience base. To assist pharmaceutical companies with the design and management of clinical trial programs to produce better drugs to treat the target disease. Such pharmaceutical manufacturers would be expected to pay fees for the intellectual property shared and services rendered. The foundation will fund the subsidiary with its own capital and perhaps fixed assets such as computers and furniture. In the future, the subsidiary might also seek outside funding if necessary. The subsidiary is expected to be funded by its own profits, and is expected to return dividends to the foundation.

The IRS ruled that the foundation’s investment in the subsidiary for which it would receive stock would be a program-related investment. This is because the sole purpose of the subsidiary is the same as the tax-exempt purpose of the foundation – to carry on research for the purpose of curing the target disease and related disorders. The fact that the subsidiary is for-profit does not disqualify the investment. The research being carried on by the subsidiary would support the research of the foundation by making its data and experience available to the parties

\textsuperscript{69} 26 USC §6110(k)(3)
in the best position to produce practical cures for the target disease and related disorders: the pharmaceutical manufacturers.

PLR 9608039 is an IRS private letter ruling from 1995. The ruling was requested by a private foundation whose tax-exempt purposes include the promotion of medical and scientific advancement. The private foundation planned to make a loan to an operating tax-exempt organization whose primary activity is related to the treatment, prevention, and cure of a target disease. The operating non-profit is the sole limited partner in a for-profit limited partnership with the primary purpose of making publicly available a cure for the target disease and related conditions. The general partner of the limited partnership is a for-profit corporation and there may be other individual or for-profit limited partners in the future. The operating non-profit will be allocated profits and losses from the limited partnership according to its ownership percentage. The limited partnership’s partnership agreement provides that the purposes of the partnership are limited to research, development, and education for the discovery of a cure for the target disease; the care of persons with the target disease; and the distribution and marketing of a cure and treatment for the disease. The private foundation’s loan to the operating non-profit will be used to fund the limited partnership. The loan is non-recourse, and it is secured by the operating non-profit’s limited partner interest in the limited partnership. If there is a loan default, the private foundation would take title and possession of the limited partnership interest.

The IRS ruled that the loan from the private foundation to the operating non-profit is a valid program-related investment. Further, in the event of a default, the limited partner interest in the private foundation’s hands would also be a valid program-related investment. The operating non-profit’s participation in the partnership furthers its exempt purpose to treat the targeted disease. This purpose is consistent with the private foundation’s exempt purpose of
involvement in medical and scientific advancement. The IRS also noted that the private foundation submitted information that the loan will have a low interest rate and the potential of being forgiven. These data makes it clear that the loans (and potentially the acquisition of the limited partnership interest) are being made for the charitable purposes of promoting medical and scientific research, not for the production of income. The IRS found it unlikely that a for-profit lender would make a loan in this situation.

These private letter rulings support the proposition that patents purchased to be licenses in a nondiscriminatory manner can be program-related investments. The situations were it would occur would involve patents that are being licensed to promote the development of cures, diagnoses, and treatment of diseases. This is predicated, however, on the private foundations having purposes that pertain to the advancement of health or science. If these conditions are present, then the private letter rulings shows that the IRS would be inclined to find such patent purchases to be program-related investments.

In PLR 200148078, the private foundation started a for-profit subsidiary that promoted research by licensing the foundation’s intellectual property and data to third parties for fees, which were expected to result in the foundation earning dividends. Likewise, this paper’s proposal would have private foundations owning an asset (patents) which it would license out to third parties in order to promote disease research. The fee collected would be set so that the private foundation can recoup its investment costs, not to make a profit. If a foundation can license out its intellectual property and expertise to obtain a dividend, then private foundations will be able to do so to recoup their acquisition costs.

In PLR 9608039, the event of the loan default would provide a similar situation to this paper’s proposal. In that case, the private foundation would be the limited partner in a
partnership that can make income from developing cures and treatments. This private letter ruling is especially on point, because unlike the above ruling, the private foundation is not licensing out purely the results of its own research, but is in fact receiving funds from intellectual property that it obtained as a result of the operating non-profit’s default. Therefore, if it is program-related investment when a private foundation acquires intellectual property as a result of taking its security from a loan default, it would be program-related investment if a private foundation directly purchased the interest in the intellectual property – provided that the intellectual property were being used to promote scientific and medical endeavors.

In order to get foundations to purchase patents as program-related investments, some kind of IRS-sanctioned safe harbor may be necessary. This would be a set of guidelines for how either a foundation or an L3C seeking foundation capital could structure its purchasing and licensing so that the IRS will honor the activities as a proper program-related investment. A safe harbor could offer guidelines for what kind of royalty rate would be appropriate based on the price of acquisition, the remaining term of the patent, and how widely it would be anticipated to be licensed. The safe harbor would also require that patents be licensed out in a non-discriminatory form, so that it could do the most to promote scientific research and the development of medical treatments. The IRS could explicitly promulgate a safe harbor under which patent acquisitions would be respected as program-related investments, or a private foundation that is willing to be a pioneer in this field could prepare a request for a private letter ruling that details the patent purchase and licensing scheme. Again, while the internal revenue code is clear that private letter rulings are not precedent, a favorable ruling can help future private foundations structure their investments. 70

70 Id
Conclusion

In recent years, there has developed a real danger that certain patents can in fact inhibit the progress of useful arts – in direct opposition to their constitutional underpinning. If there are patents such as those covering genes and the methods of isolating them – which in the past would have likely been topics for the public domain – such patents can block research and prevent those suffering from diseases from getting vital testing and treatment. One reaction to such a situation might be to prohibit patents on the results of basic research. However, innovators may then lose the incentive to make such discoveries and investors may not be able to justify capital outlays. In tragedy of the anti-commons cases, where there are too many patentees that must be dealt with in order to bring anything valuable to market (or even test if it has any value), then it is even clearer that just declaring the entire subject non-patent eligible is not a tenable solution, as this can happen in fields where each relevant patent is clearly more than a phenomenon of nature or a result of basic research.

These progress-inhibiting occurrences can be ameliorated by private foundations purchasing the patents in question as program-related investments, which would make such expenditures count towards their statutorily required annual distribution of five-percent of their assets. Such purchases would involve a private foundation which has health or science goals among its tax-exempt purposes acquiring patents and then licensing them out in a nondiscriminatory fashion with a royalty rate designed to recoup investment costs, not to produce a profit. These investments provide benefits to the private foundations, to researchers, to the public, and to patentees. The arrangements the statutory and regulatory requirements for program-related investments and they are in line with previous IRS rulings.
Separate from the question of whether these investments are authorized is the question of whether they could have any practical effect. The amount of investment necessary, for example, to correct the anti-commons process in breast cancer or Alzheimer’s research may simply be prohibitive. Additionally, there may still be hold-out patentees. These issues can be to some extent abated by having multiple foundations pool their assets together to form L3Cs to acquire patents. The presence of a consortium to cure a disease backed by multiple prominent foundations can put pressure on patentees to sell. Additionally, it would be more valuable for one collective to own all the relevant patents for a disease, as they could be licensed out with a blanket license – effectively eliminating transaction costs. Further, if private foundations are public about their patent purchases, then patentees will be able to get some sense of a market price for their patent, and would likely be more willing to sell knowing that they are getting a fair market value for their asset.

It does remain to be seen how far program-related investments can go to addressing the issues of progress inhibition in medical field patents. However, the first step to addressing this problem is to make private foundations aware that by using program-related investments, they can allow patents to promote instead of inhibit progress – and can let brilliant researchers develop the diagnostic and treatment tools that will save millions of lives.