

The (Intellectual Property Law and) Economics of Innocent Fraud: The IP & Development Debate

Abstract:

This note/essay examines the evidence on the effect of stronger IP laws introduced during the process of international IP law harmonization initiated by the TRIPS agreement, on the economic development of developing countries. It has been argued by proponents of harmonization that stronger IP laws will provide a needed boost to the economic development of developing (and even least-developed) countries. Critics of harmonization have argued that stronger IP laws will have the opposite effect. What has been largely overlooked in this debate is the strength of the evidentiary foundation upon which the arguments of both sides depend. Many of the economic arguments of both sides borrow background assumptions from the neoclassical school of economics, a paradigm that has lately come under intense criticism and scrutiny from both current students of economics and greatly respected economists. After briefly discussing the crisis of neoclassical economics and providing a demonstration of the deficiencies in the application of neoclassical modeling techniques to the IP & development question, I examine some of the latest empirical evidence on the question, and then examine the history of the relationship between IP & development. The conclusion of this examination is that empirical evidence does not clearly support either side; rather, a great deal more analysis is required, especially analysis of what one author calls “natural experiments.” These natural experiments are to be found in history, and the historical relationship of IP & development clearly demonstrates, if anything, an inverse relationship between strong IP laws and successful economic development. In light of this result, John Kenneth Galbraith’s phrase “conventional wisdom” is an apt description of the position, well represented in the community of American IP legal scholars, that the international harmonization of IP laws will help the economies of developing nations to grow.

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¹ I would like to dedicate this note to the late, great economist, John Kenneth Galbraith. His wit, perspective, and depth of understanding will be sorely missed. In the event that my attempt to pay homage by borrowing some elements of Galbraith's style and opinion and applying it to the intellectual property and development debate is regarded by readers as a failure, I should nonetheless hope to succeed at instilling a sense of loss at the passing of my inspiration; surely, no matter the reader's opinions on the issue, he would have been a more capable writer on the subject. In that case, to honor in the breach would be to honor.

I would like to thank Professors Barton Beebe of the Cardozo School of Law, Ha-Joon Chang of Cambridge University and Akalemwa Ngenda of the University of Kent Law school for the assistance they provided in researching this note; Lynette Dasanayake, Orobola Fasehun, Todd Larson, Anne Mellett and Rama Rao of the WIPO coordination office for the wonderful experience I will never forget which they afforded me during the course of my internship there; and Deepika D'Souza and Kamil Hamied for sparking my interest in the law of intellectual property.

*“Dealt with in this essay is how, out of the pecuniary and political pressures and fashions of the time, economics and larger economic and political systems cultivate their own version of truth. This last has no necessary relation to reality. No one is especially at fault; what is convenient to believe is greatly preferred.... It is what serves, or is not adverse to, influential economic, political, and social interest. Most progenitors of what I here intend to identify as innocent fraud are not deliberately in its service... There is no serious sense of guilt; more likely, there is self-approval.”*²

- John Kenneth Galbraith, *The Economics of Innocent Fraud*

*“[I]n the interpretation of all social life, there is a persistent and never-ending competition between what is right and what is merely acceptable. In this competition, while a strategic advantage lies with what exists, all tactical advantage is with the acceptable... Numerous factors contribute to the acceptability of ideas. To a very large extent, of course, we associate truth with convenience – with what most closely accords with self-interest and personal well-being or promises best to avoid awkward effort or unwelcome dislocation of life... But perhaps most important of all, people most approve of what they best understand... [A] vested interest in understanding is more preciously guarded than any other treasure. It is why men react, not infrequently with something akin to religious passion, to the defense of what they have so laboriously learned. Familiarity may breed contempt in some areas of human behavior, but in the field of social ideas it is the touchstone of acceptability... I shall refer to these ideas henceforth as the Conventional Wisdom.”*³

- John Kenneth Galbraith, *The Affluent Society*

I

At a recent joint WIPO/UNITAR seminar on intellectual property for UN delegates unfamiliar with the subject, I heard a distinguished professor introduce his discussion of the law of patents with a quote from Mark Twain: “a country without a patent office and good patent laws [is] just a crab, and [can’t] travel any way but sideways and backwards.” This use of Mark Twain’s wit to praise patents deserved a qualifier that was absent, however, from the professor’s discussion. In the book this quote was taken from, *A Connecticut Yankee in King Arthur’s Court*, the country newly granted “a patent office and good patent laws” does travel a few steps forwards – but then many more steps backwards and sideways. Samuel Clemens’ larger point was that technology (and the requisite laws to facilitate its development) is but a tool, and one that

² JOHN KENNETH GALBRAITH, *THE ECONOMICS OF INNOCENT FRAUD*, x-xi (Houghton Mifflin Company 2004).

³ JOHN KENNETH GALBRAITH, *THE ESSENTIAL GALBRAITH*, 19-21 (Houghton Mifflin Company 2001).

cannot by itself solve humanity's gravest problem: the prevalence of societies in which people do not think for themselves.

Intellectual property (IP)⁴ law can be, in the words of director-general of the World Intellectual Property Organization Kamil Idris, a "power tool" for economic development.⁵ Yet if unthinkingly applied according to the prevailing conventional wisdom, IP protection can be a power tool in the hands of a child: destructive rather than creative.

There exists today a lively debate between those who believe that maximal IP protection should be extended throughout the world regardless of differing stages of national development, and those who believe that such an imposition would be harmful, if not deadly, to developing economies and societies. In this note, I will attempt to reexamine the debate, to show how much or little is actually known, and, hopefully, expose innocent fraud wherever it may be uncovered.

II

J.K. Galbraith introduced the phrase "conventional wisdom" into the language, and much of his writings were devoted to exposing as popular falsehood the conventional economic wisdom of the times. He would be happy to follow the events occurring today within the economics academy. Neoclassical economics is experiencing what many of its critics consider a crisis, leading eventually to a paradigm shift within economics.⁶ Critics

⁴ By IP, I mean patent, copyright, and trademark interchangeably, where appropriate. The vast majority of the research I cite focuses on patents. It has been suggested that commentators should disaggregate different forms of IP – an important point for some contexts, especially research endeavors, but not here. *But see* Michael P. Ryan, *Knowledge-Economy Elites, the International Law of Intellectual Property and Trade, and Economic Development*, 10 *Cardozo J. Int'l & Comp. L.* 271, 302 (2002). Ryan, who cites only those studies that support his conclusion that stronger IP laws will aid development, calls the contrary view "the conventional wisdom ... fundamentally flawed as a matter of social science and recommends equally flawed policy prescriptions." *Id.*, at 272. Had he been aware of it, John Kenneth Galbraith would have smiled at this usage of the phrase he coined:

"[t]o my surprise and, no one shall doubt, my pleasure, the term entered the language. It has acquired a negative, slightly insulting connotation and is sometimes used by people with views deeply adverse to mine who are unaware of its origin. Few matters give me more satisfaction."

GALBRAITH, *supra* note 3, at 19.

⁵ *See, generally* KAMIL IDRIS, *INTELLECTUAL PROPERTY* (WIPO 2002).

⁶ For an excellent introduction to heterodox economics, *see Post Autistic Economics Network*, at <http://www.paecon.net> (last visited May 24, 2006). The site contains a link (<http://www.paecon.net/PAEtexts/Galbraith1.htm>) to an essay written by James Galbraith on the reception

include Milton Friedman (“economics has become increasingly an arcane branch of mathematics rather than dealing with real economic problems”⁷), Ronald Coase (“[e]xisting economics is a theoretical system which floats in the air and which bears little relation to what happens in the real world”⁸), and Joseph Stiglitz (“[t]hat [neoclassical] models prevailed, especially in America's graduate schools, despite evidence to the contrary bears testimony to a triumph of ideology over science”⁹). Eventual obsolescence seems almost inexorable, whether the decline of neoclassical economics follows the Kuhnian paradigm of scientific revolutions, loses a Popperian intellectual battle at the hands of a less anomaly-ridden approach, or simply provides an instantiation of the Planck principle.¹⁰ Perhaps a consistent string of economic failures resulting from the application of neoclassical theory will do the theory in. Some blame economists of the neoclassical school at the International Monetary Fund for the East Asian crisis and Russia’s disastrous transition to a capitalist economy.¹¹ Apologists for the IMF and the economic orthodoxy may retort that such a stance is analogous to blaming the physician for one’s the disease, but even this would seem justifiable if the severity of the disease increased sharply following treatment: the patient is liable to suspect that the leeches applied sucked out more lifeblood than disease.

of a 2000 French student petition, which founded the “Post-Autistic Economics” movement. In conclusion, he writes:

A scientific economics ... must be a diverse, pragmatic, applied enterprise with an open discussion of controversial questions ... [T]he core arrangement of theoretical propositions in economics also remains among the questions worthy of debate and therefore of inclusion in the curriculum of economics, since a theoretical framework cannot be debated unless it is first properly taught. The pretense that a single axiomatic framework can be, or has been, built up for all time from first principles and verified by observation – the stated contention of the counter-appeal – merely reveals how far removed from the reality of our profession that statement is. It also constitutes the best evidence that the French students are correct in their appeal for fundamental reform.

⁷ Milton Friedman, *Conversation with Milton Friedman*, in CONVERSATIONS WITH LEADING ECONOMISTS, 137 (Brian Snowden & Howard R. Vane ed., Edward Elgar Publishing 1999).

⁸ Ronald Coase, *Interview with Ronald Coase*, in Interview with Ronald Coase, 2 Newsl. of the Int’l Soc’y for New Institutional Econ. 2 (1999).

⁹ Joseph E. Stiglitz, *Celebrating the Irrational*, Project Syndicate, available at <http://www.project-syndicate.org/commentary/stiglitz23> (December 2002).

¹⁰ See GERALD HOLTON & STEPHEN G. BRUSH, PHYSICS, THE HUMAN ADVENTURE, 37 (Rutgers University Press 2001) (“Max Planck, with perhaps only a little too much bitterness about his own early personal struggles, says, ‘An important scientific innovation rarely makes its way by gradually winning over and converting its opponents: it rarely happens that Saul becomes Paul. What does happen is that its opponents gradually die out, and that the growing generation is familiarized with the ideas from the beginning’” (quoting MAX PLANK, PHILOSOPHY OF PHYSICS, 97 (W.W. Norton and Company Inc. 1936))).

¹¹ See, e.g., JOSEPH E. STIGLITZ, GLOBALIZATION AND ITS DISCONTENTS, 89-165 (W.W. Norton and Company Inc. 2003).

If today a mother were to speak about her parenting troubles, and suggest as their most likely explanation that her 6-year-old son subconsciously desires to have intercourse with her and frets about the possibility that his jealous father, her husband, might cut off the boy's genitals – a fate, in the young boy's mind, that his penis-less sister surely had already suffered – the woman might be considered mad. Yet, during most of the last century this same woman would have more likely been considered abnormal only in the sense that she was more intelligent and well-read than average. Freudian psychoanalysis was the dominant paradigm, with a few conceptual shifts over time, in American psychiatry for most of the 20th century.¹² Today it has been much discredited, and relegated to a niche.¹³ Is the same fate in store for neoclassical economics?

“Such a doctrine can accrue any number of theoretical niceties as it continually trims its sails to the Zeitgeist, but it can never confront the nullity of its knowledge claims, since to do so would be institutional suicide.”¹⁴ Written about psychoanalysis, this same indictment is serviceable in application to neoclassical economics. Freudian psychoanalysis has since been relegated to a niche within the academy and in psychiatric practice, as other schools of thought less contradicted by empirical evidence gained sway.¹⁵ For an emerging minority of heterodox economists, the neoclassical school, with its fondness for mathematical abstractions underpinned by absurd, though standard, assumptions,¹⁶ and record of failures in application,¹⁷ too seems destined for the dustbin.

¹² See, e.g., Paul H. Ornstein, M.D. & Jerald Kay, M.D., *Development of Psychoanalytic Self Psychology*, in AMERICAN PSYCHIATRIC PRESS REVIEW OF PSYCHIATRY, at 302-322 (Allan Tasman, Stephen M. Goldfinger & Charles A. Kaufmann, ed., American Psychiatric Publishing 1990).

¹³ See, e.g., FREDERICK CREWS, FREUD'S LEGACY IN DISPUTE (New York Review of Books 1990).

¹⁴ “[H]abitual confusion of speculation with fact; ... its proliferation of theoretical entities bearing no testable referents; its lack of vigilance against self-contradiction; its indifference to rival explanations and to mainstream science; ... its insistence that only the initiated are entitled to criticize”, among others, were listed as features of the school of psychoanalysis. CREWS, *supra* note 13, at 61-62. Many would borrow this description for application against neoclassical economics.

¹⁵ See, e.g., WILLIAM D. SPAULDING, MARY E. SULLIVAN & JEFFREY S. POLAND, TREATMENT AND REHABILITATION OF SEVERE MENTAL ILLNESS, at 12-13 (The Guilford Press 2003).

¹⁶ I am here referring to the practice of neoclassical economists of making certain assumptions (which have become standard), such as markets being in equilibrium, all economic actors being rational, utility-maximizing individuals, etc., around which mathematical models are designed that purport to shed light on really existing economies. To the uninitiated this seems as obvious folly, so neoclassical economists defend the practice by recourse to the “F-twist,” brainchild and namesake of Milton Friedman. Friedman's defense was that economic theories are unrealistic by nature of the fact that they abstract the crucial elements of the phenomena to be explained and ignore the complicated mass of extraneous surrounding circumstances. So long as a theory produces accurate predictions, its seemingly absurd starting assumptions are of no importance.

III

I introduced my analysis of the IP and development debate with a brief discussion of failed and failing paradigms – Freudian psychoanalysis and neoclassical economics – not to attack proponents on either side of the IP and development debate, but rather to suggest a loosening of the dogmatic certitude with which both sides hold their opinions.¹⁸ Humans are fallible, and academic or institutional esteem is no guarantee of truth.

Neoclassical economics has been revealed as an ideology (both in the original sense, and, especially, according to Karl Marx's definition¹⁹) with scientific pretensions. Yet neoclassical economics' present dominance evinces an uncomfortable link between its use and utility for ideological justification, and its proponents' belief that they are uninfluenced by anything other than an intellectual desire for scientific truth.

This link need not carry with it any moral disapproval, as a memetic perspective demonstrates.²⁰ At its core, the memetic perspective seeks to explain the emergence and

Philosopher Alan Musgrave produced an incisive analysis and critique of the use of such assumptions, delineating three categories thereof: negligibility assumptions, which state that an aspect of reality has no significant effect on the phenomenon under investigation; domain assumptions, which specify the conditions under which a theory will apply; and heuristic assumptions, which are known to be false but are made as a first step towards a more general theory. Neoclassical economists use and misuse these assumptions heavily in designing theory, and stray far beyond their inherent limitations. For example, the use of domain assumptions in the creation of a mathematical model necessitates the conclusion that the model is only applicable in the domain whose reality the assumptions made accurately describe; effectively, nowhere. See STEVE KEEN, *DEBUNKING ECONOMICS*, 148-155 (St. Martin's Press 2002).

¹⁷ See, e.g., STIGLITZ, *supra* note 11.

¹⁸ If the reader is skeptical of this claim, and sees in my introduction a preparation to launch an a partisan attack at IP law and neoclassical economics which one might presume would support it, see Dean Baker, *The Reform of Intellectual Property*, 32 *Post-Autistic Econ Rev.*, available at <http://www.paecon.net/PAEReview/wholeissues/issue32.htm> (July 2005). Here, the case is made that intellectual property laws are contrary to the prescriptions of neoclassical economics, despite the fact that few neoclassical economists have attacked the IP system with the same ferocity reserved for tariffs or other forms of protectionism. Although there may be few such neoclassical economists, but they are capable of raising a firestorm of controversy. See Douglas Clement, *Creation Myths*, Reason Online, available at <http://www.reason.com/0303/fe.dc.creation.shtml> (March 2003).

¹⁹ Interestingly, Marxism is rightly identified by most people today as an ideology, not a science, despite the fact that Marxists themselves historically believed that theirs was an objective science. Marxists, no doubt, saw neoclassical economics as an ideology from the beginning. See Michael A. Lebowitz, *Ideology and Economic Development*, 56 *Monthly Rev.*, available at <http://www.monthlyreview.org/0504lebowitz.htm> (May 2004).

²⁰ See generally RICHARD DAWKINS, *THE SELFISH GENE* (Oxford University Press 1976), SUSAN BLACKMORE, *THE MEME MACHINE* (Oxford University Press 1999), RICHARD AUNGER, *THE ELECTRIC MEME* (Free Press 2002), KATE DISTIN, *THE SELFISH MEME* (Cambridge University Press 2004), among others. But see generally for critical perspectives, *DARWINIZING CULTURE* (Robert Aunger, ed., Oxford University Press 2001). Memetics is not a wholly original perspective; it is a modern graft, influenced by

existence of culture, ideas, and the way humans create, modify and use them, without reference to a Creator. Instead, the evolutionary paradigm²¹ is used to explain the emergence and development of these complex phenomena. ‘Memes’ are ideas that compete for survival and propagation in human brains according to the evolutionary paradigm, in a manner loosely analogous to the way genes can be said to compete for survival and propagation. Ideas that confer an advantage upon their subjects tend to out-replicate less ‘fit’ ideas. For example, the idea of cooking meat might tend to spread more widely than the idea of eating meat raw, since the latter would tend to expose its practitioners to life-threatening parasites, and would therefore have a lesser chance to spread. Also, since the environment of evolutionary adaptation for memes is a human mind already filled with other ideas, to be successfully adopted new ideas must be to some degree in harmony with those already present and shaping the environment. The idea of ‘email’ would not successfully spread to human minds without an understanding of computers and the internet. So too, the idea of advocating radical wealth redistribution

the modern synthesis of Darwinism and the discovery of DNA, appended to a tree with very deep roots. For instance, *see, e.g.*, FRIEDRICH NIETZSCHE, *THE GAY SCIENCE*, 169-171 (Vintage 1974).

²¹ Philosopher Daniel Dennett presents the evolutionary paradigm as an “universal acid,” a substance capable of dissolving anything attempting to contain it, from a paper bag to stainless steel. The evolutionary paradigm is a universal acid capable of eating “through just about every traditional concept, [leaving] in its wake a revolutionized world-view, with most of the old landmarks still recognizable, but transformed in fundamental ways.” DANIEL C. DENNETT, *DARWIN’S DANGEROUS IDEA*, 63 (Simon & Schuster 1995). Dennett continues:

Darwin’s idea had been born as an answer to questions in biology, but it threatened to leak out, offering answers – welcome or not – to questions in cosmology (going in one direction) and psychology (going in the other direction). If *redesign* could be a mindless, algorithmic process of evolution, why couldn’t that whole process itself be the product of evolution, and so forth, *all the way down*? And if mindless evolution could account for the breathtakingly clever artifacts of the biosphere, how could the products of our own “real” minds be exempt from an evolutionary explanation? Darwin’s idea thus also threatened to spread *all the way up*, dissolving the illusion of our own authorship, our own divine spark of creativity and understanding.

Much of the controversy and anxiety that has enveloped Darwin’s idea ever since can be understood as a series of failed campaigns in the struggle to contain Darwin’s idea within some acceptably “safe” and merely partial revolution. Cede some or all of modern biology to Darwin, perhaps, but hold the line there! Keep Darwinian thinking out of cosmology, out of psychology, out of human culture, out of ethics, politics, and religion [and economics]! In these campaigns, many battles have been won by the forces of containment: flawed applications of Darwin’s idea have been exposed and discredited, beaten back by the champions of the pre-Darwinian tradition. But new waves of Darwinian thinking keep coming. They seem to be improved versions, not vulnerable to the refutations that defeated their predecessors, but are they sound extensions of the unquestionably sound Darwinian core idea, or might they, too, be perversions of it, and even more virulent, more dangerous, than the abuses of Darwin already refuted?

would have difficulty taking hold in Bill Gates' mind, as would the idea of leveraging monopoly power in the mind of a pauper.²²

This memetic interpretation of ideas and ideology might give pause to antagonists in the IP and development debate. Both sides should ask themselves: to what extent is that which is believed believed as a result of dispassionate, thorough examination of facts and opposing arguments – and to what extent is that which is believed believed merely because it fits comfortably with what is already believed? The demonstrable persistence of “conventional wisdom” in the face of contradictory facts should force us to reexamine the evidence upon which – we presume – our opinions on the IP & development debate have been formed.

IV

One of the ineluctable weaknesses of the study of economics is that replicable experimentation is not available to prove or disprove most economic hypotheses.²³ Scientific ethics would prevent us even if it were not already simply impossible to run a controlled experiment wherein the effects of myriad independent variables could be eliminated and only the effect of IP protection upon the dependent variable of economic growth could be isolated. Regardless, control-group experimentation to verify or falsify economic hypotheses like the one under discussion now – whether international harmonization²⁴ of IP law will produce gains for developing economies – is simply unavailable for use.

This seems an obvious point, but its consequences are often overlooked. One interesting example is that if there were a trial in a U.S. court over the question of the economic effects of international IP law harmonization on the developing world, much of

²² In this instance, the maxim “tell me what a man owns, and I will tell you what he thinks,” is not far off.

²³ There is, however, the burgeoning experimental economics movement, the explanatory scope of which, one hopes, will continue to grow. *See generally* THE HANDBOOK OF EXPERIMENTAL ECONOMICS (John H. Kagel & Alvin E. Roth ed., Princeton University Press 1997). “Among the more amusing results that have come out of experimental economics are those concerning altruism and selfishness. It appears (at least in experimental situations) that experimental subjects are not as selfish as economists have hypothesized-- except for one group - the economists themselves.” Stiglitz *supra* note 7. Other heterodox approaches attempt to minimize this weakness in different ways. *See* Post Autistic Economics Network *supra* note 5.

²⁴ Although “strengthening” can be used interchangeably with “harmonization,” and is more accurate in terms of the overall international changes to IP law that harmonization would effect, I will use the latter since it is possibly more value-neutral than “strengthening.”

the evidence economists would use to make their case might be inadmissible.²⁵

Economics is hamstrung by the nature of its pursuit; complex systems like economies are terribly difficult to model with a level of accuracy sufficient to confidently derive predictions – which is the bulk of what neoclassical economists do.²⁶ This inherent weakness of this field of scientific enquiry perhaps provided the initial impetus for the neoclassical school's refuge in abstract mathematical models, their dubious applicability to the real world notwithstanding.

Another way for economists to make a case for one policy prescription over another is to find a correlation between the advocated policy and a desired result in statistical records.²⁷ Although economists try to isolate independent variables as best they can using statistical techniques, their efforts are subject to the dictum that while correlation, especially very strong correlation, may seem to *imply* causation, it can never *prove* it. For example, it seems to me that about 80% of the time when I enter a subway station (100% of the time when I am in a hurry), the train I wish to take is in the process of leaving the station. Therefore there is a very strong positive correlation between my entering a subway station and the train I want to take leaving it; yet it goes without saying that my daily movements do not determine the movement and position of subway trains.²⁸ Do not blame me should you miss your train: correlation is not causation. This basic scientific principle should be kept in mind whenever economists identify two variables, note a correlation between the two, and then proceed to argue that one caused the other.

V

Support for the propositions that the harmonization of IP law internationally (through the Agreement on Trade-Related Aspects of Intellectual Property Rights (TRIPS) or bilateral treaties) will either improve or stanch economic growth in the developing world comes in many forms. The weakest support comes in the form of

²⁵ See *Daubert v. Merrell Dow Pharms.*, 509 U.S. 579, 593 (U.S. 1993).

²⁶ See Dominique Peters, *On Modeling in Human Geography*, in *THE EXPLANATORY POWER OF MODELS*, 163 (Robert Franck ed., Springer 2002).

²⁷ See, for example, David M. Gould and William C. Gruben, *The Role of Intellectual Property Rights in Economic Growth*, 48 *J. of Dev. Econ.* 323, 336, 338 (1996).

²⁸ This is an illustration I borrowed from a since forgotten book. Although I cannot remember to whom credit should be given, I will note that this is not my idea.

armchair theorizing and anecdotal evidence.²⁹ Relatively stronger support comes in the form of modeling, and stronger still in finding positive correlations between IP protection and economic growth from comparisons of statistical samples.

A few examples of the modeling approach provide a demonstration of one critique of neoclassical economics: that the theoretical tools its practitioners have developed may be of little or no value in terms of application to the real world. This is not to say that no model could possibly provide evidence either for or against a link between IP protection and economic growth in developing countries, but only to remind participants in the debate to be vigilant in judging the utility and applicability of modeling. In 1993, Elhanan Helpman designed a model that demonstrated how stronger IP protection would be harmful to the developing world both in the absence and presence of foreign direct investment (FDI).³⁰ Building upon and modifying Helpman's work, Edwin Lai later designed a model that demonstrated that, in the presence of sufficient FDI (in the form of multi-national corporations (MNCs) relocating production to developing countries), stronger IP protection would lead to a higher rate of innovation and higher wages in the developing world.³¹ A recent minor revision of the models of Helpman and Lai – tweaking just the definition of knowledge capital to make it more realistic – resulted in “completely opposite” conclusions on the effect of strengthening IP protection on economic growth.³² If entirely different policy prescriptions can be supported from the results of minute tweaks within largely similar models, perhaps theoretical arguments derived from modeling used by both sides in the IP and development debate should be taken with a grain, or more, of salt.

With that in mind, another model predicted that strengthening IP rights in developing countries would increase one element of their international trade: their

²⁹ See generally, e.g., SHAHID ALIKHAN, SOCIO-ECONOMIC BENEFITS OF INTELLECTUAL PROPERTY PROTECTION IN DEVELOPING COUNTRIES (WIPO 2000).

³⁰ See Elhanan Helpman, *Innovation, Imitation, and Intellectual Property Rights*, 61 *Econometrica* 1247, 1274 (1993). Helpman also notes the limitations of theoretical arguments in the IP & development debate. *Id.*, at 1257.

³¹ See Edwin Lai, *International Intellectual Property Rights Protection and the Rate of Product Innovation*, 55 *J. of Dev. Econ.* 133, 144-147 (1996).

³² See Debasis Mondal & Manash Ranjan Gupta, *Product Development, Imitation, and Economic Growth: A Note*, 15 *J. of Int'l Trade & Econ. Dev.* 27, 40-41 (2006).

imports.³³ Keith Maskus, one of the authors of this study, reviewed it later, and added that strengthened IP rights should cause industrializing countries which pose an imitation threat to import more high-technology goods – “which may have a beneficial growth impact”³⁴ (an explanation of the causal link was not provided). However, the economies of “poor countries without much ability to imitate ... could be exposed to monopoly impacts with negative effects on their terms of trade.”³⁵ A subsequent modeling exercise found similar results, but its authors pointed out methodological flaws in the first (Maskus & Penubarti) study,³⁶ and concluded that due to methodological problems and the theoretical ambiguity of economic analyses of the effect of IP protection on trade, “natural experiments” should be isolated and studied instead.³⁷

It is worth noting in passing that an evolutionary approach to modeling has been applied to the broader question of the social and technological efficiency of stronger IP protection. The results of this evolutionary model weighed in favor of mild patent laws in developed countries, as stronger patent systems were shown to lower social welfare and technical progress.³⁸ However, while evolutionary economic models may be a step up from traditional modeling, the jury is still out on their usefulness. Other sources of evidence must be examined.

VI

One argument in favor of the harmonization of international IP laws is that, even if such harmonization does not stimulate innovation and economic growth in developing countries *directly*, it will draw FDI into developing countries with newly strengthened IP

³³ See Keith E. Maskus & Mohan Penubarti, *How Trade-Related Are Intellectual Property Rights?*, 39 J. Int'l Econ. 227, 235-37, 244 (1995).

³⁴ See Keith E. Maskus, *Lessons from Studying the International Economics of Intellectual Property Rights*, 53 Vand. L. Rev. 2219, 2232 (2000).

³⁵ *Id.*

³⁶ See, e.g., *How Stronger Protection of Intellectual Property Rights Affects International Trade Flows*, at 10-12, World Bank Policy Research Working Paper No. 2051, WPS2051 (Carsten Fink & Carlos A. Primo Braga, February 1999)[hereinafter *How IPR Affects Trade*].

³⁷ See *id.*, at 12. See *infra text* accompanying notes 86-105.

³⁸ See Thomas Vallee & Murat Yildizoglu, *Social and Technological Efficiency of Patent Systems*, at 11, 11 Cahiers du Groupement de Recherches Economiques et Sociales, available at <http://repec.org/sce2004/up.16143.1075828575.pdf> (May 2004).

protection:³⁹ and this, in turn, will stimulate economic growth. (Although not even this last link in the argument is uncontroversial,⁴⁰ I will assume its correctness for the purposes of this section.)

One recent study of countries who signed bilateral trade agreements including strengthened IP protection found a positive correlation between FDI and newly-strengthened IP rights among a number of other factors, including a common language and geographical proximity, in countries having weak legal institutions prior to the signing of the treaty.⁴¹ Paradoxically, countries having “perfect” institutions experienced no or even negative growth in FDI after the signing of the treaty.⁴²

The study did not attempt to disaggregate FDI by industry, however. The importance of industry disaggregation for generating useful results was demonstrated by a subsequent study of the Hollywood video and film export industry. A firm-level focus was chosen for the reasons that the firm is the unit of analysis in theoretical work on the issue, and that country-level empirical studies blur differences between individual industries in their sensitivity to changes in IP law. The study found that the degree of IP protection had a varied effect across different markets; in markets with high and low IP protection, FDI was higher, whereas in countries with mid-level IP protection, FDI was foregone in place of licensing agreements. This finding weighs against the hypothesis that FDI goes up uniformly as IP protection is strengthened. The true relationship is more complex.⁴³

³⁹ See, e.g., Jean Raymond Homere, *Intellectual Property Rights Can Help Stimulate the Economic Development of Least Developed Countries*, 27 Colum. J.L. & Arts 277, 286 (2004)

⁴⁰ See, e.g., “Like other forms of capital flows (such as [portfolio investment]), unregulated FDI has the potential to cause significant resource outflows from developing countries.” HA-JOON CHANG & ILENE GRABEL, *RECLAIMING DEVELOPMENT*, 144 (Zed Books Ltd, 2004). FDI has been shown to have no effect on economic growth below a minimum threshold of human capital. See *How Does Foreign Direct Investment Affect Economic Growth?* at 17, 19-20, NBER Working Paper 5057 (Eduardo Borensztein, José De Gregorio & Jong-Wha Lee, March 1995).

⁴¹ See *The Role of Property Rights Protection on the Effect of Free Trade Agreements on Foreign Direct Investment* at 48-49, Research Department of Banco de México (Lorenza Tigueros & Roberto Hidalgo, August 2003).

⁴² *Id.*, at 26-27.

⁴³ Philip McCalman, *Foreign Direct Investment and Intellectual Property Rights*, 62 J. of Int’l Econ 107, 120-122 (2004). “These results argue against any simple prediction about the implications of IPR reform for FDI, suggesting instead that the nature and magnitude of the impact of IPR reform will depend not only on the characteristics of an industry ... the initial standard of IPR,” and “the nature of the product and the degree of competition it encounters.”

A 2003 study on the relationship between IP rights and FDI attempted to avoid the same problems identified in the previous study by disaggregating the analysis of the relationship between IP protection and FDI on sectoral and regional levels.⁴⁴ The studies also used the most recent patent index available, which, because based on a survey of perceived IP protection in a number of countries, might provide a better idea of how effective actual *enforcement* of IP laws is. Prior indexes relied exclusively on how strong were the IP laws on the books, without regard to enforcement. The results demonstrated that the relationship between FDI and IP protection is heavily mediated by both industry- and host country-specific characteristics. IP protection was positively correlated with FDI in the machinery and transport equipment industries, but not with the food, metal, and chemicals industries. Furthermore, IP protection has a weak relationship to FDI in markets with strong “pull factors” for investment. The results suggest that FDI significantly increases with stronger IP protection only where local imitative capacity (represented by educational attainment) is moderate. In countries with poor educational systems, no significant effect of IP protection on FDI was found; likewise with very advanced countries, where licensing is largely substituted for FDI.⁴⁵ The findings seem in accord with arguments based on the historical relationship of IP protection and economic development, dealt with below.

Past surveys of MNCs have demonstrated that the IP rights regime of a particular country is “highly relevant” in decisions to invest in R&D facilities abroad, “moderately important” for FDI in manufacturing, and “of limited relevance” for investments in sales and distribution outlets.⁴⁶ However, the most recent survey of MNCs clarified these results by differentiating between decisions to invest in developed or developing countries. This study revealed that in decisions to invest in R&D facilities in emerging economies, IP protection ranked *after* all of the following: growth potential in the market (the most important consideration), which was followed in second place by quality of

⁴⁴ See *Intellectual Property Rights and Foreign Direct Investment: The Role of Industry and Host Country Characteristics*, at 5, Kiel Working Paper No. 1167, Kiel Institute for World Economics (Peter Nunnenkamp & Julius Spatz, June 2003).

⁴⁵ See *id.*, at 37-40. Also, “[t]he openness of host countries, in terms of their trade policy, seems to be more important by far than IPR protection in stimulating FDI-related exports.”

⁴⁶ *Intellectual Property Rights and Economic Development*, at 32, World Bank Discussion Paper No. 412, WDP412 (Primo Braga, Fink & Sepulveda, March 2000). The authors note, however, that the empirical research into the effect IP rights have on investment and technology transfer decisions is limited.

R&D personnel, while tied for third were costs (net of tax breaks), the ease of collaborating with universities, and the expertise of university faculty.⁴⁷ Only in decisions regarding investment of R&D facilities in *developed* economies was the quality of IP protection a top priority.⁴⁸ Therefore, arguments⁴⁹ that the international harmonization of IP law will lead to an increase in FDI for developing countries do not stand up to the latest evidence from surveys of MNC investment decisions. Before IP laws have any effect on such decisions, developing countries would have to demonstrate growth potential in their markets, invest heavily in educating future R&D personnel, ensure low costs (via tax breaks if necessary), invest heavily in their university systems and facilitate collaboration between industry and the academy. Rather than strong IP protection being a reason why MNCs may invest in developing countries, this survey reveals IP protection to be merely the icing on the cake: insubstantial in comparison to the factors listed above.⁵⁰ These findings go a long way towards explaining, for example, why rampant piracy in China has not stopped a veritable flood of FDI from inundating the country.⁵¹

VII

Another potential benefit of stronger IP laws for developing countries may be an increase in formal technology transfers – especially the transfer by MNCs to their developing country subsidiaries of production facilities producing technologically advanced goods. In the process, local engineers and other skilled workers would be taught the key elements of MNCs’ production processes, thereby diffusing advanced technologies in the developing world. This, in turn, is presumed to increase technological improvement and growth by means of ripple effects throughout the host economy.

⁴⁷ See Jerry & Marie Thursby, *Why Firms Conduct R&D Where They Do*, 49 Res. Tech. Mgmt. 5 (May/June 2006).

⁴⁸ *Id.*

⁴⁹ See, e.g., Homere, *supra* note 39, at 286.

⁵⁰ This conclusion is also supported by the theoretical work of Pranab Barhan. See generally Pranab Barhan, *The Contributions of Endogenous Growth Theory to the Analysis of Development Problems: An Assessment*, in HANDBOOK OF DEVELOPMENT ECONOMICS, 2984 (J. Behrman & T.N. Srinivasan ed., North Holland 1995).

⁵¹ See Nunnenkamp, *supra* note 44, at 29.

One study of U.S. firms on the effect of increased IP protection in a mixed sample of developed and developing countries on royalty payments, R&D expenditures, and foreign patent applications (used as proxies for technology transfer) found a significant, positive correlation.⁵² These results may suggest that U.S. firms respond to the strengthening of IP rights regimes by increasing technology transfer to reforming countries. However, the samples used were biased rather than random, since Argentina, China, and Japan were excluded on the basis of the authors' perception of factors in those countries that might skew the results.⁵³ The authors also noted that the correlation they found might be explained by different sources of causation, and though they were unable to rule this possibility out, they argued that some suggested alternative causes were unlikely to explain the correlation found.⁵⁴ However, the authors hedged in their results by noting that they did not demonstrate that increased IP protection was welfare enhancing for reforming countries – for one, locally-owned firms may be displaced by an increased MNC presence, which may lead to an overall welfare reduction as a result of increased IP protection.⁵⁵

Another study separated a random sample of countries into three groups based on per capita income, and measured the relationship between IP rights policy and trade openness on the one hand, and productivity growth and technology transfer (using levels of international trade, foreign patenting, and the postulate that disembodied technology diffuses at a rate increasing with the technology gap between leading and following countries and with the human capital level of the following countries as proxies) on the other.⁵⁶ (Unfortunately, the index of patent protection used accounted only for *de jure*, not *de facto* levels of protection.)⁵⁷ The authors found that the number of foreign patents filed was correlated with technology spillover effects (increases in productivity) in low- and middle-income countries, but less so in high-income countries; in middle- and high-

⁵² See *Do Stronger Intellectual Property Rights Increase International Technology Transfer?*, at 25, National Bureau of Economic Research, Working Paper 11516 (Lee Branstetter, Raymond Fisman & C. Fritz Foley, July 2005).

⁵³ *Id.*, at 18, 20.

⁵⁴ *Id.*, at 21-24.

⁵⁵ *Id.*, at 25.

⁵⁶ See Bin Xu & Eric P. Chang, *Trade, Patents and International Technology Diffusion*, 14 *J. Int. Trade & Econ. Dev.* 115, 115-116 (2005).

⁵⁷ *Id.*, at 118. For an explanation of the importance of *de facto* v. *de jure* IP protection in this context, see *How IPR Affects Trade*, *supra* note 36, at 12, and *infra text accompanying notes* 44-45.

income (but not low-income) countries, increases in imported capital goods (embodying foreign technology) were correlated with productivity growth.⁵⁸ This, in light of the result that the number of domestic patents filed was not significantly correlated with productivity growth in developing countries, suggeststhat domestic technological innovation in developing countries is minimal and an insignificant source for productivity gains.⁵⁹

Therefore, from a policy perspective, it would seem better to ensure that developing countries have unimpeded access to technology transfer whether by formal or informal means (the latter requiring either weak or unenforced IP protection), rather than to ensure that the laws of developing countries are such as to promote domestic innovation (arguably, by strong, enforced IP protection). The postulate that disembodied technology diffusion, or informal technology transfer, increases with the technology gap between leading and following countries and with levels of human capital was supported by the results.⁶⁰ In other words, informal technology transfer occurs regardless of the presence of formal technology transfer, in proportion to the level of human capital in the technology-following country. This finding suggests that developing countries may be better off investing in education than in stronger IP rights, since an improved educational system increases both the rate of informal technology transfer and levels of FDI.⁶¹

Moreover, while technology transfer from developed country MNCs to their developing country subsidiaries may occur through formal channels in some industries, a recent report by the World Health Organization notes that formal technology transfer to developing countries for “manufacturing medicines, and, particularly, active ingredients, is scant or nonexistent.”⁶² It would seem that in the pharmaceutical context, and perhaps in others as well, only informal means of technology transfer are available. If, as some have argued, informal means of technology transfer (such as reverse engineering, imitation and adaptation of advanced technologies) is a more important source of

⁵⁸ *Id.*, at 131. Interestingly, the authors mislabel their study an “experiment,” suggesting that they have discovered a direct causal relationship between levels of IP rights protection and productivity growth.

⁵⁹ *Id.*, at 126-127.

⁶⁰ *Id.*, at 127, 131.

⁶¹ See *supra* text accompanying note 47.

⁶² See *Public Health - Innovation and Intellectual Property Rights*, at 172, World Health Organization, Report of the Commission on Intellectual Property Rights, Innovation, and Public Health (Ruth Dreifuss et al., April 2006)

technology transfer than formal means, then IP laws that restrict the former in the hope of increasing the latter may actually decrease overall technology transfer.⁶³ Clearly, more research disaggregating among industries, countries by level of development, and technology transfer both formal and informal, is needed.

VIII

While encouraging FDI and technology transfer are goals prominent in arguments for the harmonization of international IP law, they are but means to the end stronger IP law is purported to achieve: economic growth. We will examine empirical findings on the relationship between the stronger IP laws and economic growth in this section.

One empirical study comparing the relationship of IP protection to economic growth (while controlling for a number of other variables) found a positive correlation between the two.⁶⁴ This result was hedged in by a number of qualifications, however. One anomalous initial result was that countries with the highest level of patent protection grew fastest, but countries with the second-lowest level of patent protection grew faster than countries with intermediate levels of patent protection.⁶⁵ After controlling for important determinates of growth, the authors found a partial correlation between growth and IP protection, but with a high degree of variation in the relationship.⁶⁶ After controlling for ancillary variables, the significance level of IP protection was still significant, but dropped enough for the authors to question the importance of IP protection for economic growth.⁶⁷ In conclusion, the authors noted that IP protection may positively influence economic growth, but that the level of competitiveness and openness to trade within a country mediated the economic effect of stronger IP protection.⁶⁸

⁶³ See Ha-Joon Chang, *Intellectual Property Rights and Economic Development – Historical Lessons and Emerging Issues*, 2 J. of Hum. Dev. 287, 301 (2001) (author's note: the copy of this paper upon which I rely is a draft version provided me by Prof. Chang; page numbers cited *infra* may not exactly correspond to those in the published version) [hereinafter *Chang, IPR & Development*].

⁶⁴ See Gould, *supra* note 27, at 345-346.

⁶⁵ *Id.*, at 333.

⁶⁶ *Id.*, at 336.

⁶⁷ *Id.*, at 338.

⁶⁸ *Id.*, at 324, 345-346.

The authors provided an example of this effect by a comparison, writing that IP protection induces more growth in “open,” “outward-oriented” economies like South Korea, than in more “closed” economies like Jamaica, a country with more trade “distortions.”⁶⁹ The statistical technique of instrumental variables was used to isolate the effect of IP laws from a myriad of other variables. But how successful were the instrumental variables the authors chose in insulating the analysis from, for example, distortions imposed by the Cold War? Korea was benefited greatly from the Cold War; not only did the U.S. give massive amounts of aid funds to South Korea during its post-war period of development,⁷⁰ but Korean exporters got an open door to the richest market in the world.⁷¹ Needless to say, as a leader of the Non-Aligned Movement, Jamaica reaped no such largesse. The Cold War variable might explain why, although Korea and Jamaica both ranked a 4 on the index of patent protection used by the authors (which does not factor in actual enforcement), Korea used semi-legal and illegal means of technology transfer⁷² without fear of incurring trade sanctions - facilitated, unlike Jamaica, by the fact that historically “[t]he United States was willing to indulge certain countries, especially places like Korea sitting on the fault lines of the Cold War.”⁷³

To move from the specific to the general, how can one be sure that the direction of causality runs from IP protection to economic growth, and not the other way around? Perhaps, as proponents of the history-based arguments below might say, the positive correlation between IP protection and economic growth can be explained in this manner: once a country with weak IP protection reaches a certain threshold of development where its IP-dependent industries have become internationally competitive, it tends to implement stronger IP laws to protect its industries. In other words, economic growth causes (rather, provides a basis for) stronger IP protection. The study’s authors might

⁶⁹ See Gould, *supra* note 27, at 341.

⁷⁰ See BRUCE CUMINGS, KOREA’S PLACE IN THE SUN, 306-307 (W.W. Norton & Company Inc. 1997). Officially, \$12 billion in U.S. aid went to Korea between 1945-65, not counting a number of scams dictator Syngman Rhee engaged in at the expense of the U.S. government. Another estimate of U.S. aid to South Korea during the period of 1945-1976 arrives at the figure of \$600 per person per year.

⁷¹ See *id.*, at 318. Cuming puts it in more colorful prose: “South Korean interests frolicked for years in the yawning maw of the American market (usually in cooperation with American firms that had moved to Korea for coproduction).”

⁷² See Ha-Joon Chang, *Technology Transfer in Historical Perspective*, at 2, University of Oslo Strategic University Programme, Working Paper 05/04 (ISSN: 1501-8040, March 2004).

⁷³ See CUMINGS, *supra* note 70, at 305.

counter that this endogeneity-based criticism is misplaced, since patent laws for most countries in the sample (except for some very notable exceptions: Mexico, Korea, Taiwan, and China) were established during or before the 1960s, while the dependent variable (economic growth) is based on later data.⁷⁴ However, there is an important difference between *de facto* and *de jure* patent protection that the patent index the authors used does not capture⁷⁵ – and this gap makes the authors’ conclusion more vulnerable to the historical criticism just mentioned. IP laws may be on the books but largely unenforced during a period where a country’s industry is not yet internationally competitive.⁷⁶

The countries sampled in the previous study ran the gamut from the United States to Zambia to Malaysia, encompassing least developed, developing, and developed nations. In a subsequent, methodologically similar study investigating the relationship of IP protection to innovation and economic growth, samples were split between developed and developing countries.⁷⁷ An improved patent index was used that covers broader categories of patent protection.⁷⁸ The results of this study suggested that IP rights have a stronger impact on domestic innovation in developed nations, while negatively impacting innovation in developing countries.⁷⁹ These results, the author writes, “may be indicative of the fact that most innovation in developing countries may actually be imitation or adaptive in nature. Therefore, providing stronger IPRs protects foreign firms at the expense of local firms.”⁸⁰ This is not to say that IP protection should be unequivocally discouraged in developing countries, but that developed countries must support R&D activities in the developing world in order for IP protection to pay off for the latter.⁸¹ If this does not occur, increased IP protection may harm rather than help developing economies.

⁷⁴ See Gould, *supra* note 27, at 338.

⁷⁵ See *How IPR Affects Trade*, *supra* note 36, at 12.

⁷⁶ As was the case with Korea and other East Asian countries. See generally, e.g., Chang, *supra* note 72.

⁷⁷ See Patricia Higinio Schneider, *International Trade, Economic Growth and Intellectual Property Rights*, 78 J. of Dev. Econ. 529, 530-531 (2004).

⁷⁸ *Id.*, at 536-537.

⁷⁹ *Id.*, at 543.

⁸⁰ *Id.*

⁸¹ *Id.*

In one of the few studies examining the effects of IP protection on development to note the essential distinction between correlation and causation, the results of an exhaustive, highly disaggregated data analysis suggested that there may actually be a strong *non-linearity* describing the relationship between IP protection and economic growth. Strong IP protection is probably beneficial for countries with a high degree of industrial sophistication, but below a certain threshold, strong IP protection is far less likely to have any positive impact on economic growth.⁸² This threshold may be a per capita income of \$7,750 (in 1985 dollars), which is the turning point on the U-shaped relationship between the strength of IP protection and income levels revealed by econometric cross-section evidence.⁸³ Therefore, there does not seem to be much of a case for expanding strong IP protection uniformly across the developing world ; rather, differentiated levels of IP protection should be applied with sensitivity toward levels of economic and technological sophistication.⁸⁴ It could be that slack IP protection is useful to facilitate informal technology transfer; once these means succeed in building local capacity, then local innovative effort becomes possible, and at this point IP protection can be of assistance.⁸⁵ The history of IP law and economic development may provide a “natural experiment” to test this proposition.

IX

The lack of a clear consensus as regards policy prescriptions coming from the theoretical and empirical work discussed above is troubling. A transformative quest to harmonize international IP law would have, or so one would hope, a comfortably solid bedrock of empirical evidence to support it. No one would trust an airplane whose safety record is mixed and a significant proportion of mechanics say is dangerous to take them to their desired destination. In the face of the contradictory results of theory and empirical study, prudent passengers of the global economy may want to look to past experience for guidance. And whereas theoretical analyses and empirical studies of data

⁸² See *Indicators of the Relative Importance of IPRs in Developing Countries*, at 20-21, UNCTAD-ICTSD Project on IPRs and Sustainable Development, Issue Paper No. 3 (Sanjaya Lall & Manuel Albaladejo, June 2003). This study is also of general interest on questions of the relationship between IP protection and technology transfer and FDI.

⁸³ *Id.*, at 11.

⁸⁴ *Id.*, at 13.

⁸⁵ *Id.*, at 11.

of the interactions within the most complex of human complex systems, economies, are easily confounded, historical studies are relatively less susceptible.⁸⁶

The most succinct exposition of the conventional wisdom (in the original, Galbraithian sense)⁸⁷ on the historical relationship of IP protection to economic development, comes from the National Law Center for Inter-American Free Trade: “The historical record in the industrialized countries, which began as developing countries, demonstrates that intellectual property protection has been one of the most powerful instruments for economic development, export growth and the diffusion of new technologies, art and culture.”⁸⁸ To the extent that the past practices of developed countries can helpfully inform current policy on IP law for developing nations, it will be useful to examine the accuracy of this historical claim.

In his work on development strategies in historical perspective, Cambridge economist Ha-Joon Chang has positively skewered this bit of conventional wisdom.⁸⁹ Chang’s work reveals that when the now-developed countries (NDCs) were at a stage of development corresponding in terms of per capita income to the stage of development developing countries are currently at, the former had much weaker IP protection than that which is urged on the latter in the current debate. Furthermore, facilitated by weak IP laws, the NDCs made extensive use of what would now be considered piracy and other forms of IP theft as a means of technology transfer, which was instrumental in fueling their technological and economic development. In this context, the current stance of the developed countries with regards to pressuring developing countries to adopt stronger, “modern” levels of IP protection seems a brazen attempt to, in the words of nineteenth-century German economist Friedrich List, “kick away the ladder.”⁹⁰

⁸⁶ Although, making recommendations for current policy based solely on historical experience might not be a foolproof strategy either, if changed circumstances make past strategies no longer viable.

⁸⁷ See *supra* note 4.

⁸⁸ *Strong Intellectual Property Protection Benefits the Developing Countries*, National Law Center for Inter-American Free Trade, available at <http://natlaw.com/pubs/spmxipl1.htm> (April 1989).

⁸⁹ See, generally, HA-JOON CHANG, *KICKING AWAY THE LADDER* (Anthem Press 2002) [hereinafter CHANG, *KICKING*], CHANG, *supra* note 40, and Chang, *IPR & Development*, *supra* note 63.

⁹⁰ List’s denunciation of the British politicians and economists of his day (the latter being intellectual forebears of the neoclassical school) is worth quoting at greater length:

It is a very common clever device that when anyone has attained the summit of greatness, he kicks away the ladder by which he has climbed up, in order to deprive others of the means of climbing up after him. In this lies the secret of the cosmopolitical doctrine of Adam Smith, and of the cosmopolitical tendencies of his great contemporary William Pitt, and of all his successors in the British Government administrations.

In the early days of industrialization prior to the mid-19th century, technological knowledge was embodied in skilled workers. Tours of factories, apprenticeships, and most of all the transfer of skilled workers were the dominant means of technology transfer between European states and between Europe and the U.S.⁹¹ This was done legally until Britain and the Netherlands became worried that their technological edge was slipping in the face of these means of technology transfer, and consequently introduced bans on the export of machinery and “suborning,” the recruiting of skilled workers from abroad.⁹² In contravention of these laws, less advanced European states initiated government-sponsored efforts at industrial espionage and the suborning of skilled workers, backed up by government policies to enhance domestic technological capabilities.⁹³

The first patent laws were adopted by most NDCs between 1790 and 1850, though they were highly deficient in comparison to the standards required by TRIPS; for example, most of them did not provide for product, as opposed to process, patents, meaning that chemical and pharmaceutical substances could be copied so long as the production process involved was different from the patented process. Most importantly, these patent laws afforded very little protection for the IP rights of foreigners.⁹⁴ In the middle of this period (1820), only Australia, the Netherlands and the UK had achieved per capita income of between \$1,500 and \$2,000 (in 1990 dollars); the bulk of the NDCs had yet to achieve a per capita income of \$1,500. This stage of development, measured by per capita income, is matched in the modern era by developing countries like Ghana

Any nation which by means of protective duties and restrictions on navigation has raised her manufacturing power and her navigation to such a degree of development that no other nation can sustain free competition with her, can do nothing wiser than to throw away these ladders of her greatness, to preach to other nations the benefits of free trade, and to declare in penitent tones that she has hitherto wandered in the paths of error, and has now for the first time succeeded in discovering the truth.

CHANG, KICKING, *supra* note 89, at 4-5 (quoting FRIEDRICH LIST, *THE NATIONAL SYSTEM OF POLITICAL ECONOMY*, 295-296 (Sampson Lloyd, London, Longmans, Green, and Company 1841)).

⁹¹ *See id.*, at 54-55, and Chang, *IPR & Development*, *supra* note 63, at 288-290.

⁹² *Id.* Britain’s law against suborning was introduced in 1719, and lasted until 1825. Britain’s law banning the export of machinery was introduced in 1750, and broadened and strengthened in 1774, 1781, and 1785. This ban was only loosened in 1828 and abolished completely in 1842. The Netherlands’ law against suborning and machine exports was introduced in 1751, but was ultimately less successful than Britain’s in stanching the outflow of skilled workers and machinery.

⁹³ *See* CHANG, KICKING, *supra* note 89, at 55-56, and Chang, *IPR & Development*, *supra* note 63, at 290.

⁹⁴ *See* CHANG, KICKING, *supra* note 89, at 57, and Chang, *IPR & Development*, *supra* note 63, at 291.

(\$1,007), Nigeria (\$1,152), and Pakistan (\$1,642).⁹⁵ Of course, the per capita income of the NDCs today is many, many times that of the developing countries.

A mention of this disparity becomes important when analyzing the emergence of patent laws: by the time a majority of NDCs had some form of patent law – what could be considered the first period of international IP law harmonization - there was no greater difference between the richest and the poorest participating nations than a few thousand dollars in terms of per capita income.⁹⁶ During the contemporary period of IP law harmonization, on the other hand, there are tens of thousands of dollars separating the per capita income of the richest and the poorest participating nations.

Towards the end of the 19th century, even after a number of international conventions that partially succeeded at harmonizing extant IP laws, some of the most advanced nations still routinely violated the IP rights of foreigners.⁹⁷ Also, the harmonization achieved at the Paris Convention of 1883 included both compulsory working and compulsory licensing provisions, and a non-reciprocity approach – foreign patent holders got national treatment for their IP, not the treatment they would have been afforded in their own country.⁹⁸ Of the three, only compulsory licensing made it into TRIPS and the latest round of IP law harmonization. In other words, as the NDCs slowly developed, increasing their per capita income from the level of modern Morocco, to Peru, to Turkey, to Brazil, to Mexico, and so on, they had a great deal more latitude in designing IP laws that corresponded with their needs than do modern developing countries.

Given that the first rounds of international IP law harmonization were only partial, and marked differences in IP law between nations existed well into the 20th century, this historical period is ripe with opportunities for “natural experiments.”⁹⁹

⁹⁵ See CHANG, KICKING, *supra* note 89, at 122-123.

⁹⁶ See *id.*, at 118-119. The NDCs for which information was available were: Australia, Austria, Belgium, Canada, Denmark, Finland, France, Germany (Prussia, Bavaria, Württemberg and Saxony), Italy (Sardinia and the Vatican State), Japan, the Netherlands, New Zealand, Norway, Portugal Spain, Sweden, Switzerland, UK, and USA.

⁹⁷ See Chang, *IPR & Development*, *supra* note 63, at 292. One prominent violator was the U.S., whose copyright protection did not extend to foreign owners until 1891, and did not fully comply with the Berne Convention of 1886 until 1988.

⁹⁸ *Id.*

⁹⁹ See *supra* text accompanying note 37.

The example provided by Switzerland offers some interesting observations.¹⁰⁰ Switzerland did not provide *any* IP protection until 1888, and then only by a patent law exclusively covering mechanical inventions. German pressure, motivated by the Swiss use of its chemical and pharmaceutical IP, forced Switzerland in 1907 to modify its patent law to match those of its neighbors. Even then, Swiss IP law featured a number of exceptions, including a refusal to allow chemical substance patents; Swiss law became comparable to other advanced countries in 1954, though chemical substance patents were not recognized until 1978.¹⁰¹ The results of the Swiss historical experience with IP protection tends to strengthen the hypothesis that patent laws have little effect on both innovation and development.¹⁰² Despite having had no patent law whatsoever until 1888 and no patent law worth the name until 1907, Switzerland was one of the most innovative countries in the world in the late 19th century. The introduction of the 1907 patent law produced no noticeable increase in inventive activities. Neither did weak IP protection in Switzerland deter FDI; in fact, in some cases weak IP protection was a major factor in drawing in certain types of FDI. On balance, weak IP protection in Switzerland actually helped its industrial development, especially in the dye, chemical, and electro-technical industries.¹⁰³

One final example of another “natural experiment” lies with Japan. The National Law Center for Inter-American Free Trade reasons that Japan’s pharmaceutical industry was “retarded by the delay in introducing product protection for pharmaceuticals until 1976,” until which point the Japanese pharmaceutical industry could develop and grow on the basis of copying foreign drugs and then producing them using a different process. According to Japan’s Management and Coordination Agency, after the introduction of product patent protection in 1976 the technology trade balance of the Japanese pharmaceutical industry rapidly improved, and has been in surplus since 1986.¹⁰⁴ This could be explained as the result of stronger IP protection providing a stimulus to

¹⁰⁰ Somewhat paradoxically, Switzerland is now the home of the World Intellectual Property Organization

¹⁰¹ See *Chang, IPR & Development*, *supra* note 63, at 292.

¹⁰² *Id.*, at 296-297 (citing ERIC SCHIFF, *INDUSTRIALIZATION WITHOUT NATIONAL PATENTS – THE NETHERLANDS 1869-1912 AND SWITZERLAND, 1850-1907* (Princeton University Press 1971) and Robert E. Evenson, *Survey of Empirical Studies, in Strengthening of Intellectual Property Rights in Developing Countries*, World Bank Discussion Paper No. 112, WDP-112 (Wolfgang E. Siebeck ed., December 1990).

¹⁰³ *Id.* (citing SCHIFF, *supra* note 102).

¹⁰⁴ See *Strong Intellectual Property Protection Benefits the Developing Countries*, *supra* note 88.

innovation. On the other hand, it might also be interpreted as a decision by the Japanese government to allow its pharmaceutical industry greater exposure to international competition *after* it had been sufficiently developed under a more protectionist regime to face such competition on equal terms. Also, Japanese enforcement of its own patent laws has been noted to be deficient in some high profile areas related to IP rights of foreign citizens.¹⁰⁵ This leads one to doubt that the Japanese experience can support the hypothesis that strong IP protection (which Japan arguably does not apply impartially) leads to economic growth.

X

In light of the historical record, the proposition that strengthening IP protection inexorably leads toward economic growth seems decidedly dubious. Are countries without a comparative advantage in high tech industries (in other words, just about the entire developing world) to adopt potentially growth-stifling IP policies¹⁰⁶ on faith and the contradictory and, even when positive, heavily qualified advice of economists? Or would they rather attempt to follow the only historical examples applicable to their own current levels of economic and technological development?

When it was a developing country with a per capita income of \$100, South Korea surely had a comparative advantage in the production of *kimchi* – but little else. Thanks in large part to its relationship with the U.S., its development strategy and the illegitimate means of technology transfer it used, South Korea is now developed. So too did European states and the U.S. engage in what would now be considered piracy and IP theft during the periods of their development corresponding in per capita income terms to the stage of development that developing countries are at today.

Perhaps the only counterargument readily available is the fact that neither is weak IP protection a surefire stimulus to economic growth, in the absence of many other factors. This is apparent enough from the simple observation that most of the world's countries are poor, and most of the world's countries had weak IP protection until recently. However, the argument has yet to be made (perhaps because the work of Ha-

¹⁰⁵ See CHALMERS JOHNSON, *JAPAN – WHO GOVERNS?*, 74-75 (W.W. Norton & Company, Inc. 1995)(citing 135 Cong. Rec. S3961-S3964 (1989)).

¹⁰⁶ Cf. Gould, *supra* note 27, at 329.

Joon Chang and others has been overlooked) by proponents of international IP law harmonization that changed circumstances, whether technological, political or other, make the historical argument outlined above moot.

Praise of TRIPS and international IP law harmonization as a boon for development should be kept within bounds. There exists a patently superior system, from an economist's point of view, if economic growth for the developing world while incentivizing innovation is the goal to be achieved. This would be for the developed world to grant national treatment to foreign inventors from the developing world without demanding reciprocity.¹⁰⁷ A more equitable (in terms of parity of national treatment) and natural system would be for each nation to protect its own innovators, and for countries to exchange spillover benefits.¹⁰⁸ This describes, by and large, the system of IP protection existing in Europe and the United States until about the end of the 19th century.¹⁰⁹

If these alternatives seem preposterous, it should be noted that it is only the constraints of current political economy which make them seem so. From a purely economic perspective, the latter two options would lead to better outcomes for the developing world. It is only because developed countries would refuse to be the sole providers of IP rights, accepting an outflow of profit to the developing world and deadweight losses for itself with Christian charity and heroic forbearance, that harmonization of IP law has become the regime of choice of the developed world.¹¹⁰ By way of clarification, not condemnation, it is important for the intellectually honest observer to note that international harmonization of IP law is *not* the best solution for the developing world, considerations of political economy aside. One can still argue that it will have net positive effects on developing economies (though it may be exceedingly difficult to do so in light of the discussion above), but one cannot in good faith argue that it is the ideal regime for the developing world to adopt.

And where do we arrive at the conclusion of this discussion? Perhaps with an acknowledgement that reasoned debate alone will not decide the issue. Politics will. If philosopher-kings ruled the world, debate would govern. But being as it is that the world

¹⁰⁷ See Suzanne Scotchmer, *The Political Economy of Intellectual Property Treaties*, 20 J.L. Econ. & Org. 415, 421 (2004).

¹⁰⁸ See *id.*, at 436.

¹⁰⁹ See *supra text accompanying notes* 86-105.

¹¹⁰ See *id.*

is governed by more or less democratic governments, and philosopher-status being a *de facto* bar to leadership thereof, those of us forming “the small number of thinking beings scattered throughout the world”¹¹¹ can hope at most to influence the debate by clarifying the issues, examining the evidence, and most of all, exposing as popular falsehood the conventional wisdom. May the debate continue, develop, and most of all, influence the real world outcome.

¹¹¹ VOLTAIRE, PHILOSOPHICAL DICTIONARY, 274 (Theodore Besterman ed., Penguin Books 1972).