**Does Intellectual Property Rights Protection Promote Development?**

**Evidence from Post-communist Economies**

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***Introduction***

There is an assumption, masking as a statement of fact, that intellectual property rights (IPR) directly promote economic development. This assumption is so widely circulated in international arenas by industrialized nations, international organizations, and international policymakers that it is often taken as a development fact. For example, U.S. policymakers have argued, "The protection of copyrights and other intellectual property is vital to economic growth and global competitiveness, and countries that fail to provide such protection put their own development and global interests at risk" (Anders 2007). Questioning this assumption has hardly seemed fruitful. What could be more obvious than the assertion that international capital searches out secure property enforcement over insecure environments?

While IPR protection has been largely pushed by the most industrialized countries in the world, the benefits to developing countries have also been asserted. "Laws protecting intellectual property rights (IPR) are beneficial for all countries, regardless of their level of development" (Morse 2006). There was an explicit linkage of IPR and development in the Development Agenda proposed in 2007 by the World Intellectual Property Rights Organization (WIPO) (World Intellectual Property Organization 2007a; World Intellectual Property Organization 2007b). In conjunction with the World Trade Organization (WTO), WIPO has committed itself to upholding international intellectual property rights as a vehicle for supporting and promoting development.

The relationship between IPR and development has become somewhat of a truism. What is rarely asked is if there is empirical evidence to support this assumption. Is there a clear, positive relationship between IPR protection and development? Some have argued

that this relationship is tenuous for the least developed countries, given a lack of infrastructure or the technical capacity to absorb FDI and technology transfer. However, does this also hold true for post-communist transitional economies? Post-communist countries are much more technologically advanced than other developing countries. They have solid educational systems, and an established industrial infrastructure. Some transitional economies already possess capacity in certain products for which IPR protection is most important, namely pharmaceuticals and software. Therefore, it is possible that there is an expected and verifiable relationship between IPR and economic development in transitional economies.

This paper will argue that despite the assumptions regarding the relationship between IPR protection and development, the evidence with respect to transitional economies in Central and Eastern Europe (CEE) questions the veracity of the assertion. Across the countries of the region, there appears to be no correlation between Foreign Direct Investment flows or technology transfer and IPR safeguards. Moreover, there is a possibility that rigid IPR protection might exact social costs, by exacerbating economic inequality and access to healthcare and employment opportunities. If a relationship exists between IPR and development it is in the long run. Short term horizons do not bear out the received wisdom about the development promoting effects of IPR protection.

***IPR and Development***

Intellectual property rights includes a number of concepts, but can be succinctly defined as rights that "include discoveries, inventions, and the products of other creativity" (Tancer 1995, glossary). The WTO defines property rights equally sparsely, defining rights for which "Creators can be given the right to prevent others from using their

inventions, designs or other creations—and to use that right to negotiate payment in return for others using them. These are "intellectual property rights" (World Trade Organization 2007b). The reasons given for the protection of intellectual property range from the economic to the social. It is widely argued that IPR are necessary to spur economic innovation, thereby increasing economic productivity and economic growth.

> Intellectual property protection is a necessary condition for encouraging innovation in all sectors, it is the ability to market products effectively that provides the incentive for continued innovation and generates the returns on investment necessary to fund new research and development and production of new products. This cycle of innovation produces significant economic and social benefits by accelerating economic growth and raising standards of living (USTR 2005).

The exact causal mechanism linking IPR and economic growth and development is more elusive to unravel. While there are various intervening variables and different time horizons hypothesized, there are some dominant causal mechanisms proffered in the literature and in policy statements. The United States Trade Representative (USTR) summarized a number of these relationships when explaining the benefits to the Trade Related Aspects of Intellectual Property Rights (TRIPS) Agreement.[1]

> As developing countries have implemented the intellectual property protections in TRIPS, they have begun to benefit from increased technology transfer and investment—two key factors in long term economic growth. Strong, effective intellectual property protection is the cornerstone on which an attractive investment climate is built… A strong intellectual property regime also discourages brain drain, as it encourages the best and the brightest in developing nations to carry out research at home (Mills 2001).

[1] The TRIPS Agreement was concluded in 1995, under the auspices of the General Agreement on Tariffs and Trade (GATT) later formalized into the World Trade Organization (WTO) {See World Trade Organization, www.wto.org, and Juma, 1999, 7}. TRIPS is sometimes referred to as "Berne and Paris plus agreement" (See WTO 2007a). This is because it includes the protections covered in the Berne Convention for the Protection of Literary and Artistic Works (See Adams 1995, Juma 1999), and the Paris Convention for the Protection of Industrial Property (WTO 2007a), as well as the International Convention for the Protection of Performers, Producers of Phonograms, and Broadcasting Organizations, also known as the Rome Convention (WTO 2007a). Areas covered under the TRIPS include: copyrights, trademarks, geographical indicators, industrial designs, patents, layout designs for integrated circuits, and protection of undisclosed information (trade secrets, test data).

Unpacking a number of these ideas, we are left with several potential causal mechanisms linking IPR and development. First IPR protection is positively linked with FDI, namely that strong IPR attract FDI. Either separately or in tandem with this argument, IPR are supposed to facilitate technology transfer, thereby helping to support the creation of domestic industries. Third, IPR is alleged to have positive social implications, contributing to social welfare, such as creating incentives for local research and development efforts (R&D). Each of these is a development issue, and has been hypothesized to contribute to overall levels of development. The following three sections will explore these three hypothesized relationships and the evidence, focusing on transitional economies.

***Does IPR attract FDI?***

IPR protection allegedly encourages FDI by giving firms greater protection of their ideas and valuable research and development data (Adams 1995). Without IPR protection, it is argued companies will lack an incentive to bring R &D operations to the host country, which will have the added negative impact of impeding the creation of domestic industries in the host country (Krechevsky 2000). Citing traditional OLI paradigm explanations for MNC activities and FDI decisions (Gunther 2002), one can hardly question the assertion that MNCs will be drawn to an investment climate that protects their economic interests, including their property rights.[2] That MNCs would gravitate to countries with legal enforcement for their R&D activities appears so intuitively obvious, that it is often cited as

[2] Dunning (1993) penned the definitive study on why a firm would choose FDI over simply exporting to a country or setting up a licensing agreement. Dunning's OLI Paradigm described FDI decisions as a function of ownership (O), localization (L), and internalization advantages (I). See Dunning (1993) and Gunther 2002 for a review of market size and regional subsidiaries as reasons to select FDI over other types of production arrangements.

a reason why developing countries should work to adopt IPR even if their domestic industries are too fledging to require or benefit from those legal safeguards themselves. IPR protection, in this sense is not designed to protect national industries in LDCs, but is designed to supplement rule of law and institutional structures in order to attract MNCs.

The empirical evidence proving this relationship is mixed, with much resting on the measurement instruments and sample. The method of operationalizing IPR protection can substantially impact assessments of perceived relationships. This causes many others to reject that assumption, arguing that there is no discernable relationship between IPR and FDI. For example, after reviewing the literature on the subject across countries and across sectors, Riis concluded "In spite of the intuitive appeal of the argument, the existing empirical evidence shows no significant relationship between IP protection and foreign direct investment" (Riis 2002, 26). MNCs are drawn to large markets with low corruption levels. This might correspond with IPR protection, but is not necessarily causally related to or directly affected by levels of IPR protection.

General statistical analyses of FDI flows to transitional economies do not support IPR driven explanations. A recent comparison of FDI flows to Central and Eastern Europe versus former Soviet Republics explored possible economic and political factors that might drive FDI decisions. FDI, measured in terms of total dollars or per capita, are not easily explained by either the degree of economic progress and market orientation of the countries, nor by levels of corruption (Johnson 2006, 25, 29). In fact the study highlighted the substantial intra-group differences in FDI flows which are not predicted or explained by national level political or economic variables (Johnson 2006, 8-9).[3] Market size seems

[3] For example, Johnson demonstrated that FDI flows to certain CEE countries were 100 times greater than FDI flows other CIS countries (2006, 44).

to have the most clearly causal impact on FDI decision-making (18). Moreover, U.S. and EU FDI flows to CEE look remarkably different, going to different CEE countries (11). If FDI was a function of market conditions alone, there would be a hypothesized concentration of investment in advantageous markets, measured in terms of resources or institutional infrastructure. All of this suggests that FDI is much less sensitive to domestic market conditions, such as IPR protection, than is traditionally asserted.

FDI flows to CEE are not consistent with IPR projections either. Based on the expected relationship between IPR and FDI, one would predict those countries with the strongest IP protection to be the recipients of the greatest amounts of FDI. Table 1 shows cumulative FDI flows to CEE over a 15 year period. The largest recipients of FDI to CEE from 1989-2003 have been Hungary, the Czech Republic and Poland. Poland has received the largest absolute amount of FDI at US$ 51,906 million, the Czech Republic at US$38,243 million and Hungary US$33,641 million (EBRD 2004 and (Johnson 2006). This aid is quite concentrated, with the next largest aid recipient—Romania-- obtaining 1/3 the amount received by Hungary at US$10,536 million. In the early 1990s, Hungary received almost 1/3 of total FDI to CEE, in both total and per capita terms (Gray and Jarosz 1995, 5). FDI flows over this period are relatively consistent and concentrated.

**Table 1: FDI Inflows to CEE, 1989-2003**

| Country | Cumulative FDI inflows (USD millions) | Cumulative FDI inflows, per capita (USD) |
|---|---|---|
| Poland | 51, 906 | 1, 355 |
| Czech Republic | 38, 243 | 3,710 |
| Hungary | 33, 641 | 3, 364 |
| Romania | 10, 536 | 486 |
| Slovakia | 10, 185 | 1, 894 |
| Croatia | 8, 204 | 1, 857 |
| Bulgaria | 6, 235 | 795 |
| Lithuania | 3, 683 | 1, 067 |
| Latvia | 3, 372 | 1, 454 |
| Slovenia | 3, 277 | 1, 647 |
| Estonia | 3, 246 | 2, 402 |
| Albania | 1, 114 | 352 |
| Macedonia | 1, 002 | 501 |
| *Average* | *13, 434* | *1, 606* |

Sources: EBRD 2004, and from Table 2.2 in Johnson 2006, 8.

Contrary to the aforementioned findings, Javorcik specifically examines the relationship between IPR and FDI in transitional economies (2004). She argues that weak protection in IPR deters foreign investors in technology intensive industries. Those industries would be most sensitive to IPR, and therefore most likely to pick investment environments to safeguard those intellectual resources. However, her argument is

undermined by the myriad other variables that co-vary or are conflated with IPR, as well as the small sample size (19). Javorcik finds that various host country factors are important, including corruption levels, the legal system, privatization policies and openness to trade (Javorcik 2004, 47). Therefore, given the small sample and the possibility of conflating rule of law practices with IPR, there is insufficient narrative or evidence to disentangle the possible conflation of variables.

Moreover, the narrative relating IPR to FDI is undermined by other findings of her study. If IPR matters, it should matter more for local production firms than for firms that are simply distributing goods, since one entails local R&D activities and the other does not. However, her findings show that the impact of distribution versus local production decisions is present for all industries and sectors, not just those relying on IPR protection. This suggests that FDI decisions are not driven by IPR but by governance and rule of law considerations. In addition, her findings suggest that all investors are deterred by weak IPR, not just those who use IPR. This is not consistent with the literature, which hypothesizes that certain technology or knowledge intensive firms would be most sensitive to IPR protections. At best, her study provides mixed results for IPR, at worst it suggests the difficulty of disentangling IPR considerations from larger governance of institutional environment considerations.

Despite substantial FDI flows into CEE, since 1994, *in every study* CEE had the highest levels of piracy of any region in the world (Nurton 1996; Ronkainen and Guerrero-Cusumano 2001; Collisson 2004). It has been approximated that there is an 80% software piracy rate across CEE (Traphagan and Griffith 1998). The piracy problems in CEE are

multi-causal, with poor enforcement, general lack of awareness, lack of education, inadequate infrastructure for legal enforcements, and collective society norms that do not privilege individual property (von Lweinski 1997, 57). The software industry estimated that across the transitional economies, 63% of combined software market (10 countries) was illegal, which was twice as great as the rate of piracy in western Europe (Williamson 2001).

These across the board high rates of IP piracy have resulted in bilateral and multilateral reprimands from the United States and the European Union. Hungary and Poland have been routinely cited by the U.S. for their violations of IPR. Table 2 documents those countries who have been cited under U.S. Special 301 Trade Remedy law. [4] During years covered by the FDI tables, both Hungary and Poland have been placed in the second most serious category of IPR offences. Countries placed on the Priority Watch List are the focus of increased bilateral attention and pressure, done in a very public manner. Usually a country appears on the Watch List or is targeted for Special 301 consideration because an interest group in the United States has brought it to the attention of the USTR as a potential trade problem. To be placed on the Watch List or upgraded to the Priority Watch List means there are systematic and egregious violations of IPR that have remained unresolved with the country, despite efforts to bring the violations to the country's attention.

[4] Special 301 is pursuant to section 182 of the Trade Act of 1974, as amended by the Omnibus Trade and Competitiveness Act of 1988 and the Uruguay Round Agreements Act (enacted in 1994). Under Special 301 "USTR must identify those countries that deny adequate and effective protection for IPR or deny fair and equitable market access for persons that rely on intellectual property protection. Countries that have the most onerous or egregious acts, policies, or practices and whose acts, policies or practices have the greatest adverse impact (actual or potential) on the relevant U.S. products must be designated as "Priority Foreign Countries" See
USTR (2007). 2007 Special 301 Report. O. o. t. U. S. T. Representative, Washington, D.C.**:** www.ustr.gov/Document_Library/Reports_Publications/2007/2007_Special_301_Review/.

**Table 2: Special 301 Designations[1]: Transitional Economies by Year**

| | **Priority foreign countries** (most severe piracy) | **Priority watch list** | **Watch list** | **Out-of-cycle review** (least severe) |
|---|---|---|---|---|
| 1997 | | | Bulgaria | |
| 1998 | | Bulgaria | Czech Republic Kazakhstan, Poland, Ukraine (first year on list) | |
| 1999 | | Russia, Ukraine | Belarus, Bulgaria, Czech Republic, Hungary, Poland, Romania | Czech Republic, Poland |
| 2000 | | Poland, Russia, Ukraine | Armenia, Belarus, Czech Republic, Hungary, Kazakhstan, Latvia, Lithuania, Romania, Tajikistan, Turkmenistan, Uzbekistan | Hungary, Slovenia, Ukraine |
| 2001 | Ukraine[2] | Hungary, Russia | Armenia, Azerbaijan, Belarus, Kazakhstan, Latvia, Lithuania, Poland, Romania, Slovakia, Tajikistan, Turkmenistan, Uzbekistan | Slovenia Lithuania Georgia, Kyrgyz Republic |
| 2002 | Ukraine[2] | Hungary, Russia, | Armenia, Azerbaijan, Belarus, Kazakhstan, Latvia, Lithuania, Poland, Romania, Turkmenistan, Uzbekistan | Poland, Croatia |
| 2003 | Ukraine[2] | Russia, Poland | Armenia, Belarus, Croatia, Hungary, Kazakhstan, Latvia, Lithuania, Romania, Slovak Republic, Tajikistan, Turkmenistan, Uzbekistan | |
| 2004 | Ukraine[2] | Russia | Azerbaijan, Belarus, Bulgaria, Croatia, Hungary, Kazakhstan, Latvia, Lithuania, | Poland |

| | | | | |
|---|---|---|---|---|
| | | | Poland, Romania, Slovakia Tajikistan, Turkmenistan, Uzbekistan | |
| 2005 | Ukraine[2] | Russia | Azerbaijan, Belarus, Bulgaria, Croatia, Hungary, Kazakhstan, Latvia, Lithuania, Poland, Romania, Slovakia Tajikistan, Turkmenistan, Uzbekistan | Ukraine, Russia |
| 2006 | | Russia, Ukraine | Belarus, Bulgaria, Croatia, Hungary, Latvia, Lithuania, Poland, Romania, Tajikistan, Turkmenistan, Uzbekistan | Latvia |
| 2007 | | Russia | Belarus, Hungary, Latvia, Lithuania, Poland, Romania, Tajikistan, Turkmenistan, Uzbekistan | Russia, Czech Republic |

[1]"Special 301" is under Section 182 of the 1974 Trade Act, as amended by the Omnibus Trade and Competitiveness Act of 1988
[2] Ukraine has been the only country in this category of Priority Foreign Country each year.

Sources: (Horvath, Merlino et al. 1998) (Engelman, Goldstein et al. 1999) (Engelman, Goldstein et al. 2000), (Boyarski, Fishman et al. 2001), (USTR 2001c)

The cases of Poland and Hungary are illustrative of the extent of IPR violations over this time period. In 1994, Poland had an estimated 94% piracy rate for software, videos, and recorded music (Kapoor 1994). A joke at the time went, "What percentage of the product in Poland is pirate product? The glib answer has always been 150%--99% for Poland and 51% for export" (Goldsmith 1994). In 2001, the U.S. publicly stated its "serious concerns about Poland" in its annual USTR trade report, highlighting problems with Poland's pharmaceutical law, delays instituting protection for confidential test data, and high levels of all types of pirated materials at the Warsaw Stadium (USTR 2001b).

The U.S. placed Poland on its Special 301 Intellectual Property Rights Violators Watch List, and threatened to take action against Poland in the WTO dispute resolution forum (USTR 2001b; USTR 2002a, Watch List; USTR 2003, Priority Watch List Section; USTR 2004, Watch List Section).

Again in 2002, the U.S. formally documented concerns regarding the open sale of counterfeit goods, and lack of adequate pharmaceutical protections (USTR 2002a, Watch List). In 2003, the USTR directly blamed the Polish Government for lack of process. "The main concern substantively with Poland is the lack of *political will* by the Polish Government to shut down the open air market inside the Government owned Warsaw Stadium" (USTR 2003, Priority Watch List Section). These criticisms of various industries have continued yearly through 2007. Poland recently cut support for its National Police Intellectual Property and Computer Crime Unit, diluting its already inadequate enforcement efforts (USTR 2007, Watch List Section). The USTR has pressured Poland annually to improve its IPR system. U.S. concerns were made public, and resulted in various bilateral efforts to force compliance and change on the part of the Polish government.

In the case of Hungary, the U.S. has repeatedly cited it for IPR violations. Hungary has been repeatedly placed on its Special 301 County Watch List, threatening economic sanctions if there was no change in legal enforcement. In 2000-2001, the U.S. expressed concerns over the protection of confidential test data, especially pharmaceuticals and chemicals companies (USTR 2001a; USTR 2001c). The 2002 and 2003 USTR annual reports cited serious concerns regarding Hungary's treatment of confidential test data, particularly with pharmaceutical products (USTR 2002a, Priority Watch List; USTR 2003,

Watch List Section). In 2005, the U.S. issued more warnings to Hungary about possible putative trade actions, should Hungary not improve its laws and enforcement mechanisms, including prosecutorial delays, low fines or weak sentences and weak border enforcement. In 2006, USTR cited Hungary for growing copyright piracy problem, and continued judicial enforcement problems (USTR 2006, Watch List Section).

These repeated and egregious IPR violations on the part of Hungary and Poland have not stopped these two countries from being two of the three primary recipients of FDI in the region. The IPR violations have occurred in multiple sectors, including pharmaceuticals, software, videos, audio recordings, and textiles and apparel, to name a few. Therefore, one cannot dismiss the violations as narrowly sector determined, and potentially not having a determinative impact on total FDI flows. The violations have been publicized in annual reports, brought to the attention of the respective national governments, and loudly vocalized by the U.S. domestic industries. Therefore, one cannot suggest that these violations were hidden from business calculations. The violations took place over a decade or more and were systematic. What is interesting to note, is that despite IPR violations, FDI flows continued into the region and concentrated in the most flagrant violators. The other countries on the FDI flow chart are not listed on the Priority Watch List. This evidence strongly suggests no direct relationship between IPR protection and FDI in the biggest CEE countries.

Arguments about the necessity of IPR to attract FDI often focus on IPR sensitive industries. The most likely case for IPR safeguards to attract FDI involve industries with high R&D costs, such as chemicals, machinery and equipment, drugs, cosmetics and health care, electrical equipment software, and pharmaceuticals (Javorcik 2004, 39). Therefore

the case study evidence should reflect a hesitancy by software or pharmaceuticals to invest in the region. However, the in-depth case studies do not support this contention. While more IPR is of course optimal, *ceteris paribus*, massive amounts of FDI are flowing to the region regardless of IPR violations. However, at the present stage of development, it is unlikely that the transitional economies could productively absorb much more.

The case of Polish software piracy has also been used to support the contention that IPR safeguards are needed in order to attract FDI and encourage economic development in sensitive sectors. It was argued that the Polish government was impeding valuable investment and industry from Poland, particularly in the software sector, by failing to provide adequate IPR protections (Adams 1995). However, the case evidence suggested that U.S. firms continued to literally flood the market with software products. U.S. firms were "Polonizing" products, or customizing them for the Polish market, in order to make them more desirable to consumers. This hardly suggests that U.S. firms were turned off from the Polish market, but suggests rather active competition for market share (Adams 1995, 1012). The story does not look like an example of IPR rights deflecting investment, even in highly sensitive sectors. While more FDI might have come had there been more IPR protection, the implications of the counterfactual are not particularly robust.

Another study of CEE concluded that IPR does not impact FDI or development in the software industry. IPR are largely irrelevant to the development of domestic software early on for a variety of reasons, including price differentials, network effects, and the nature of consumer demand at the start of the development curve (Cosovanu 2003/2004). Moreover, the "technological level of foreign investment and its global pattern (advanced research and development in the core, unsophisticated and low margin work in the

periphery) is also unaffected by the local level of copyright protection" (Cosovanu 2003/2004). The biggest factors impacting MNC decisions in this study remained the size of market, thereby supporting the original OLI paradigm predictions of FDI flows. The data show that in the short term, until developing countries reach a certain advanced level of technological sophistication, IPR is not going to encourage domestic R&D, either by foreign MNCs or by domestic industries.

In sum, none of the evidence suggests a direct, positive relationship between IPR and FDI. Lax IPR standards do not seem to deter substantial amounts of FDI. While high levels of IPR might be a bonus, encouraging more FDI or perhaps certain types of highly productive FDI, this supposition has not been explored or hinted at by the given data. What is conclusive is that FDI flows regardless of IPR safeguards, thereby undermining the strongest assertion proffered about the positive development effects of IPR safeguards.

***Does IPR encourage technology transfer?***

A second argument often cited for how IPR contributes to development involves the transfer of technology. Since technology transfer promises productivity and efficiency improvements, which directly contribute to economic growth, this is a highly attractive development option. Technology transfer promises not just a transmission of funds to developing countries but a way to bridge the knowledge gap (Sachs 2000). This has been identified as probably the most trenchant development problem. Various types of technology could be transferred, including databases, production processes, and productivity improvements. It is argued that without data safeguards and protection of

confidential data it is unlikely that there would be substantive technology transfer to a host country.

In addition, to the purported natural implications of IPR on MNC investment decisions, there are also contractual linkages. The WTO specifically includes language on the TRIPS linking IPR to the transfer of technology. "The TRIPS Agreement has an additional important principle: intellectual property protection should contribute to technical innovation and the transfer of technology" (World Trade Organization 2007b, 3). Developing countries have signed on to the IPR safeguards in the TRIPS because of the explicit technology transfer guarantees included in the Agreement. For example, there are clauses requiring developed countries to provide incentives to MNCs to transfer technology to LDCs (World Trade Organization 2007b). WIPO's policy recommendations for countries assume this relationship holds true and are structured according to that assumption (Braunstein 2002). International third party affirmation about the positive expected relationship between IPR and technology transfer confers a sense of legitimacy to this development assumption.

Part of the dilemma with developing countries is the lack of a technological infrastructure in order to absorb possible benefits from technology transfer. With respect to databases in particular, a WIPO commissioned study did not support the general WIPO assumption about the direct positive relationship between technology transfer and IPR. The study equivocated about the potential benefits of IPR, opting for the least restrictive IPR regime possible given the uncertainty of the causal relationship and the possible negative implications of strict IPR safeguards on the developing country. "It cannot be concluded firmly that intellectual property protection of unoriginal databases is detrimental

in an economic sense to developing countries and countries in transition. However, it appears that prospective economic benefits of uniform (high) intellectual property standards are comparatively lower in developing countries than in industrialized countries.... Given the uncertainty of the beneficial effects of IPR protection of unoriginal databases, one should probably not opt for the strongest form of protection" (Riis 2002, 3).

In sum, the WIPO report's author concluded "The notion of IP protection as a means of transferring technology from industrialized countries to developing countries is not convincingly supported by empirical evidence" (Riis 2002, 25). This finding is particularly interesting, given that it appears in a formal WIPO report regarding the impact of IPR on developing and transitional economies.

An open GENEVA letter actively criticizing the WIPO's mission and how it maintains the power of the dominant industrialized countries, without considering the development needs of LDCs reflects this developing country perspective on IPR (2004, Geneva Declaration on the Future of the World Intellectual Property Organization). From the economic perspective, it has been argued that the high IPR standards pushed by the industrialized world for the benefit of their MNCs "freezes the existing international division of labor and the current comparative advantages in manufacture and commerce of manufactured goods" (Riis 2002, 19). Acknowledging the developing countries' perspectives, WIPO inaugurated a special Intellectual Property for Development program in 2007. This new agenda is designed to help developing countries improve their technology capacity and infrastructure in order to promote absorption of FDI. However, the problem isn't with the manner in which WIPO administers polices. The problem is a

lack of development that makes it difficult for transitional economies and LDCs to benefit from IPR.

Transitional regimes have been lumped together with other developing countries in many studies. Given that transitional economies are at an overall higher stage of economic development than many other developing countries, it is possible that this group of countries has a greater capacity to absorb and benefit from technology transfer than others. Transitional economies might be particularly receptive to technology transfer because of their highly educated workforce and well established, albeit antiquated, industrial capacity. However, a study of FDI and technology transfer in the Hungarian context shows this not to be the case. FDI does not have the multiplier effects in the Hungarian economy, and there is no apparent technology induced productivity improvements (Gunther 2002).

Others have reviewed the relationship between FDI and technology transfer on potential productivity improvements in transitional economies in CEE and concluded that there appears to be no clear relationship. Most of the studies show no positive relationship, and some even demonstrate a possible negative relationship (Gunther 2005). Very little exchange between FDI firms and domestic industries is observed, which greatly minimizes the potential for technology transfer. In a case study of Hungarian industries, FDI became self encapsulated in "small islands," failing to interact with Hungarian industries (Gunther 2002). As a result, the hypothesized positive externalities and spillover effects remain unrealized.

In sum, the U.S.'s foreign trade policies with respect to IPR protection and developing countries have been based on presumptions about the technology transfer benefits from strong IPR regimes. USTR has argued, "As developing countries have

implemented the intellectual property protections in TRIPS, they have begun to benefit from increased technology transfer and investment—two key factors in long term economic growth (Mills 2001). This assertion fails to be supported by the empirical evidence thus far. Instead the empirical evidence suggests that what might be an optimal IPR regime for industrialized countries remains a suboptimal IPR regime for developing countries (Riis 2002, 22).

***Social implications of IPR***

> Intellectual property rights are neither conferred nor exercised in a social or political vacuum, therefore it cannot be a legitimate aim to achieve a level of protection for those rights that would prejudice the vital public interest in social and economic welfare (Fiscor 2001, 3).

Not to be ignored when considering the development impact of IPR, are the social implications. Development is not simply about maximizing GDP per capita. Amartya Sen redefined the meaning of development to include political freedoms, social opportunities, transparency guarantees, and various protective security safeguards (Sen 1999). As part of the social opportunities enumerated by Sen, he highlighted healthcare, education, and equality of opportunity. IPR directly touches on questions of access to healthcare and benefits, as well as equality of opportunity and access issues. As such, in many ways the social costs associated with IPR regimes can be substantial in a developing country. The relative merit of IPR in contributing to development must be evaluated in the context of the manner in which it impacts social factors not simply economic measurements.

The social welfare concerns associated with IPR are very different from a developed versus developing country perspective. Developed countries have focused on the deleterious consequences of lax IPR, while developing countries have focused on the

deleterious consequences of rigid IPR. The framing of the issues is particularly interesting in terms of understandings about the relationship between IPR and development. Developed countries have couched IPR in terms of safety and social welfare terms, highlighting the health and safety risks associated with counterfeit products (Krechevsky 2000; U.S. Newswire 2006). The indirect social costs involved with lax IPR have also been linked to crime networks and illegal activities often associated with pirated goods (Farnsworth 2002).

On the other hand, developing countries have expressed reservations about how IPR regimes might undermine their health, nutrition and environmental welfare concerns (Juma 1999, 2). The social welfare issue that has garnered the most public attention has been the debate over access to low cost drugs and generic drug alternatives. The issue is framed in social equity and efficacy terms, rather than pure economic growth terms. This changes the nature of the debate ever so slightly, thereby embracing an overt normative understanding of IPR.

IPR and social welfare goals are not inherently zero sum policies. However, in the short term it can appear that there is an incompatibility to maximizing both preferences. In the long run, economic incentives that encourage intellectual property and productivity gains will lead to economic growth and therefore contribute to collective social welfare goals. The USTR and WTO policies reflect this long time horizon perspective. Developing countries often frame the issue with a much shorter time horizon. In the short run, protecting IPR might decrease domestic consumption of products, simply because of the increased scarcity and therefore price of the goods. This will have an unintended consequence of increased inequality, as consumption is concentrated in the hands of the

wealthy. When the goods in question are IPR sensitive, such as pharmaceuticals or software, this could appear both economically and socially divisive.

Article 8 of the TRIPS Agreement constitutes a development clause. It acknowledges the potential for IPR to be incompatible with short term development objectives, and provides a short term "out" for developing countries. It allows countries to "adopt measures necessary to protect public health and nutrition, and to promote the public interest in sectors of vital importance to their socio-economic and technological development, provided that such measures are consistent with the provisions of this Agreement" (Juma 1999, 5; World Trade Organization 2007a). As such, it gives LDCs a way to temper the potential negative social or economic implications of IPR enforcement.

The social implications of IPR are especially politically salient to transitional economies. Increased economic or social inequality in the short term is politically destabilizing. Therefore, a pivotal policy issue is determining how to maximize the economic function of IPR protection in order is "to establish a balance that ensures users the widest possible access to non-scarce goods (that is to reduce the social cost of granting exclusive rights) and at the same time maintain economic incentives to the creation of new goods by legal arrangements" (Riis 2002, 6). In a very direct way, IPR becomes a development issue in much more than a pure economic sense. It reflects social development and equity considerations.

In particular, CEE have been roiled by pharmaceuticals patent restrictions. Pharmaceuticals are much more sensitive to IPR than even other high tech industries, so this sector in particular has had an interest in extensive protection (Bale 1994). The U.S. pharmaceutical industry is the largest and most powerful in the world, and they have used

this market power to pressure the U.S. for national protection and international safeguards (Tancer 1995, 149; Voet 1995). Poland, Hungary, Croatia, Slovakia, and the Czech Republic have all been chastised for a variety of IPR violations with respect to pharmaceuticals. Since access to cheap generics and health care is a critical social welfare concern, especially for transitional regimes which have seen a drop in life expectancy and a rise in medical costs since the fall of the Berlin Wall, this also becomes a political stabilization issue.

First, there is a problem with the manufacturing of generic drugs in CEE. Hungary has one of the most advanced pharmaceutical markets of Central Europe. It has a strong tradition of pharmaceutical manufacturing and has always had a high level of national consumption. Hungary's specialty is generics (Business Wire 2006). The availability of generic drugs is an important social welfare issue in the region. Two-thirds of prescriptions in Poland and the Czech Republic are cheap generics, which are knock-offs of other big name drugs (Economist 2004). There is a similar issue with generics in Romania and Bulgaria. Bulgaria introduced legislation to allow generics to start production two years before patent expiration, in clear violation of TRIPS obligations (2006, Today Bulgaria and Romania Rank among the Poorest Countries in Europe but their Economies).

Ensuring access to affordable drugs has been such a policy concern in the region that Hungary cut drug prices 15% by decree in 2004, and then instituted price ceilings. Poland regulates prices also, ensuring that name brands don't have a competitive edge. To prevent excessive price gouging, Poland stipulated that drugs could not be more than 50% more expensive than the cheapest alternatives (Economist 2004). These attempts at price controls do not suggest trade protection for domestic industries from foreign competition

so much as they indicate a concerted government effort to ensure domestic availability of affordable pharmaceuticals.

Second, there are alleged problems with the nature of the IPR regulations in CEE. The CEE countries included an exemption in their IPR laws from patent infringement for the generation of regulatory data for marketing approval of pharmaceuticals. This is not necessarily TRIPS compliant, and U.S. has been bilaterally pushing for a change in this part of their IPR regulations (Brereton 1998).

A key regulation issue with Hungary was the pre-patent expiry development work (Fiscor 2001). While Hungary argued this was consistent with TRIPS, the U.S. strongly disagreed. It is difficult to judge the objective merit of the U.S. complaint, especially since this case did not go to the WTO for mediation. Given the extraordinary size and influence of the U.S. drug industry, a scope that dwarfs even its closest international competitors, it is difficult to untangle the facts of the case from cries for protectionism on the part of a powerful U.S. lobby (Tancer 1995, 149). However, the fact that Hungary had adopted TRIPS regulations and repeatedly modified its laws to bring them in line with EU Directives for membership, yet this was still inadequate from the perspective of the U.S., suggests that this is not simply a case of Hungary flouting IPR in pharmaceuticals (USTR 2002a, Priority Watch List).

Third, the U.S. has been unhappy with the nature of IPR enforcement in drugs and pharmaceuticals in CEE. Poland, Hungary, Romania, Slovenia, Croatia, Slovakia, and the Czech Republic have been formally reprimanded by the United States for their lack of coordination between patent office and health ministries to prevent registering copyright infringers (USTR 2002a; USTR 2002b; USTR 2003; USTR 2004; USTR 2005; USTR

2006; USTR 2007). This lack of coordination, according to the U.S., fails to proactively address potential patent infringement. The EU was also concerned about pharmaceutical patent protections with respect to Hungary. As part of its EU membership bid, Hungary asked for transitional arrangements involving IPR protection but was refused by the EU due to concerns about parallel imports and differential pricing (Albedo 2000). The accession negotiations included unprecedented special sections on pharmaceutical IPR protection.

In sum, pharmaceutical patent protection and treatment of generics are socially and politically charged issues in transitional economies, made all the more economically salient by the domestic pharmaceutical industries. As such, questions regarding the fairness and appropriateness of patent protection for international pharmaceuticals directly address a host of related development issues.

Software piracy also constitutes an issue with murky social implications. Because there is either no differential pricing for software for developing countries or inadequate differential pricing, due to fears of parallel imports, there is a no clear incentive to adhere to IPR safeguards. In a transitional economy context, there is a strong disincentive to observe software and multimedia IPR. Transitional economies have highly educated populations whose productivity advances rely on increased technological capacity. The proximity to Western Europe, familiarity with international software programs, and highly educated population make citizens particularly voracious consumers of software products. If only the rich could afford software, this would exacerbate the rising economic inequality already observed in transitional economies. The social implications of this differential access to technology and by extension educational opportunities and job prospects might

be politically destabilizing. As the Russian Interior Ministry Department for the Prevention of Violations on the consumer Market noted, the cost of genuine software is the reason for piracy. The high priced software, typical of the laws of supply and demand based on price, precludes generalized consumption and encourages piracy (Collisson 2004, 1014).

In some respects, software pirates have been characterized as social levelers. "The men selling pirated software in Latgale (Latvia) see themselves as latter day Robin-Hoods, leveling the playing field between rich and poor. We're not really hurting companies like Microsoft… If people couldn't buy the programs from us, they wouldn't buy them at all, because they're too expensive for this country" (Honore 1999).

Law enforcement agencies in transitional economies have in many cases supported this understanding of the negative social costs of IPR. Both Polish and Romania judiciaries have dismissed IPR cases, arguing the cases were "not sufficiently harmful to the public" (Adams 1995, 1016) or for "lack of social harm" (USTR 2005, Watch List Section). Estonian and Latvian judges have also chosen not to enforce the IPR protections on the books, instead interpreting the appropriateness of IPR in a social context (Parker 2001). As such, the lack of enforcement of IPR in software is very much a function of lack of political will on the part of CEE governments, grounded in their understanding of the potential negative social and economic implications of strict IPR enforcement.

In sum, there remain several non-trivial social welfare concerns associated with strict IPR enforcement. These social welfare concerns in a post-communist context are especially politically salient because they touch on issues of economic equity and opportunity. Limiting access to public healthcare and drugs, as a function of IPR enforcement or increased prices, also directly conflicts with the social contract that has

remained in place between communist governments and their citizens. Under communist systems, public healthcare, housing and employment, among other services, were guaranteed as part of the social contract. Despite the transition, there are still strong assumptions on the part of the citizens that their governments will continue to fulfill these obligations. An inability to provide these social welfare goods, or what might appear to be the government's unwillingness to provide these goods, could prove especially political destabilizing to the regional transitions.

***Conclusion***

Does IPR protection promote economic development? The preliminary evidence suggests no direct relationship between IPR protection and development. This study has looked at three different aspects of development as they relate to transitional economies. Specifically it has explored FDI flows into CEE, technology transfer issues, and social welfare development considerations. In none of the three development aspects is there a clear causal relationship between IPR and development. This finding is in direct contradiction to message being promoted by international organizations, institutions, and industrialized nations about the development implications of IPR.

First, In the case of FDI, the two of the three recipients of the greatest FDI flows were also among the top countries cited by the USTR for consistent and systematic intellectual property right violations in a number of sectors. Poland and Hungary had adopted IPR consistent with multiple regional, bilateral, and international agreements, although there remained many problems with their enforcement.[5] The enforcement

[5] The number of overlapping international IPR agreements is staggering. In addition to the Berne, Rome and Paris conventions, as well as the GATT, TRIPS, WTO, and WIPO, there are other regional agreements. The

problems were well known, and were routinely cited in bilateral and multilateral negotiations. However, none of this precluded massive amounts of concentrated FDI to those countries over a 15 year time period.

Second, technology transfer was limited in the cases of CEE. While FDI was attracted to CEE, and the region did have laws in place to safeguard IPR, the nature of FDI was insulated and "island" like, not shared with complementary domestic industries. Improvements in IPR have not resulted in the promised technology transfer. Sometimes MNCs or industrialized countries retort that the reason for limited transfer of technology is because developing countries lack the capacity to absorb the technology. However, this is not the case with CEE. This region has a relatively solid infrastructure base, as well as a highly educated national workforce. Therefore there is national capacity to absorb advanced technology, if in fact there were efforts at real transfer.

Finally, the study has questioned the extent to which IPR does in fact contribute to development in a social welfare sense. Since development is a multifaceted concept, it is possible that IPR does in fact make important social welfare contributions thereby contributing toward development goals. However, the evidence from CEE questions that hypothesized relationship as well. The social costs are in some cases perceived to exacerbate inequality in terms of access to technology, healthcare and opportunities. As such, it is not simply that IPR might be anathema to communist notions of property or

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CEFTA (Central European Free Trade Agreement) was a mutual agreement for intellectual property protection signed in 1995 by Poland, Hungary, Czech, Slovak, Slovenia, Romania (See Von Lweinski 1997). The European Community Software Directive (EC Software Directive, 1991), and European Community Database Directive (EC Database Directive) are part of the accession requirements. Additionally, the European Patent Convention was a move toward harmonization of IPR conventions between CEEC and EU prior to becoming members. See European Report 1996, and Horvath, Merlino, et. al. 1999.

collective goods, but that there are potentially real inequality issues associated with IPR enforcement. [6]

In conclusion, because IPR is actually costly for developing countries in the short-term, broadcasting a message about the elixir qualities of IPR that is not grounded in empirical evidence might be considered duplicitous. If IPR adherence actually brought windfall economic gains, then it might be easier to reconcile short term social costs with both short and long term economic gains. But in the absence of promised economic development, the economic costs of enforcing IPR and the social implications of adherence to strict IPR guidelines might be considered intolerable. Reconsidering the negative implications of IPR protection in transitional economies could shed light on the low levels of IPR compliance in these otherwise highly developed countries. When one considers the economic and social incentives for piracy and non-compliance, the high level of IPR violation in the region becomes quite clear. Solving the piracy problem might be about promoting development, not the other way around.

[6] For discussions about cultural factors and attitudes that affect IPR enforcement, such as cultural attitudes toward property or tangible goods, see Traphagan 1998 and Nurton 1996.

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