Sustainability Impact Assessment Relating to the Negotiation of the Intellectual Property Chapter of the Comprehensive Economic and Trade Agreement (CETA) Between the EU and Canada

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Summary: *Canada offers a standard level of IPR protection when assessed at a world-wide level but it is lower than that of the EU on several accounts.*[1] *Canada does not accept the patentability of higher life-forms, does not offer patent term extension, does not protect copyrights for 70 years after death, does not protect technological protection measures, does not offer resale rights to artists, does not have statutory provisions on internet service providers liability, has not ratified and implemented WIPO internet treaties nor UPOV 1991, has no sui generis protection for geographical indications on food products, does not offer a 10 years exclusivity for data protection, and the Canada Border Services Agency does not have the legal authority to detain on its own initiative goods suspected of infringement. It is thus assumed that CETA will lead to an upward harmonisation and call primarily for change in Canadian laws.*

Assessing the specific impact of CETA IPR provisions is challenging for three reasons. First, the final provisions of CETA are not yet available. This section is thus based mostly on speculations. Second, both Canada and the EU are currently considering major changes in their IPR system independently from CETA. If implemented before CETA, these initiatives could substantially forestall impacts identified in this report. Third, the economics of IPR are characterised by a high level of scientific uncertainty. Rhetorical claims are far more frequent than empirical evidence due to the high number of variables and methodological difficulties in providing reliable data.

Nevertheless, it is safe to assume that IPR-related provisions in CETA will likely benefit specific sectors, such as the Canadian publishing industry and the innovative pharmaceutical industry. R&D spending and FDI inflows could increase as a result. As a net importer of IPR-related assets, however, Canada has an interest in maintaining some exceptions and limitations. CETA could otherwise have significant adverse impacts on consumers of educational and pharmaceutical products as well as on the balance of payments for royalties and licensing fees. The overall impact will depend on CETA's specific provisions and on Canada's implementing legislation.

Strengthening IPR protection in Canada will very likely have a positive impact on the economy of the European Union, derived mostly from reduced counterfeiting and piracy level in Canada, enhanced export opportunities, and additional revenues from royalties and license fees. Depending on CETA provisions, the creative industry, the pharmaceutical industry and the agro-food industry, or at least companies active in the Canadian market or facing Canadian competition, would benefit from enhanced IPR protection. Only minor impacts are anticipated for each indicator, but the cumulative impact could have a moderate significance and spill-over impacts on third countries could be significant as well.

[1] European Commission and Government of Canada, *Assessing the Costs and Benefits of a Closer EU-Canada Economic Partnership*: 2008, p. 79-88

7.2.1 CANADA

ECONOMIC ASSESSMENT

INDICATOR: GDP/capita (PPP adjusted)

IPR-based industries represent a significant share of Canadian GDP. In 2008-2009, Canada's arts and cultural sector alone contributed $46 billion, or 3.8% of Canada's GDP.[2] Moreover, IPR industries have high annual growth rates. Copyright industries, for example, have a growth rate twice higher than the Canadian economy.

Canada, however, does not fully take advantage of its potential as a knowledge economy. Venture capital and business expenditure on R&D as percentage of GDP are significantly lower than the OECD average.[3] Many explain this poor performance by the limited IPR protection available in Canada. As opposed to several OECD countries, Canada does not accept the patentability of higher life-forms, does not offer patent term extension, does not protect copyrights for 70 years after death, does not protect technological protection measures, does not offer resale rights to artists, does not have statutory provisions on internet service providers liability, has not ratified and implemented WIPO internet treaties nor UPOV 1991, has no *sui generis* protection for geographical indications on food products, does not offer a 10 years exclusivity for data protection, and the Canada Border Services Agency does not have the legal authority to detain on its own initiative goods suspected of infringement.

Most stakeholders consulted for this study assume a causal relation between weaker IPR protection and lower R&D investments. They consider that Canada's IPR regime "undermines the country's innovation capacity and economic prosperity."[4] Among them, Canada's Research-Based Pharmaceutical Companies notes that, historically, amendments strengthening patent protection have been followed by periods of increased R&D investment in the pharmaceutical sector.[5] It is thus assumed that

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[2] Canada, *2008-2009 Annual Report of the Cultural Affairs Sector*, Ottawa, Department of Canadian Heritage, 2010. Estimates presented by the industry are significantly higher. According to the Canadian Intellectual Property Council, the creative industry alone represents 7,4% of GDP. Canadian Intellectual Property Council, *A Time for Change: Toward a New Era for Intellectual Property Rights in Canada*, Ottawa, The Canadian Chamber of Commerce, 2009, p. 9

[3] OECD, *Science and Innovation Country Notes: Canada*, Paris, OECD, 2008.

[4] Canadian Intellectual Property Council, *A Time for Change: Toward a New Era for Intellectual Property Rights in Canada*, Ottawa, The Canadian Chamber of Commerce, 2009, p. 3.

[5] Rx&D, *Reality Check: Analysis of the CGP's Economic Impact Assessment of Proposed Pharmaceutical IP Provisions*, 2011, available at www.canadapharma.org. See also The Canadian Chamber of Commerce and the Canadian Intellectual Property Council, *Innovation for a Better Tomorrow: Closing Canada's Intellectual Property Gap in the Pharmaceutical Sector, 2011, available at* www.ipcouncil.ca or www.chamber.ca

bringing Canadian IPR protection to European levels would help Canada in catching up to the OECD R&D average. Under this perspective, CETA could potentially have a positive impact on Canada's GDP.

Nevertheless, the impact of strengthening IPR protection on GDP remains subject to controversies.[6] Some scientific studies contradict the industry's viewpoint and "fail to find evidence of a strong positive response by domestic innovators that could be reasonably ascribed to the effect of stronger IPR."[7] To clarify, it is undisputable that R&D spending is associated with higher GDP growth and, given current business models, a certain level of IPR protection is essential for investment in innovation and creativity.[8] Incremental IPR reforms in OECD countries, however, do not seem to increase domestic spending in R&D.[9]

Some are even more pessimistic. A study commissioned by the Canadian Generic Pharmaceutical Association concluded that every additional dollar invested in R&D as a result of CETA would cost an additional 8 dollars to Canadian consumers. [10] Other stakeholders interviewed for this study consider that excessive IPR could actually harm R&D if their holders can block follow-on research.[11] They argue that other policies, such as advance market commitments, targeted subsidies, fiscal incentives, or product

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[6] Some estimates, for example, ignore the fact that higher prices characterising IP-protected products would reduce the demand for those products. The sale of a counterfeit or pirated product does not equate a loss in sales of the authorised product. Emmanuel Combe and Etienne Pfister, "Le renforcement international des droits de propriété intellectuelle", *Economie internationale*, no 85, 2001, p. 68.

[7] Lee Branstetter, "Do Stronger Patent Induce More Local Innovation?" in International *Public Goods and Transfer of Technology Under a Globalized Intellectual Property Regime*, edited by Keith E. Maskus and Jerome H. Reichman, Cambridge, Cambridge University Press, 2005, p. 309. For example. Elhanan Helpman, "Innovation, Imitation, and Intellectual Property Rights," *Econometrica*, vol. 61, 1993, p. 1247–1280.; Edwin L. C. Lai, "International Intellectual Property Rights Protection and the Rate of Product Innovation," *Journal of Development Economics*, vol. 55, 1998, 133–153. Gene M. Grossman and Edwin L. C. Lai, "International Protection of Intellectual Property," *American Economic Review*, vol. 94, 2005, 1635–1653. Keith Maskus, "Intellectual Property Rights and Economic Development", *Case Western Reserve Journal of International Law*, vol. 32, p. 471-506.

[8] OECD, *Creating Value from Intellectual Assets*, Paris, OECD, 2007; OECD Trade Policy Working Papers, No.104 – Policy Complements to the Strengthening of IPRS in Developing Countries (2010); TAD/TC/WP(2010)12/FINAL; Lee Branstetter, Fritz Foley and Kamal Saggi, "Has the Shift to Stronger Intellectual Property Rights Promoted Technology Transfer, FDI and Industrial Development." *the WIPO Journa*l, vol. 2(1), 2010, p. 93-98.

[9] S. Kortum and J. Lerner, "What is Behind the Recent Surge in Patenting?", *Research Policy*, vol. 28, p 1-22; Lee Branstetter and M. Sakakibara, *Do Stronger Patents Induce More Innovations? Evidence from the 1988 Japanese Patent Law Reforms?*, NBER Working Paper 7066, 1999; A. Jaffe, "Policy Innovations and the Innovation Process", *Research Policy*, vol. 29, 2000, p. 539-555.

[10] Grootendorst, Paul and Aidan Hollis, *The Canada-European Union Comprehensive Economic & Trade Agreement: An Economic Impact Assessment of Proposed Pharmaceutical Intellectual Property Provision*, Study commissioned by the Canadian Generic Pharmaceutical Association, 2011, available at www.canadiangenerics.ca . For a criticism to this report, see Rx&D, *Reality Check: Analysis of the CGP's Economic Impact Assessment of Proposed Pharmaceutical IP Provisions*, 2011, available at www.canadapharma.org.

[11] Tim Wu, "Intellectual Property, Innovation, and Decentralized Decisions", *Virginia Law Review*, vol. 92(1), 2006, p. 123-147.

development partnerships, provide more direct incentive for private R&D investment than enhanced IPR protection.

Whether Canada has reached the optimal balance between minimal and excessive IPR protection is an open question, although evidence suggests the need for improvement in at least a number of IPR-related areas. IPR-related provisions of CETA could have, at best, a minor positive impact on Canadian growth. Depending on their specific content, they could even have an adverse impact on the Canadian economy.

INDICATOR: Strength of enforcement mechanisms

Counterfeiting and piracy levels in Canada are disturbing. Stakeholders almost unanimously acknowledge that enforcement of IPR in Canada must be improved. According to the Canadian Intellectual Property Council, "counterfeiting and piracy cost the Canadian economy $22 billion annually in lost tax revenue, investment and innovation."[12] More specifically, the Canadian Motion Picture Distributors Association calculated the annual GDP loss due to film piracy at $965 million[13] and the Business Software Alliance estimated that reducing software piracy by 10% in two years could increase GDP by more than $4 billion[14].

This gloomy picture should be put in its global context. The OECD's trade-related index of physical counterfeiting and piracy indicates that Canada has a higher rate (0.057086) than Germany (0.039872) but a lower rate than most EU countries, including France (0.086579), the Netherlands (0,063505), Italy (0.384653), Spain (0.212384) and the United Kingdom (0.127595).[15] This relatively good performance is also reflected in a study conducted by the Business Software Alliance estimating that the "software piracy rate" in Canada (29%) is lower than the average of Western Europe (34%) and Central/Eastern Europe (63%).[16]

That being said, these statistics are estimates based on seized infringing physical goods and must be used with great caution.[17] They could be misleading because enforcement and hence seizures are often seen as the Achilles' heel of the Canadian IPR system. The Royal Canadian Mounted Police acknowledge that, although it has investigated nearly

[12] Canadian Intellectual Property Council, *A Time for Change: Toward a New Era for Intellectual Property Rights in Canada*, Ottawa, The Canadian Chamber of Commerce, 2009, p.13.
[13] IPSOS and Oxford Economics (on behalf of the Canadian Motion Picture Distributors Association), *Economic Consequences of Film Piracy in Canada*, 2011, available at www.cmpda.ca
[14] The Business Software Alliance, *Piracy Impact Study: The Economic Benefit of Reducing Software Piracy*, Washington, BSA, 2010.
[15] OECD, *Magnitude of Counterfeiting and Piracy of Tangible Products: An Update*, Paris, OECD, 2009. p. 5. See also OECD, *The Economic Impact of Counterfeiting and Piracy*, Paris, OECD, 2008, p. 70.
[16] The Business Software Alliance, *Piracy Impact Study: The Economic Benefit of Reducing Software Piracy*, Washington, BSA, 2010.
[17] Standing Committee on Industry, Science and Technology, *Counterfeiting and Piracy are Theft* , June 2007, p. 7.

1,500 cases of IPR crime between 2005 and 2008, these “numbers are believed to be a fraction of the true IPR crime situation in Canada.”[18]

The Canadian government has repeatedly expressed its determination to address the issue of IPR enforcement. Some stakeholders, however, consider that these intentions have led to few concrete measures. On the copyright front, for example, several bills were tabled in the Canadian Parliament (Bill C-60 in 2005, C-61 in 2008 and Bill C-32 in 2010) but so far none were enacted. Policy options suggested by stakeholders include 1) providing more resources to police authorities and prosecutors for the enforcement of IPR laws; 2) introducing statutory damages for trademark infringement and increasing damages and penalties for copyright infringement; 3) adopting criminal prohibitions on the manufacture and distribution of circumvention devices; 4) authorising the Canada Border Services Agency to detain on its own initiative goods suspected of infringement; 5) creating appropriate incentives for ISPs to cooperate with right-holders in curbing online piracy; and 6) providing clear rules on secondary liability for IPR infringements.[19]

All of these measures could significantly strengthen enforcement of IPR law in Canada. Border measures are expected to be especially efficient with respect to physical goods since most counterfeit and pirated goods in Canada are imported.[20] As noted by the Canadian Anti-Counterfeiting Network, “it is virtually impossible to effectively deal with imported counterfeit and pirated products once they have been disbursed into the marketplace.”[21]Although most infringing goods in Canada are imported from Asia, additional enforcement measures in Europe resulting from CETA could also help Canada in enforcing its own legislation.[22]

INDICATOR: Employment rate by sector/industry

IPR-based industries represent a substantial share of the Canadian workforce. More than 633,000 Canadians work in the culture sector and more than 200,000 are engaged in R&D activities.[23] Employment growth in these sectors is especially dynamic.

[18] Royal Canadian Mounted Police, *A National Intellectual Property Crime Threat Assessment 2005-2008*, Ottawa, RCMP, 2010, p. 3.
[19] Currently, Canada Border Services Agency can detain suspected goods only if a court order has been previously obtained.
[20] Criminal Intelligence Service Canada, *2005 Annual Report on Organized Crime in Canada*, Ottawa, CISC, 2005;
[21] Canadian Anti-Counterfeiting Network, letter to Foreign affairs and International Trade Canada, April 30, 2008
[22] Royal Canadian Mounted Police, *A National Intellectual Property Crime Threat Assessment 2005-2008*, Ottawa, RCMP, 2010, p. 3.
[23] Singh, Vik, “The Impact of the Culture Sector on the Canadian Economy”, *Quarterly Bulletin from the Culture Statistics Program*, vol. 15(1), Ottawa, Statistics Canada, 2005, p. 1; Statistics Canada, *Sciences Statistics*, May 2008, p. 5.

Employment in copyright-based industries has grown at 5.3% between 1991 and 2002 and research personnel have grown at over 4% yearly from 1995 to 2004.[24]

The impact of stronger IPR protection on Canadian employment will vary among industrial sectors. The Business Software Alliance calculated that reducing software piracy by 10% in two years could create more than 64,000 new jobs in Canada.[25] Likewise, according to the Canadian Motion Picture Distributors Association, film piracy costs the equivalent of 12,600 full-time jobs in Canada.[26] While the methodology supporting these estimates is open to debate, it is realistic to assume that employment in IPR-based industries could benefit from strengthened IPR protection. It is, however, equally realistic to assume that employment could be adversely impacted in other sectors, such as the generic pharmaceutical industry and agri-food industries that employ geographical indications in their branding. The impact of IPR provisions in CETA on overall employment is likely to be minor.

INDICATOR: Rate/volume of FDI inflows

According to Statistics Canada, "foreign organizations supported R&D in Canada in the amount of $2.6 billion" in 2008.[27] Strengthening IPR protection could positively increase this inflow. Reports from non-Canadian industry associations frequently stress that Canada "is fast gaining a reputation as a haven where technologically sophisticated international piracy organizations can operate with virtual impunity."[28] According to the Canadian Intellectual Property Council, this regrettable reputation "directly affects the willingness of foreign firms to invest domestically."[29]

This causality between IPR protection and FDI inflow is supported by empirical evidence. Surveys of executive managers suggest that investments and technology transfer decisions are strongly sensitive to the perceived strength of IPR protection.[30] These findings are confirmed by most empirical and statistical studies.[31] There is no consensus, however, on the necessary conditions

[24] Wall Communications, *The Economic Contribution of Copyright-Based Industries in Canada*, commissioned by Canadian Heritage, Geneva, WIPO, 2004, p. 5; OECD, *Science and Innovation Country Notes: Canada*, Paris, OECD, 2008, p. 3.

[25] The Business Software Alliance, *Piracy Impact Study: The Economic Benefit of Reducing Software Piracy*, Washington, BSA, 2010.

[26] IPSOS and Oxford Economics (on behalf of the Canadian Motion Picture Distributors Association), *Economic Consequences of Film Piracy in Canada*, 2011, available at www.cmpda.ca

[27] Statistics Canada, "The Ongoing Importance of Gross Domestic Expenditures on Research and Development", *Innovation Analysis Bulletin*, vol. 11(1), 2009, p. 11

[28] For example, International Intellectual Property Alliance, *2010 Special 301 Report on Copyright Enforcement and Protection*, p. 9; Pharmaceutical Research and Manufacturers of America, *Special 301 Submission 2010*, p. 70.

[29] Canadian Intellectual Property Council, *A Time for Change: Toward a New Era for Intellectual Property Rights in Canada*, Ottawa, The Canadian Chamber of Commerce, 2009, p. 10

[30] Edwin Mansfield, "Intellectual Property Protection, Direct Investment, and Technology Transfer", *International Finance Corporation*, Discussion Paper No. 27.

[31] Lee Branstetter, Raymond Fisman and C. Fritz Foley, "Do Stronger Intellectual Property Rights Increases International Technology Transfer? Empirical Evidence from US Firm-Level Panel Data", *The Quarterly Journal of Economics*, 2006, p. 321-349; Lee J. & E. Mansfield, "Intellectual Property Protection and US Foreign Direct Investment", *Review of Economics and Statistics*, vol. 78 (2), 1996, p. 181-186;

required. Some consider that the capacity of IPR reforms to attract additional FDI is valid among developed countries where other factors affecting investment are similar.[32] Others believe that strengthening IPR can attract FDI only in developing countries where foreign corporations typically prefer to invest directly rather than granting a license to a local manufacturer.[33]

In the age of globalisation, however, it is very likely that transnational corporations in IP intensive sectors disconnect their investment decisions from their marketing strategies.[34] In other words, they invest where conditions are ideal for investment, not where conditions are ideal for marketing. The availability of skilled resources, for example, is more important than the IPR level to attract FDI to Canada.

Interestingly, a survey conducted by the International Chamber of Commerce has found that foreign investors are more concerned about enforcement practices than standards provided in legislation.[35] Therefore, raising IPR standards might not significantly increase FDI inflows, but improving enforcement as a result of the CETA could have a positive impact.

INDICATOR: Economic policy space

Policy coherence between IPRs and other economic policy-areas is frequently sought through limitations and exceptions. For example, the fair dealing exception facilitates documentary filmmakers' ability to use copyrighted material. Similarly, the Plant Breeders' Rights Act authorises farmers to save and plant their own seed of protected varieties. The Canadian Internet Policy and Public Interest Clinic argues that these "exceptions and limitations to intellectual property have enormous economic value."[36]

It is unclear to what extent CETA could restrict the Canadian ability to maintain its exceptions and limitations. Trade agreements do not typically list specific IPR exceptions authorised. Most agreements provide only general exceptions with considerable room for interpretation (such as TRIPs art. 13, 17, and 30). In this context, Canada's ability to have a flexible economic policy would depend on CETA's formal objectives and guiding

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John Hagedoorn, Danielle Cloodt, Hans van Kranenburg, "Intellectual Property Rights and the Governance of International R&D Partnerships", *Journal of International Business Studies*, vol. 36(2), 2005, p. 175-186.

[32] N. Kumar, "Intellectual Property Protection, Market Orientation and Location of Overseas R&D Activity by Multinational Enterprises", *World Development*, vol. 24, 1996, p. 673-688

[33] Keith Maskus, "The International Regulation of Intellectual Property", *Weltwirtschaftliches Archiv*, vol. 134 (2), 1998, p. 186-208.

[34] Grootendorst, Paul and Aidan Hollis, *The Canada-European Union Comprehensive Economic & Trade Agreement: An Economic Impact Assessment of Proposed Pharmaceutical Intellectual Property Provision*, Study commissioned by the Canadian Generic Pharmaceutical Association. 2011. www.canadiangenerics.ca . For a criticism to this report, see Rx&D, *Reality Check: Analysis of the CGP's Economic Impact Assessment of Proposed Pharmaceutical IP Provisions*, 2011, available at www.canadapharma.org.

[35] International Chamber of Commerce, *Global Survey on Counterfeiting & Piracy*, 2007, Paris, ICC, p. 5.

[36] Canadian Internet Policy and Public Interest Clinic, Letter to Foreign Affairs and International Trade Canada, April 30 2008, p. 7.

principles (see for example Article 7 and 8 of the TRIPs agreement), and on implementing legislation.

INDICATOR: Trade balance

Canada is a net importer of IP-based goods. In 2008, Canada imported $4.0 billion of cultural goods and exported $1.7 billion.[37] According to the Canadian Manufacturers & Exporters, counterfeit goods represent 2% to 3% of Canada's trade.[38]

IPR reforms could have a significant impact on trade. A number of studies suggest that exports from high-income countries to developing countries tend to increase when the latter raise their standards for IPR protection.[39] However, for countries where threat of imitation is weak, strengthening IPR protection tends to have minor impact on exportations.[40] It is thus likely that European exports to Canada will not be significantly affected, as it currently does not imitate a noteworthy amount of IPR-protected products. Exports of products protected by geographical indications will likely increase, but in some other industries European businesses might prefer to invest directly in Canada.

The Canadian trade balance would not necessarily benefit from IP provisions in CETA. Trade in specific goods, that are currently freely marketed and exported from Canada, could be adversely affected. For example, several Canadian companies brand and export their products with labels that could be considered as European geographical indications. These companies could lose market shares in domestic and foreign markets if they are forced to abandon their commercially significant labels. In sum, both Canadian exports and imports might be slightly and negatively impacted, but only in specific sectors.

INDICATOR: Balance of payments

Canada has a negative balance of royalties and license fees paid for the authorised use of IPR. In 2008, receipts were US$ 3.4 billion while payments were US$ 8.8 billon.[41]

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[37] Statistics Canada.
[38] Canadian Manufacturers & Exporters, *Position Paper – Intellectual Property Rights in Canada and Abroad*, Ottawa, CME-MEC, June 2006.
[39] Keith Maskus, "Normative Concerns in the International Protection of Intellectual Property Rights", *The World Economy*, vol. 13, 1990, p. 387-409; Keith Maskus and D. Eby-Konan, "Trade-Related Intellectual Property Rights: Issues an Exploratory Results", in *Analytical and Negotiating Issues in the Global Trading System*, ed. by Deardoff & Stern, Ann Arbor, University of Michigan Press, 1994.
[40] Rafiquzzaman, Mohammed, "The Impact of Patent Rights on International Trade: Evidence from Canada", *The Canadian Journal of Economics*, vol. 35(2), 2002, p. 307-330; Pamela J. Smith, "Are weak patent rights a barrier to U.S. exports?" *Journal of International Economics*, vol. 48, 1999, p. 151-177.
[41] World Bank, World Development Indicators, Royalty and license fees.

If Canada raises its level of protection and enforcement, it will likely increase payments made by Canadians to European holders of IPR. If CETA does not require major changes in European IPR regimes, as is anticipated, Canadian holders of IPR in Europe would not increase their receipts from European markets. One of the only cases that could benefit Canadian copyright works is an extended duration of IPR protection resulting from a new reciprocity. Therefore, it is very likely that the CETA will worsen the Canadian deficit in its balance of royalties and license fees.

INDICATOR: Consumer price

Despite their social and economical benefits, IPRs are linked to increased consumer prices for certain products. Patents, copyrights, trademarks, geographical indications, plant breeder's rights, and other IPR conferred exclusive rights, restrict competition, and authorise holders to maintain higher prices. Several mechanisms, such as compulsory license schemes or the Patented Medicines Prices Review Board (PMPRB), are intended to maintain prices of IP protected goods at reasonable levels.

Certain CETA provisions could lead to some higher consumer prices in Canada. For example, if artistic works and data protection are protected for longer periods, the effective use of fair dealing exception is limited, protection for geographical indications and industrial designs are enhanced, and term extensions are made available for patents, it is very likely that CETA will create an inflationary pressure on consumer prices for certain IP products.[42] Mechanisms external to the IP systems could be established to offset this increased pressure.

INDICATOR: Public finances

IPRs have four impacts on public finances. First, they foster several industries and create employment, generating tax revenues. Second, the examination, registration, and maintenance of some IPR require the payments of fees. Third, the enforcement of IPR necessitates public spending. Fourth, governments are consumers of IPR protected goods.

CETA impacts on public finance will be mixed. The Canadian Chamber of Commerce has calculated that film piracy resulted in tax losses of $42 million.[43] The Business Software Alliances goes as far as estimating that reducing software piracy by 10% in 2 years could

[42] Paul J. Heald, *Property Rights and the Efficient Exploitation of Copyrighted Works: An Empirical Analysis of Public Domain and Copyrighted Fiction Best Sellers*, UGA Legal Studies Research Paper No. 07-003, January 9, 2007.
[43] Canadian Intellectual Property Council, *A Time for Change: Toward a New Era for Intellectual Property Rights in Canada*, Ottawa, The Canadian Chamber of Commerce, 2009, p. 13.

generate 2 billion dollars in extra taxes.[44] However, several NGOs consider that the government "should not be required to devote excessive resources to the overzealous enforcement of possible intellectual property violations."[45] They are especially concerned over CETA's border measures that could "shift the burden of private rights enforcement to the public"[46] at the expense of taxpayers.

Moreover, the public sector, as a consumer of IPR-protected goods, might face additional spending, notably for educational books (educational institutions accounted for 23.4% of book sales revenues in Canada) and pharmaceutical products (the public sector finances 45% of prescribed drug expenditure). This is likely for pharmaceuticals because, as mentioned under the "Access to pharmaceuticals" indicator hereto, a number of measures, including adoption of patent term extensions and the extension of data protection term could delay the entry of genetic products into the market. A study commissioned by the Canadian Generic Pharmaceutical Association concludes that these measures would represent additional public expenditure of $1.3 billion yearly, including $551 million from the Government of Ontario and $412 million from the Government of Quebec.[47] Public expenditures could also increase for education books if the duration of copyright protection is extended, fair dealing exceptions are restricted and digital locks are protected.

SOCIAL ASSESSMENT

INDICATOR: Equity in wages

The impact of IPR on equity in wages is uneven and varies depending on the economic sectors involved. Most IPR intensive industries offer relatively high wages. However, several artists and creators, holders of copyright, have modest revenues.

Strengthening IPR could favour industries paying higher wages. Artists could also benefit from resale rights and enhanced cooperation of collecting societies. One study,

[44] The Business Software Alliance, *Piracy Impact Study: The Economic Benefit of Reducing Software Piracy*, Washington, BSA, 2010.
[45] Trans-Atlantic Consumer Dialogue, *Resolution on enforcement of copyright, trademarks, patents and other intellectual property rights*, June 18 2009, p. 6.
[46] Essential Action, *Letter to the Foreign Affairs and International Trade Canada*, July 2 2009, p. 4. See also Oxfam Canada and Oxfam Québec, *Submission regarding the Anti-Counterfeiting Trade Agreement*, July 15, 2009, p. 2
[47] Grootendorst, Paul and Aidan Hollis, *The Canada-European Union Comprehensive Economic & Trade Agreement: An Economic Impact Assessment of Proposed Pharmaceutical Intellectual Property Provision*, Study commissioned by the Canadian Generic Pharmaceutical Association. 2011. www.canadiangenerics.ca. For a criticism to this report, see Rx&D, *Reality Check: Analysis of the CGP's Economic Impact Assessment of Proposed Pharmaceutical IP Provisions*, 2011, available at www.canadapharma.org.

however, suggests that increasing IPR protection decreases bonuses paid by IPR-based companies to retain knowledge and avoid divulgation of trade secrets to competitors.[48]

INDICATOR: Product innovation

Exclusive rights conferred by IPR provide economic benefits to their holders, but this is not their end goal. IPR are policy instruments for the social goal of providing new products to society.

The CETA could slightly increase the number of new-to-market products in Canada. In a globalised world, however, IPR standards in larger markets are often more important to Canadian firms. This partly explains why, although Canada has weaker IPR protection than several other OECD countries, it ranks higher than OECD average in percentage of firms with new-to-market product innovation.[49]

INDICATOR: Number of in-country produced TV shows (culture)

In 2008, the Canadian television production industry earned $2.2 billion in operating revenues.[50] IPR represents a significant source of revenue for this industry. Strengthening IPR could increase revenue of the television production industry. One can assume that this revenue could be reinvested to increase the number of in-country produced TV shows. This could be the case in the francophone market which, as opposed to the Anglophone market, consumes more Canadian than foreign programs.[51]

INDICATOR: Number of in-country produced movies (culture)

The Canadian film production industry earned $389 million in operating revenues in 2008.[52] Several stakeholders expressed major concerns regarding film piracy. Canada is said to be "a haven for the illegal recording of movies in theatres"[53] and host 4 of the top 10 illicit BitTorrent sites in the world."[54] According to industry, film piracy resulted in consumer spending losses of approximately $1.8 billion in 2010.[55]

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[48] Amy Glass and Kamal Saggi, "Intellectual Property Rights and Foreign Direct Investment," *Journal of International Economics*, vol. 46, 2002, p. 387–410.
[49] OECD, *Science and Innovation Country Notes: Canada*, Paris, OECD, 2008.
[50] Statistics Canada, *Film, television and Video Production*, *Service Bulletin*, 2008.
[51] Canadian Radio-Television and Telecommunications Commission, *Communications Monitoring Report 2009*.
[52] Statistics Canada, *Film, television and Video Production*, *Service Bulletin*, 2008.
[53] Royal Canadian Mounted Police, *A National Intellectual Property Crime Threat Assessment 2005-2008*, Ottawa, RCPM, 2010, p. 9.
[54] International Intellectual Property Alliance, *2010 Special 301 Report on Copyright Enforcement and Protection*, Washington, IIPA, 2010, p. 9.
[55] IPSOS and Oxford Economics (on behalf of the Canadian Motion Picture Distributors Association), *Economic Consequences of Film Piracy in Canada*, 2011, available at www.cmpda.ca

Strengthening enforcement and improving enforcement through CETA could significantly reduce the rate of film piracy. The detrimental economic effects of online and offline piracy affect the Canadian film production and distribution chain, including theatrical distributors, video publishers and television broadcasters who see their capacity to pre-finance local productions reduced. However, since most films pirated and distributed in Canada are not Canadian productions, CETA enforcement measures will likely have a minor positive impact on the indicator "number of in-country produced movies."

INDICATOR: Number of in-country produced and/or IP-protected music (culture and employment)

The Canadian sound recording industry's revenue totalled at $887 million in 2008.[56] This industry is especially harmed by digital music downloads and file sharing.[57] According to the Canadian Recording Industry Association, piracy caused "a 48% ($637 million) drop in retail sales from 1999 to 2006."[58] The International Intellectual Property Alliance considers that this drop, experienced all over the world, is more pronounced in Canada: "Internet music piracy remains prevalent in Canada, aided by weak and outdated copyright laws. […] The fact is that Canada lacks the marketplace integrity required for innovative digital business models to flourish as they do in other countries."[59]

CETA will very likely contribute to reducing piracy rates and indirectly increase the amount of produced music. However, as with the film production industry, most sound recordings legally sold or pirated are not Canadian. Foreign firms control the sound recording industry in Canada and earn more than 70% of its revenues.[60] In this context, it is important to distinguish the interests of Canadian performers from those of sound recording makers.[61] If non-Canadian sound recording makers are able to increase their revenues from enhanced protection in Canada, they might not necessarily reinvest these revenues in scouting and developing new talent specifically in Canada. It is also unlikely that an extended copyright protection will provide a sufficient incentive for performers to record more music. Some argue that overly strong copyright protection could even harm creativity.[62] While CETA could increase revenues for sound recording makers, "these revenues are likely to accrue mainly to non-Canadians."[63]

[56] Statistics Canada, *Service Bulletin: Sound Recording and Music Publishing*, 2008, p. 1.
[57] Stan Liebowitz, "File Sharing: Creative Destruction or Just Plain Destruction?", *Journal of Law and Economics*, vol. 49, 2006.
[58] The Canadian Recording Industry Association, Press Release, March 2, 2006.
[59] International Intellectual Property Alliance, *2010 Special 301 Report on Copyright Enforcement and Protection*, Washington, IIPA, 2010, p. 17.
[60] Statistics Canada, *Service Bulletin: Sound Recording and Music Publishing*, 2008, p. 1.
[61] Ruth Towse, *Assessing the Economic Impacts of Copyright Reform on Performers and Producers of Sound Recordings in Canada*, Report commissioned by Industry Canada, 2003, p.5.
[62] Marcel Boyer, *Assessing the Economic Impact of Copyright Reform*, Report to Industry Canada, 2004, p. 42.
[63] Ruth Towse, *Assessing the Economic Impacts of Copyright Reform on Performers and Producers of Sound Recordings in Canada*, Report commissioned by Industry Canada, 2003, p.5.

INDICATOR: Number of in-country produced and/or IP-protected literature (culture, education)

In 2008, operating revenues for the book publishing industry in Canada totalled $ 2.1 billion.[64] More than 42% of sales made were for educational books.[65] Book publishers frequently report "continuing piracy problems in Canada with regard to infringements such as high-volume photocopying, and unauthorised uploading and downloading."[66]

Increased IPR protection will likely generate additional revenue for book publishers. Since the majority (58%) of operating revenue of the industry is made by Canadian-controlled book publishers, it is more likely than in some other copyright-based industries that a share of this additional revenue will be reinvested to publish Canadian books.[67]

INDICATOR: Access to pharmaceuticals

Patents have a direct impact on pharmaceutical products' prices. In Canada, the Patented Medicines Price Review Board (PMPRB), a quasi-judicial body, must approve prices of patented drugs. An OECD study concludes that this mechanism "has very likely been responsible for bringing Canada's prices for patented medicines roughly in line with European comparators."[68]

A number of measures, including adoption of patent term extensions, the removal of the regulatory approval exception, and the extension of data protection term, could delay the entry of generic products into the market. This will not affect the average prices of patented medicines, but could increase the percentage of GDP spent on healthcare. According to a 2011 study commissioned by the Canadian Generic Pharmaceutical Association, the annual increase in cost would be in the range of $2.8 billion per year. [69]

INDICATOR: Social policy space

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[64] Statistics Canada, *Book Publishers*, 2008, p. 5

[65] Statistics Canada, *Book Publishers*, 2008, p. 6

[66] International Intellectual Property Alliance, *2010 Special 301 Report on Copyright Enforcement and Protection*, Washington, IIPA, 2010, p. 16.

[67] Statistics Canada, *Book Publishers*, 2008, p. 22.

[68] Valerie Paris and Elizabeth Docteur, "Pharmaceutical Pricing and Reimbursement Policies in Canada", *OECD Health Working Papers*, Paris, OECD, 2006, p.15.

[69] Grootendorst, Paul and Aidan Hollis, *The Canada-European Union Comprehensive Economic & Trade Agreement: An Economic Impact Assessment of Proposed Pharmaceutical Intellectual Property Provision*, Study commissioned by the Canadian Generic Pharmaceutical Association. 2011. www.canadiangenerics.ca. For a criticism to this report, see Rx&D, *Reality Check: Analysis of the CGP's Economic Impact Assessment of Proposed Pharmaceutical IP Provisions*, 2011, available at www.canadapharma.org.

Several exceptions to IPR serve social objectives, such as education, research, maintenance of archives, distance learning, and access to artistic works by persons with disabilities.[70]

The CETA could, potentially, restrain the use of the exceptions, notably if technological protection measures are legally protected.

INDICATOR: Product Safety

Some counterfeiting products are substandard and pose "serious consumer health and safety risks."[71] Substandard products have been reported in a large range of goods, including batteries, brake pads, cosmetics, children's toys, electrical products, and pharmaceutical products.[72] Furthermore, pirated content online also presents risks as it can also contain dangerous hidden additions, including viruses, malware and Trojans, which would enable criminal elements to damage a user or steal information or their online identities.[73]

The problem of substandard products is real, but it is far from being as widespread as in developing countries. The consumption level of substandard products in Canada remains low. New enforcement measures, especially targeting imported goods, could reduce even further the circulation of substandard products in Canada.

However, it should at least be mentioned that several NGOs have recalled that not all IPR infringing products are counterfeits, that not all mislabelled products are substandard, and that several IPR compliant products are also substandard. Accordingly, approaching the problem of substandardness through the lens of IPR, "not only fails to address the very real public health threat, [but also] draws public resources away from that urgent task."[74]

ENVIRONMENTAL ASSESSMENT

INDICATOR: Air pollution/GHG emissions

[70] The Canadian Library Association, *Brief to Foreign Affairs and International Trade Canada on the Anti-Counterfeiting Trade Agreement*, April 30, 2008.
[71] Canadian Chamber of Commerce, *Submission to the Government of Canada on the proposed Anti-Counterfeiting Trade Agreement*, April 30 2008, p. 2.
[72] Criminal Intelligence Service Canada, *Counterfeit Pharmaceuticals in Canada*, August 2006, p. 1. Standing Committee on Public Safety and National Security, *Counterfeit Goods in Canada – A Threat to Public Safety*, Ottawa, Canadian Parliament, 2007, p. 6.
[73] Paula Greve, *Digital Music and Movies Report: The True Cost of Free Entertainment*, McAfee, 2010, 15 p, available at www.mcafee.com
[74] Oxfam Canada and Oxfam Québec, *Submission regarding the Anti-Counterfeiting Trade Agreement*, July 15, 2009, p 1 ; Essential Action, *Letter to the Foreign Affairs and International Trade Canada*, July 2 2009, p. 5.

CETA IPR provisions are not likely to impact this indicator.

INDICATOR: Other environmental indicators

CETA IPR provisions are not likely to impact any other environmental indicators.

7.2.2. EU

ECONOMIC ASSESSMENT

INDICATOR: GDP/capita (PPP adjusted)

IPRs are critically important for the EU economy and contribute to a significant share of its GDP. Creative industries alone are said to generate approximately €860 billion of value added, corresponding to a 6.9% of European GDP.[75] In a recent document, the Commission considered that "counterfeiting and piracy have a dramatic and damaging effect on business and they have the potential to become even more problematical."[76]

The 2009 IPR Enforcement Report of the European Commission targeted Canada among the list of "priority countries" for its relatively weak protection. Shortcomings identified in the report are related to "the lack of ratification by Canada of major IPR treaties relating to trademarks and copyright (WIPO's "Internet Treaties"), deficiencies in the protection of pharmaceuticals and of geographical indications, ineffective enforcement mechanisms (in particular regarding customs seizures), and limited sharing of information between Canadian authorities and rights holders."[77]

CETA's IPR chapter will very likely have positive impacts on Europe. These impacts will, however, be relatively minor for two reasons. Firstly, the Canadian market for European IPR-protected products is relatively small. Canada represents only 2% of world sales of sound recordings [78] and around 3% of European exports in newspapers, journals and periodicals.[79] Canada represents a more significant market for specific products, like adult computer games, that are designed for Westerners. For those products, however, the American market is perceived by some European stakeholders as a more worrying

[75] Tera Consultants, *Building a Digital Economy: The Importance of Saving Jobs in the EU's Creative Industries*, Paris, International Chamber of Commerce, 2010, p. 16.
[76] European Commission, *Enhancing the Enforcement of Intellectual Property Rights in the Internal Market*, COM(2009)467, Brussels, EC, p. 3.
[77] Commission Staff Working Document, *IPR Enforcement Report 2009*, Brussels, EC, p. 10.
[78] Ruth Towse, *Assessing the Economic Impacts of Copyright Reform on Performers and Producers of Sound Recordings in Canada*, Report commissioned by Industry Canada, 2003, p. 22.
[79] Eurostat

"source of IP threats". Although the United States offers stronger IPR protection than Canada, the potential value of the American market is also much more significant.[80]

Secondly, Canada is not a major source of physical counterfeit and pirated goods. Asian and Middle East countries are the main sources of physical counterfeit products imported in Europe.[81] China alone is the origin of 54% of all suspect goods detained at EU borders.[82] That being said, Canada serves as a transhipping point for some counterfeit and pirated goods from Asia. Moreover, Canada hosts a number of torrent sites used to pirate European copyrighted works and are accessible from within the EU. As such, increasing enforcement in Canada could have a positive impact herein.

Although it may not have a significant effect on overall GDP, a CETA IPR chapter will likely have a positive effect on European economy. It could have a significant impact in specific industries such as agri-food companies using geographical indications. If CETA raises the bar for future negotiations with third countries, including WTO talks on geographical indications, spill-over may be more important than direct and immediate impacts.

INDICATOR: Strength of enforcement mechanisms

For reasons detailed under the indicator "GDP/capita", it is anticipated that a CETA IPR chapter will have a positive but minor impact on this indicator.

INDICATOR: Employment rate by sector/industry, FDI flows, trade balance, balance of payments

For reasons detailed under the indicator "GDP/capita", it is anticipated that a CETA IPR chapter will have a positive but minor impact on these indicators.

SOCIAL ASSESSMENT

It is not anticipated that CETA IPR chapter will have a noteworthy social impact on the European Union, which includes an assessment on the indicator of access to pharmaceuticals among other indicators.

ENVIRONMENTAL IMPACTS

[80] Economist Intelligence Unit, *The Value of Knowledge: European Firms and the Intellectual Property Challenge*, The Economist, 2007, p. 10.
[81] European Commission, *Report on EU Customs Enforcement of Intellectual Property Rights, Results at the EU Border*, Brussels, EC, 2009, p. 2.
[82] Commission Staff Working Document, *IPR Enforcement Report 2009*, Brussels, EC, p. 4.

CETA IPR provisions are not likely to impact the environmental indicators employed in this SIA.

7.2.3. USA

ECONOMIC ASSESSMENT

Over the last few years, the US government and several US industry associations have repeatedly pressed Canada to adopt measures like the type that could be adopted in CETA.[83]

If Canada strengthens its IPR protection, the US might very likely increase its exports, investments and revenues from royalties and license fees. Given the size of the US economy, minor impacts are anticipated for each economic indicator, but the cumulative impact could have a moderate significance. In fact, since the US exports and invests significantly more to/in Canada than the EU, it is very likely that, thanks to TRIPs most-favoured nation treatment, the US will be the first beneficiary of CETA IPR provisions.[84]

On products protected by geographical indications, however, US exports to Canada could be negatively affected. For example, cheeses produced in the US but protected in Europe by geographical indications might have to be rebranded under another name to be legally exported to Canada. Under these conditions, some American producers might simply prefer to withdraw from the Canadian market.

SOCIAL ASSESSMENT

It is not anticipated that CETA IPR chapter will have social impact on the US, unless it directly addresses the online selling of pharmaceutical products, which is unlikely.

ENVIRONMENTAL ASSESSMENT

It is not anticipated that CETA IPR chapter will have environmental impact on the US.

7.2.4. OTHER THIRD COUNTRIES

[83] Office of the United States Trade Representative, *2010 Special 301 Report*, 2010, p. 25.
[84] For example, in 2008, US exports of cultural goods to Canada reached more than $ 3 billon and US revenues from cultural service reached more than $ 2 billion. Statistics Canada.

ECONOMIC ASSESSMENT

It is not anticipated that a CETA IPR chapter will have direct economic impact on these countries, unless CETA has a spill-over effect on parallel and future negotiations involving these countries (including WTO negotiation on geographical indications and other bilateral free trade agreements).

SOCIAL ASSESSMENT

Some NGOs have expressed concern on CETA's impacts on access to medicines in developing countries. Border measures could restrict, chill, or slow down the export of drugs to those countries when in transit to Canada. According to a stakeholder, "customs authorities in Europe have wrongly detained generic medicines in transit to developing countries [and] their detention did disrupt drug procurement in destination countries where, in at least some cases, the medicines were not even on patent."[85]If Canada replicates EU border measures, a similar scenario could happen when pharmaceutical products are in transit in Canada on their way to a developing country.

ENVIRONMENTAL ASSESSMENT

Several developing countries are providers of genetic resources and have expressed in multiple multilateral forums that a mandatory disclosure of the origin of genetic resources in patent application could strengthen the enforcement of their access and benefit sharing (ABS) laws. Currently, Canada does not formally require such disclosure but a number of European countries have introduced this requirement.[86] Moreover, references to the Convention on Biological Diversity and its principle of ABS and traditional knowledge protection are increasingly being included in recent free trade agreements.[87]

The inclusion of a disclosure requirement in CETA could improve the quality of patent examination, provide an additional incentive for users of genetic resources to comply with ABS requirements and allows stakeholders to better monitor their enforcement. It could also set new standards for current multilateral negotiations at the World Intellectual Property Organization and under the Convention of Biological Diversity.

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[85] Essential Action, *Letter to the Foreign Affairs and International Trade Canada*, July 2 2009, p. 2; Oxfam Canada and Oxfam Québec, *Submission regarding the Anti-Counterfeiting Trade Agreement*, July 15, 2009, p. 2.

[86] Jean-Frédéric Morin, « La divulgation de l'origine des ressources génétiques : Une contribution du droit des brevets au développement durable », *Les Cahiers de la propriété intellectuelle*, vol 17, no 1, 2005, p. 131-147

[87] David Vivas-Engui and Maria Julia Oliva, *Biodiversity and Intellectual Property in North-South Free Trade Agreements*, Geneva, CTSD, 2010.