A Chilling Effect? Are International Investment Agreements hindering government's regulatory autonomy in the areas of health, safety and environment?

ABSTRACT

The plain packaging of tobacco products, the disposal of hazardous waste and the management of toxic chemicals are all areas of health, safety and environmental (HSE) regulations which have faced legal challenges by private corporations under international investment agreements (IIAs) originally established as a means of promoting and protecting inward investment. These legal challenges are made possible by the existence of unique investor state dispute settlement (ISDS) provisions, which it is feared are having a chilling impact on the regulatory autonomy of governments. The underlying assumption is that if the regulatory chill hypothesis was to hold we would expect, among other things, to find a level of awareness and understanding among HSE regulators about the existence and content of these agreements. The results of this research in the Canadian context indicates that regulators are generally not aware of the existence of IIAs or of the potential threat of an ISDS challenge and rarely take them into account when developing regulations.

Introduction

The last three decades have seen an increasing trend towards the integration of markets. The establishment of global production chains, the explosion of trade and investment flows as well as the development of the international institutional framework to support these trends, have resulted in what is commonly referred to as globalization. As globalization has taken hold, concern regarding its impact on the welfare of nations and the policy autonomy of governments has increased. This concern reached public consciousness during the popular uprisings and civil society demonstrations in opposition to the proposed Multilateral Agreement on Investment (MAI) within the auspices of the Organization for Economic Cooperation and Development (OECD) in 1998 and against the World Trade Organization (WTO) at its 1999 ministerial meeting in Seattle, aimed at launching the new Millennium Round of trade negotiations. Currently these issues are being debated in the context of regional trade and investment negotiations and have resulted in the removal of investor-state provisions in the newly agreed but diminished Trans Pacific Partnership (TPP) and been a source of contention in the CETA ratifications as well as in the US-EU Transatlantic Trade and Investment Partnership (TTIP). The questions these demonstrations and debates have raised, and which continue to challenge scholars are whether globalization is having a negative impact on the ability of governments to set domestic policy and whether private actors are playing an ever increasing role in this equation.

The literature on the impact of the integration of markets is nothing new and has its origins in historical work as far back as Adam Smith's *The Wealth of Nations,* in which he considered the

links between the imposition of taxes and capital flight.[1] More contemporary literature has looked at whether globalization or market integration has led to either a *convergence* or *divergence* of government policy making across nations. Those arguing *convergence* have claimed that market integration has eroded national autonomy, reduced social welfare alternatives to the market, created interdependence among governments in policy making or led generally to the strengthening of markets and private actors at the expense of governments.[2] They claim that *convergence* is the result of a regulatory race-to-the-bottom as the exit threats of multinational enterprises (MNEs) lead countries to lower standards as they compete for capital. While anecdotal examples abound, there is limited empirical evidence to support these claims. On the opposite end of the spectrum, those globalization proponents arguing *divergence* reject this view and through their empirical work demonstrate that globalization has not prevented different approaches to national policies, hindered national policy autonomy or resulted in a decline in social welfare policies, at least in the case of developed countries.[3] Even the biggest proponents of globalization however, suggest that the impact on developing nations is likely more problematic.

Within this debate, this paper explores globalization and its impact with respect to international investment. International investment represents one important aspect of the overall trend towards globalization, with a growing body of bilateral and regional rules in the form of international investment agreements (IIAs) [4], providing the institutional framework to support it. There have been many claims that IIAs impose constraints on signatory governments, as they provide for a unique mechanism by which national policy decisions can be challenged by private actors. Over the last two decades government regulatory measures in the areas of health,

safety and the environment (HSE) have been the subject of challenges by private corporations under IIAs signed by countries worldwide, but particularly under NAFTA Chapter 11 on investment.[5]

Just as scholars have linked the exit threats of MNEs to the weakening of regulation[6], there is a belief that IIAs can cause regulatory chill[7], as governments respond to the threat of litigation and curtail or amend their regulatory initiatives in an effort to avoid expensive international arbitration cases brought by disgruntled corporate investors. A recent challenge under NAFTA Chapter 11 by large US chemical company Dow AgroScience to a Canadian provincial pesticide regulation aimed at banning a purported toxic substance 2,4-D, provides an example of the types of challenges governments are facing. Although the Dow AgroScience case resulted in a settlement which upheld the pesticide ban with no compensation for the investor, many would argue that the very fact that such a case is made possible by the international trade and investment system will have an impact on the regulatory development process. Additional high profile challenges to regulatory measures include a case launched against Canada, again under NAFTA, by Lone Pine Resources Inc. seeking $250USD million in compensation following the province of Quebec's moratorium on hydraulic fracking and the recently unsuccessful challenge to the Australian Government's plain packaging regulations by Philip Morris International under the Hong Kong-Australia bilateral investment treaty.

These challenges to government measures in fundamental areas of public policy are perceived as a threat to regulatory autonomy. The potential for regulatory chill resulting from these cases is seen as evidence of weakened national policy autonomy in the context of the debate on

globalization. Moreover, the belief is that these regulatory challenges or threats of challenges, are likely to prove more difficult for developing or emerging market countries which are under more pressure to attract and retain international investment and whose ability to deal with the expense of investor state litigation is limited.[8] The Australian tobacco plain packaging challenge by Philip Morris it is argued had resulted in many countries worldwide, both developed and developing, adopting a wait-and-see approach to their own tobacco control regulations.[9] This research does not find any convincing or consistent empirical support for the argument that IIAs cause regulatory chill.

The modern day investment agreement and concerns over regulatory chill

It is the emergence of the modern day investment agreement and its unique enforcement mechanism which has raised this set of issues for signatory governments. While there are conflicting views regarding the effectiveness of these agreements in achieving their stated goals, there are equally, as outlined earlier, concerns about their impact.

While the first bilateral investment treaty (BIT) was signed in 1959, the number of BITs signed in the 1980s and 1990s greatly increased, exploding by the early 2000s (Vandevelde, 2005). While 309 had been concluded by 1988, the total number of BITs rose to 3,304 by the end of 2015 (UNCTAD, 2016). In addition, countries began to pursue bilateral and regional preferential trade agreements which incorporated BIT style investment components, including most notably the NAFTA (Vandevelde, 2005). Vendevelde points out that in the ten years following NAFTA, 39% of all preferential trade agreements would contain investment

provisions.[10] 358 International agreements with investment provisions were concluded by the end of 2015 with the balance shifting from bilateral to regional treaty making with respect to investment. (UNCTAD, 2016)

IIAs were traditionally signed between developed country governments eager to protect the interests of their companies investing abroad and developing country governments seeking to attract investment. Historically, IIAs have been broadly aimed at investment protection, promotion and liberalization[11] achieved by ensuring non-discriminatory treatment for foreign investors, ensuring appropriate levels of protection and operating flexibility as well as a means of enforcing such commitments. These objectives are achieved through a series of provisions which are standard in most agreements. Generally speaking an investment agreement will include provisions dealing with the *treatment* of investors which is non-discriminatory and provides a minimum standard, the *protection* of the investor aimed at ensuring due process and compensation for legitimate expropriation and *operational flexibility* through provisions on the free transfer of funds. Finally, most IIAs will provide *protection* through recourse to the international arbitration provisions of investor-state dispute settlement (ISDS).

The 1994 negotiation of the North American Free Trade Agreement's (NAFTA) Chapter 11 on investment represented the first time that such a sophisticated investment protection agreement had been negotiated between developed countries. NAFTA's Chapter 11 also served to highlight the concerns of civil society and non-governmental organizations (NGOs) regarding the rights granted under the agreement, which were seen as giving foreign investors rights that unduly constrained national policy autonomy, especially in the areas of health, safety and

environmental regulation. More specifically, the private access to international arbitration provided for in Chapter 11 resulted in unprecedented challenges to Mexican, Canadian and US regulatory measures in these sensitive areas by private investors, addressing what they perceived as regulatory takings.[12]

While legal scholars, civil society groups and the public press continue to raise concerns about the potential chilling impact of IIAs and ISDS provisions, particularly under NAFTA Chapter 11, the majority of scholars have looked at the merits of IIA investment disputes and found limited evidence of potential for regulatory chill beyond a handful of anecdotal examples in both developed and developing countries. As Neumayer argues there has been little concrete evidence to support the claim for regulatory chill either with respect to internationally mobile capital or ISDS challenges under IIAs, however he allows that when anecdotal evidence is considered, the potential for chill exists and moreover the threat of an ISDS challenge, as Tienhaara has arguably demonstrated[13] (Tienhaara, 2009), might have a greater impact than the actual cases reviewed. Furthermore, Neumayer argues that any actual impact from cases to date might take time to manifest, suggesting that trends in HSE regulations are likely to reflect any possible chilling impact only months or even years after they reach public consciousness (Neumayer, 2001:78-90).

Beyond a case by case consideration of this question, a more comprehensive approach for consideration of this issue, based around the awareness and understanding of regulators seems necessary and represents a gap in research to date. Coe and Rubins address this issue while questioning the rationale of what they term the regulatory chill thesis.

> *'The regulatory chill thesis is, of course, difficult to prove or disprove. First, it assumes that regulators are aware of international law, but are they? On the one hand, it is likely that legislators often attempt to acquaint themselves with the international ramifications of contemplated measures likely to affect foreign enterprises. Indeed, with the unprecedented public awareness of investor–state arbitration and the recent burgeoning of the associated docket, regulators may be more conscious of the prospect of liability than ever before. Nevertheless, there is still no shortage of State action clearly uninformed by the dictates of international law'* (Coe & Rubins 2005:597-667).

This paper sought to probe and address concerns regarding the potential chilling impact of IIAs. It aimed to do so by addressing the gaps in empirical work done to date. To date the empirical work has focussed on ISDS challenges and the outcomes of individual cases as well as looking at anecdotal evidence of potential chill on the back of 'threats' of investment arbitration.[14] This paper focused on the issue of regulatory chill by looking at the role of ISDS disputes on the regulatory development process as well as the general awareness held by regulators of IIAs and ISDS. The assumption of this paper was that if the regulatory chill hypothesis was to hold or to be considered a viable possible outcome of IIA legal challenges, we would expect to find a number of observable outcomes in regulator behaviour and awareness. First, and most importantly, we would expect to find a level of awareness and understanding among HSE regulators about the existence and content of IIAs. Second, any causal link between IIAs and regulatory chill would also need to demonstrate that beyond awareness, that IIAs have an influential role on regulators in the HSE regulatory development process.

The rationale for these expectations rests in the fact that regulatory chill presupposes behaviour on the part of regulators, namely that they will curtail regulations or be more reticent to pursue more stringent regulations due to the threat of litigation. It is only by analysing the extent to which this has happened consistently and the degree to which regulator actions are deliberate and reflect full knowledge of IIAs and their impact, that we can build a comprehensive picture of any possible regulatory chill phenomenon.

Methodology and findings

In order to test the expectations of the hypothesis on regulatory chill, this paper used quantitative and qualitative tools through an in-depth case study of Canada's HSE regulation during a period of active ISDS challenges under NAFTA Chapter 11 on investment. The rationale for selecting the Canadian regulatory environment was twofold. First Canada is a developed country with a comprehensive approach to both international trade policy and HSE regulation. In the area of trade and investment, Canada is a member of the WTO and the NAFTA and is signatory to numerous high level bilateral trade and investment treaties. At the same time Canada is at the forefront of HSE regulation both in terms of its domestic agenda as well as international leadership.

Second and most importantly, Canada has had unique experience at the interface between the international trade and investment and the HSE regulatory world through the many NAFTA Chapter 11 challenges it has faced to regulation since the agreement entered into force in 1995. Canada has faced 28 of the 66 cases brought under NAFTA Chapter 11 over the course of the last 20 years, with the largest number of HSE challenges of any other country[15]. The nature of

these challenges and the timeframe during which they have taken place provides a compelling environment for testing the hypothesis for regulatory chill. If there is any environment in which one would expect regulators to be aware of IIAs and the ISDS disputes they entail, it is within the Canadian context. Table 1 outlines those HSE NAFTA Chapter 11 investment disputes both completed and on-going.

Table 1 – Completed HSE ISDS challenges under NAFTA Chapter 11

Table 1 about here

The key question is whether the trade and investment challenges outlined above are impacting the development of HSE regulations in Canada regardless of whether they have been resolved or remain ongoing. Has the commencement of a NAFTA dispute in the areas of HSE or the eventual outcome of the dispute had an impact on either the trends in regulation in this area or on the regulators themselves?

This case study analysis involved in-depth interviews and a survey of senior federal Canadian regulators. During June, September and October 2012, a series of in-depth semi-structured interviews were held with 50 officials at the Section Head, Director and Director General levels, across the key Canadian federal government HSE departments and agencies.[16] Between January and March 2013 a survey of senior regulators was conducted across the same

departments in an effort to widen the number of responses and allow for some statistical analysis.

The main objectives of the interviews and survey was to understand how HSE regulations had changed over the last two decades and whether regulators believed they have become more or less comprehensive and stringent; to understand the key factors which influence or drive regulatory decision making; to ascertain the extent to which Canada's trade commitments play a role in influencing regulatory decision making; to determine which trade commitments have the most impact or create the most concern (WTO, IIAs, FTAs); to understand the extent of regulator awareness of IIAs, particularly NAFTA Chapter 11 and its possible implications for regulation, and whether this awareness is borne from experience with a NAFTA Chapter 11 ISDS dispute.

In total 395 regulators were contacted for the survey. 140 or 35% of regulators responded and 114 or 29% of regulators provided complete responses.[17] As it is possible in this case to define the entire population of interest, this survey was directed at all members of this population and not done on the basis of sampling, although a number of assumptions were made in defining the population. A HSE regulatory body was defined as a body whose regulatory responsibilities govern the development, licensing, monitoring and evaluation stages of a regulation in the sphere of HSE. HSE regulators and policy makers were defined as those government officials with a clear policy or regulatory responsibility as well as those with decision making power. The electronic survey was undertaken using the *Qualtics* survey software, then analysed using

a statistical software package. Qualitative coding and analysis was conducted on all interview transcripts.

The key findings of this research were first that general consideration of trade and investment was not a top priority in the regulatory development process which was predominantly focussed on such things as complying with international standards and commitments, harmonizing regulations with the US and internationally, responding to health, safety and environmental needs and responding more recently to domestic streamlining and modernization initiatives.

Second, where regulators did take issues of trade and investment into consideration was in the context of regulatory harmonization with trade partners, ensuring international transparency and disclosure through Sanitary and Phytosanitary (SPS) and Technical Barriers to Trade (TBT) commitments and avoiding barriers to trade to maintain Canada's overall competitiveness. The whole issue of regulating to avoid international trade disputes did come up however it was not a leading consideration.

Third, when regulators spoke about international trade and investment, there was no differentiation between the different types of trade fora or agreements or their implications. NAFTA was seen as the most relevant agreement by regulators followed by the WTO. Most interestingly, all levels of regulator indicated that FIPAs (or Canadian BITs) were not relevant. Most references to trade commitments on the part of regulators referred to SPS or TBT commitments under the WTO or NAFTA and these were felt to have the greatest impact.

NAFTA Chapter 11 on investment did not rank as an influencing factor. In fact there was very little to no knowledge of NAFTA Chapter 11 across all the regulatory departments.

Fourth, where there had been a NAFTA dispute that had impacted one of their department's regulatory measures, the level of knowledge was still quite vague and the understanding of the implications or costs associated with such a challenge was not high. A regulator's experience with ISDS challenges may have made them more aware and more likely to flag future regulatory changes for legal advice, but this did not impact their decision making. These disputes were seen as one off incidents which did not have a bearing on future regulation.

Finally, a majority of HSE regulators claimed that there has been a steady and increasing level of stringency and comprehensiveness in regulations in Canada in the area of HSE over the last decade and not a declining trend which one might expect as one signal that IIAs were having a chilling impact. This trend was supported by a statistical analysis of HSE regulations during this period.

Analysis and Implications

Are Regulators aware of IIAs and do they factor them into the regulatory development process?

This case study revealed that HSE regulators did not have a high level of awareness of IIAs in general and they generally did not take them into consideration when developing regulation

even when they had previously faced or were aware of an ISDS challenge to a regulatory measure.

Key considerations in the regulatory development process

Of primary interest in this analysis was understanding the specific role that international trade and investment commitments play in the regulatory development process and gauging the level of awareness of regulators with respect to these commitments and particularly NAFTA Chapter 11.

Regulators were asked to outline and discuss how specifically they considered international trade in the regulatory development process. This was obviously key to the research question regarding the impact of trade and investment agreements on HSE regulation. By probing the ways in which regulators consider Canada's international trade and investment commitments in the regulatory development process, the goal was to understand the level of impact in general and how litigation under bilateral investment agreements or NAFTA was specifically of relevance. The goal was also to determine the level of awareness that existed among regulators about the potential impact of these international investment agreements such as NAFTA Chapter 11 and whether they made a distinction when discussing 'trade' between the goal of ensuring trade facilitation and ensuring market access, versus the avoidance of disputes or even between the different types of trade and investment commitments to which Canada is signatory.

While Canada's trade and investment commitments ranked low vis-à-vis all other factors influencing the regulatory development process, Table 2 shows that when regulators were asked

the extent to which they consider Canada's trade and investment commitments as relevant to the regulatory process in more absolute terms, 31% said '*very much*', 48% said '*some*' while 20% said either '*not very much'* or '*not at all*'. This varied marginally by level of seniority with the most senior regulators at the Director General level evenly split between these three responses and the remaining regulators from Director, Section Head, Manager or the more technical non managerial grades, all most likely to give '*some*' consideration to trade and investment commitments.[18] This is perhaps not surprising as one might expect these types of issues to be more top of mind the more senior the regulator.

Table 2 – Regulators' views on the relevance of trade and investment commitments

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Table 2 about here

Table 3 – Factors influencing the regulatory development process

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Table 3 about here

Rather as table 3 shows, the main influencing factors for regulators included *responding to health, safety and environmental needs* whereby regulatory development was driven by existing gaps in protection, assessed levels of risk or responding to an existing need. This driver was seen as the primary one by many of the regulators interviewed. As one regulator claimed

'*First and foremost is the determination of the health issue*'[19]

Many regulators also identified the need to *respond to advances in science, technology and innovation* when developing regulations or amending existing regulations, *responding to stakeholder expectations, responding to domestic streamlining and modernization initiatives* which have been the cornerstone of the Federal Government's agenda[20] and *complying and harmonizing with international standards and commitments*. As one regulator put it

'*The bedrock is US regulation*'.[21]

Finally, *facilitating international trade* was identified as an influencing factor in the regulatory development process. The focus here was very much on maintaining competitiveness and continuing to ensure market access through regulations which did not impose undue burdens on industry or to the free flow of goods and services with Canada's trading partners.

Specific ways in which regulators consider trade and investment

Regulators where asked in the electronic survey to identify under what situations Canada's trade and investments commitments were of most concern and were asked to identify all those which they felt were relevant.

Table 4 – Regulators' views on the role played by trade and investment commitments

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Table 4 about here

Table 4 shows that between 40%-50% felt that trade and investment commitments were of concern a) as part of the Regulatory Impact Analysis Statement (RIAs) which necessitates consideration of trade and investment implications of any new regulation, b) In balancing the economic cost-benefits of a regulatory decision, in order to avoid a barrier to trade or to the free commercial flow of goods and investment, and c) in identifying regulatory alternatives for addressing a public need. Only 36% felt that these agreements were of concern when a trade agreement is being negotiated or to ensure that any new regulation would not lead to a trade dispute or litigation from international investors, while 20% thought they were rarely of concern.

Avoiding international trade and investment disputes

The extent to which regulators seek to avoid international trade or investment disputes when developing regulations was of great interest to this research. This was not a widespread theme amongst the senior regulators that were interviewed. As noted previously however, 36% of survey respondents selected it as a factor that they consider, and there was some awareness regarding the possibility that new regulations or changes to regulations could result in a trade dispute. An analysis was undertaken to understand how this differed by Department and level of seniority.

Looking at the survey data collected on this issue, when a cross tabulation was performed, the importance placed on this did differ by department with the most concern to avoid disputes being shown among regulators at the Canadian Food Inspection Agency (57%), Transport Canada (75%) and Natural Resources Canada (75%). The number of respondents from these departments was small however and when we look at the larger responses from Environment Canada and Health Canada the number of regulators who see this as a concern is much lower at 45.5% and 30% respectively. None of the regulators from the Canadian Nuclear Safety Commission saw this as a concern. [22]

Direct logistic regression was performed to assess the impact of seniority levels of regulators on the likelihood that they would consider '*the avoidance of trade and investment disputes*' in the regulatory development process. The model contained five levels of seniority as independent variables (Director General, Director, Head of Section, Manager, Other). [23] The strongest predictor of a regulator's likelihood to consider trade and investment dispute avoidance as a factor was the level of Director General, recording an odds ratio of 3.056. This indicated that regulators at the Director General level were 3 times more likely to identify this as a factor of concern, controlling for all other factors in the model. Directors were 1.5 times more likely and Head of Sections were 1.6 times more likely to see this as an influencing factor. Managers were .98 times less likely to see this as an important factor showing a negative B value[24] of -.018. (Table 5) This suggests that the more senior a regulator the greater their awareness and the likelihood they would see this as an issue of concern.

Table 5 – Logistic regression predicting impact of seniority on the likelihood of a regulator considering trade and investment dispute avoidance as a factor

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Table 5 about here

Among the few that mentioned this as an issue in the face-to-face interviews, they saw it as a peripheral influence and something about which they would seek legal advice, but not a factor that would shape the HSE regulation. Generally the type of 'trade dispute' was quite vague and did not denote any particular knowledge of trade versus investment disputes, state-to-state versus investor-to-state dispute settlement mechanisms, nor differentiate between the possible regional, bilateral or multilateral fora. A few regulators suggested the need to manage the expectation or perception of foreign investors in order to avoid such a challenge. These regulators were among the few that had had specific experiences with NAFTA Chapter 11. Even in these cases it was made clear that the social mandate was the primary driver in regulatory development and that the desire to avoid a trade dispute simply led to a heightened awareness of the issue and did not alter the outcome. One senior environmental regulator with experience of NAFTA Chapter 11 suggested

> '*I don't want to step into a major trade issue. At the same time, it is not our primary mandate which is the protection of health and the environment*'

A sub theme was the role played by political interests in the process of regulatory development or in the implementation of regulations such as environmental assessments. As one senior environmental regulator put it

'*trade difficulty arises when there is political interest in a project'*.[25]

In efforts to probe awareness of Canada's international trade commitments and specifically the extent to which they impact regulatory decision making, it became clear that trade and investment are not drivers at all for many health, safety and environmental regulators (20% of those surveyed stated that they are not of concern). There was a lack of understanding of Canada's trade and investment obligations and no real awareness or widespread concern about the possible impact of investment disputes. Regulators were putting health and safety first, saw science as a key driver and as such were concerned with ensuring a risk based, objective, solid science basis to justify adding a regulation in the area of health, safety and the environment. They were consistently clear on this issue.

'Trade commitments are 'not front of mind'

'Trade is 'not a priority'

'Trade doesn't change what we measure. The results are the results'

'NAFTA Chapter 11 is not on our radar'[26]

The most relevant trade and investment commitments to regulatory development

As outlined above, international trade and investment is from time to time a consideration in the regulatory development process in a number of ways, including some desire to avoid international trade disputes. It was important however to determine to what extent regulators differentiated between international trade and investment agreements such as NAFTA and other international trade commitments at the bilateral and multilateral level. Additionally it was important that they differentiate between the types of trade commitments that were most relevant, such as investment (which could expose their government to ISDS challenges to HSE regulation) versus commitments on SPS or TBT.

Regulators were asked in the electronic survey which agreements they considered most relevant to the regulatory development process. The largest percentage indicated the relevance of NAFTA at 74% followed by the WTO at 49% and other bilateral agreements at 32%. Only 7% of respondents indicated investment agreements or Foreign Investment Protection Agreements (FIPAs)[27] as being of relevance as outlined in Table 6 below. When level of seniority was factored into the analysis, there was consistent and unanimous support among regulators regarding the relevance of NAFTA to regulatory decision making. At every level of management, over 70% of regulators overwhelmingly indicated this was the case. Director Generals were more inclined than other regulators to identify the WTO as relevant. Most interestingly, all levels of regulator indicated that FIPAs were not relevant, with 84% of Director Generals, 95.5% Directors, 92% Sector Heads, 94% Managers and 100% of technical regulators indicating they did not find them relevant.[28] This is not surprising as the profile of the FIPA in Canada has been quite low (until the recent completion of negotiations towards the

Canada-China FIPA which substantially raised the profile), and no ISDS challenges have been launched against the government's regulatory measures under FIPAs to date.

Table 6 – Regulators' views on type of trade and investment agreement most relevant

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Table 6 about here

Additionally, direct logistic regression was performed to assess whether regulators were more likely to consider '*the avoidance of trade and investment disputes*' in the regulatory development process with respect to different trade treaties. The model contained four trade treaties as independent variables (WTO, NAFTA, FTA, FIPA).[29] Two of the independent variables showed a unique statistically significant contribution to the model (WTO, FTAs). The strongest predictor of a regulator's likelihood to consider trade and investment dispute avoidance as a factor was with respect to the WTO, recording an odds ratio[30] of 5,526. This indicated that regulators were 5 times more likely to consider '*the avoidance of trade and investment disputes*' with respect to the WTO, controlling for all other factors in the model. They were 4 times as likely under FTAs (OR=4.226) and 2.5 times as likely under NAFTA (OR=2.528). Finally they were 0.819 times less likely to consider this issue under FIPAs where the B value was -.204 and the odds ratio was .816. This result suggests that when developing regulations, regulators are most concerned about disputes that might arise under the WTO followed by FTAs and NAFTA. They are not concerned about disputes arising under FIPAs.

Table 7 – Logistic regression predicting impact of different trade treaties on the likelihood a regulator would consider the avoidance of trade and investment disputes in the regulatory development process

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Table 7 about here

Again this finding is interesting for several reasons. First, the likelihood of a trade and investment dispute arising under Canada's WTO commitments is quite low and yet it plays a bigger role in the minds of regulators. Furthermore such a dispute would involve a state to state action rather than an investor state challenge. Similarly, the likelihood of regulators taking the '*the avoidance of trade and investment disputes* into account with respect to FTAs as separate from NAFTA is also surprising given the absence of any history of disputes under Canada's FTAs (apart from NAFTA). This lends some credibility to the assumption that regulators do not fully understand the concept of a 'dispute' in this regard and are most likely considering their involvement within these fora on committees dealing with TBT and SPS issues. This is probed below.

In order to understand whether regulator's consideration of disputes under these agreements were with respect to investment commitments or other areas they were questioned about the types of commitments (namely investment, SPS, TBT) they felt had an impact on the regulatory development process under both NAFTA and the WTO with a view to understanding the relative importance of investment agreements.

It was the agreements on SPS and TBT measures that regulators felt had the greatest impact under both NAFTA and the WTO. The majority of regulators felt that NAFTA Chapter 11 on investment and the investment provisions of the WTO (TRIMS) had no, or very limited impact on the regulatory development process. A cross tabulation was undertaken to determine whether level of seniority had an influence on regulator views about the impact of NAFTA Chapter 11. All levels of regulator felt strongest that NAFTA Chapter 11 did not have a big impact with Head of Section regulators showing the largest inclination at 100%. [31] This is a particularly important finding. While it is not surprising that these regulators will feel the influence of the government's commitments on SPS and TBT as these agreements go to the heart of their work and requirements for notification. At the same time the fact that they feel very little impact in their regulatory decision making from NAFTA Chapter 11 on investment is directly relevant to our understanding of any possible chilling effect from IIAs.

The in-depth interviews reinforced this message. There was little differentiation among regulators between types of trade and investment commitments. More emphasis was placed on WTO and across all agreements on SPS and TBT measures. These were seen as most relevant given their notification requirements. Additionally, many regulators are involved in the SPS and TBT committees set up under NAFTA and the WTO. There was very little awareness of the existence of investment agreements, either NAFTA Chapter 11, bilateral investment treaties (or FIPAs as they are known in Canada) or within the WTO (TRIMS). Similarly there was little awareness of the existence of investor state dispute settlement (ISDS) provisions or the

types of disputes which might arise under such provisions. Where there was experience within a department of a NAFTA Chapter 11 challenge there was slightly more awareness.

Direct logistic regression was performed to assess whether the views of regulators about the impact of NAFTA Chapter 11 on decision making was correlated with the likelihood that these same regulators would consider *'the avoidance of trade and investment disputes'* in the regulatory development process. The model contained three impacts of NAFTA Chapter 11 on decision making as independent variables (NAFTA Chapter 11 had a '*big impact'*, '*small impact'* or '*no impact*'). Only one of the independent variables made a unique statistically significant contribution to the model (NAFTA Chapter 11 has *no* impact on decision making). [32] Not surprisingly regulators were less likely (OR = 0.148) to consider *'the avoidance of trade and investment disputes'* in the regulatory development process where they believed NAFTA Chapter 11 had *no impact,* controlling for all other factors in the model. Regulators were 1.2 times more likely to consider this issue when they felt NAFTA Chapter 11 had a *small impact.* This is outlined in Table 8 below.

Table 8 – Logistic regression predicting the impact of regulators' views about the impact of NAFTA Chapter 11 on decision making with the likelihood that these same regulators would consider *'the avoidance of trade and investment disputes'* in the regulatory development process

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Table 8 about here

Experience with trade disputes and concern over investment commitments

Another key component of assessing awareness of Canada's investment commitments and their impact was to gauge the extent to which regulators had knowledge of the investor state dispute provisions of NAFTA Chapter 11 and the possible policy and cost implications of a challenge.

Regulators were asked whether they were aware of any NAFTA Chapter 11 disputes or threats of a dispute launched against their area of regulatory policy. Very few regulators were aware of any such threats with only 12% claiming awareness. This was very much in line with the in-depth discussions held with senior regulators where there was very little awareness or concern about NAFTA Chapter 11 disputes.

Considering responses by government department, there was zero awareness of NAFTA Chapter 11 disputes amongst regulators from the Canadian Nuclear Safety Commission (CNSC), the Canadian Food Inspection Agency (CFIA), the Department of Fisheries and Oceans (DFO), Transport Canada (TC) and the National Energy Board (NEB) that responded to the survey. Additionally, of more significance 96% of Health Canada (HC) and 97% of Environment Canada (EC) regulators were not aware of NAFTA Chapter 11 challenges despite the fact that a number of past and current challenges would have impacted these departments.[33] Finally, less surprising was the fact that 40% of the Pest Management Review Agency (PMRA) and 77% of the Canadian Environmental Assessment Agency (CEAA) regulators had awareness of NAFTA Chapter 11 disputes reflecting a number of high profile past and present cases[34] in their organizations.[35] Understanding whether this awareness led regulators to take

these disputes into consideration when developing regulations, was the next stage in the process of trying to determine whether the regulatory chill hypothesis was potentially viable.

Among those regulators that were aware of NAFTA Chapter 11 disputes, 42% claimed that despite this awareness it did not influence the regulatory development process at all, while 17% claimed it influenced the process 'very much' and 25% 'some'. In an effort to look at this issue in more depth and to understand the extent to which awareness of disputes had an impact on regulatory decision making, a number of additional cross tabulations were undertaken with the survey data.

First we looked at whether a regulator's level of awareness of a NAFTA Chapter 11 dispute or threat affected the extent to which it influenced their regulatory development process. Do they consider this influence more than regulators with no awareness? The results of the cross tabulation suggest that those regulators who were aware of disputes in their areas felt it impacted their decision making only somewhat 28.6% or not very much 28%. Only 21.4% said it impacted their decision on regulatory development process very much.[36] Similarly, the analysis looked at the extent to which a regulator's awareness of NAFTA Chapter 11 disputes or threats, was correlated with their identification of '*the avoidance of trade and investment disputes'* as influencing their regulatory decision making. The results of this analysis suggest that close to two thirds of regulators who were aware of disputes in their area did not also consider '*the avoidance of trade and investment disputes'* as influencing their regulatory decision making.[37] This finding is interesting as it suggests that even when a regulator has awareness of disputes, it is not a key factor in their regulatory development decision making.

Perceptions regarding trends in regulation over the last decade

We have established that in the Canadian context, regulator awareness of IIAs was low and regulators did not in general take IIAs or a threat of an ISDS dispute into consideration when developing HSE regulations. The interviews and survey of regulators also sought to probe regulator perceptions about trends in regulation in Canada during the period of NAFTA Chapter 11 disputes, in order to understand whether there was a perceived decrease or increase in regulatory stringency and comprehensiveness. Tables 9 and 10 outline these results.

As Table 9 indicates, 67%, the majority of the 135 survey respondents believe that regulations have become more *comprehensive* in terms of the number of areas being regulated over the last decade while 16% felt they had remained constant.

Table 9 – Regulators' views on trends in the comprehensiveness of HSE Regulations over last decade

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Table 9 about here

Table 10 – Regulators' views on trends in the stringency of HSE Regulations over last decade

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Table 10 about here

Similarly 59% of respondents felt that regulations had become more *stringent* in terms of greater depth of science to demonstrate acceptability of risk, with 20% suggesting they had remained constant. In both cases less than a fifth felt regulations had become either less comprehensive or less stringent. Roughly one fifth of regulators also argued that governments were regulating differently.

Consistent with these results, in the interviews regulators argued that regulations in HSE have generally been increasing in stringency and comprehensiveness driven by new areas now being regulated, deeper science requirements, a strong international influence, increasing public scrutiny and demands, and the push for harmonization of regulations with the US. Interestingly, the push for harmonization of regulations with the US and internationally has involved an upward convergence in regulatory levels. Alongside this trend, a desire for regulatory efficiency and modernization has also resulted in a different way of regulating.

An analysis of Canadian HSE regulations was undertaken using the Canada Gazette publication of proposed and adopted regulations between 1889-2013 in order to determine whether there had been a trend of regulatory decrease, increase or neutral change. As outlined in Table 11, this analysis showed that across the 1579 newly adopted regulations, while there was a downward trend in the growth rate of new HSE regulations during this period, there had been an increasing trend in their stringency and comprehensiveness.[38]

Figure 1 – Composition of adopted HSE regulations – Canada Gazette 2

Figure 1 about here

Conclusion

This research was aimed at providing a more comprehensive and systematic approach to the consideration of regulatory chill, beyond the case-by-case approach which has characterized analysis of this issue to date. Both the findings of this research and the methodology used are aimed at addressing the gap in research by considering the views and understanding of regulators themselves. Overall this research found no consistent observable evidence of regulator awareness and understanding of IIAs and their potential impact. While this does not categorically rule out the possibility of regulatory chill as has been demonstrated by numerous anecdotal examples, it suggests that there is no evidence of a consistent trend in this regard, despite decades of repeated ISDS challenges to HSE regulations through NAFTA Chapter 11.

This work has shown that in the ideal test case of Canada under NAFTA Chapter 11, there does not appear to be a specific impact of IIA ISDS on HSE regulatory decision making and to the extent that this is generalizable, that the impact of private actors in the policy making process is perhaps less pronounced than many fear. This is an evolving area and as litigation continues and opposition to the ISDS provisions of IIAs becomes more vocal, the awareness and impact on regulators may change.

At the same time, this research revealed that there is a broader relationship between international trade and investment and the constraints or pressure a government might feel in its ability to regulate in the public interest. Regulators are interested in the views of their peers as expressed within multilateral and regional fora like the WTO and NAFTA, in committees on SPS and TBT and this explains the relevance they placed on this fora. Future research will need to take this broader perspective into account in its efforts to assess regulatory chill as a more general phenomenon.

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Tables

Table 1 – Completed HSE ISDS challenges under NAFTA Chapter 11

Completed NAFTA Chapter 11 disputes against Government of Canada						
Dispute	**Department/ type of dispute**	**Measure**	**Notice of Intent**	**Award**	**Nature of Award**	**Outcome CAN$**
Ethyl Corp. v. Government of Canada	Health Canada **HEALTH**	Regulation of gasoline additives: Ban on import and inter-provincial trade of unleaded gasoline additive methylcyclopentadienyl manganee tricarbonyl (MMT). MMT is a suspected neurotoxin	Sept 1997	June 1998	found for Investor	$20 million Government repealed the ban
S. D. Myers v. Government of Canada	Environment Canada **ENVIRONMENT**	PCB waste export and import regulations: Temporary ban on export of toxic PCB waste	July 1998	Dec 2002	found for Investor	$6.05 million
Chemtura Corp. v. Government of Canada	PMRA-Health Canada Province of Ontario **HEALTH**	Regulation of pesticides: Ban on sale and use of crop pesticide and fungicide Lindane	Nov 2001	Aug 2010	found for Government	Investor paid arbitration cost ($688k) and 50% of Government costs ($5.7million)
V.G. Gallo v. Government of Canada	Environment Canada **ENVIRONMENT**	Waste disposal regulations: Provincial government blocks proposed landfill on site of decommissioned open-pit mine	Oct 2006	Sept 2011	found for Government	$450,000 cost
Dow AgroScience LLC v. Government of Canada	PMRA-Health Canada Province of Quebec **HEALTH**	Regulation of pesticides: Quebec provincial ban on sale and certain uses of lawn pesticides containing 2.4-D	Aug 2008	May 2011	Settled - Government	No compensation, withdrawal of Notice of Arbitration, measure upheld
Abitibi Bowater Inc. v. Government of Canada	Natural Resources Canada Province of Newfoundland **ENVIRONMENT**	Natural resource regulation: Quebec Provincial measures to return water use and timber rights to crown and expropriate lands associated with hydro rights	Apr 2009	Dec 2010	Settled - Investor	Settlement of $130 million
St Mary's VCNA v. Government of Canada	Environment Canada Province of Ontario **ENIRONMENT**	Provincial land use regulation: measure taken by Ontario Government affecting proposal to convert agricultural lands into aggregate quarry. ($275 million in compensation sought)	May 2011	Mar 2013	Settled-Government	No compensation, withdrawal of Notice of Arbitration
Mobil Investments Canada Inc. v. Government of Canada	Natural Resources Canada/ Environment Canada Province of Newfoundland **ENVIRONMENT**	Oil and Gas Performance Requirements: Canada-Newfoundland offshore Petroleum Board placed requirements on Exon Mobil to Pay millions in R&D with respect to Hibernia & Terra Nova Oil fields ($40 million in damages sought)	Aug 2007	Feb 2015	Found for the investor	Award of $13.9 million + interest to Mobil Oil and $3.4 million + interest to Murphy Oil
On-going NAFTA Chapter 11 disputes against Government of Canada						

Dispute	Department	Measure	Notice of Intent	Status
Clayton/ Bilcon v. Government of Canada	CEAA DFO **ENVIRONMENT**	Environmental Assessment Regulations: Provincial and federal environmental reviews resulting in Basalt quarry and marine terminal rejected due to adverse environmental impacts. ($188USD Million in compensation sought)	Feb 2008	On-going
Mesa Power Group LLC v. Government of Canada	Environment Canada Province of Ontario **ENVIRONMENT**	Contract award criteria and approval process of the Food-in Tariff Program (FIT) under the Ontario Green Energy Act for wind farms to provide renewable electric power. ($775 million in compensation sought)	July 2011	On-going
Lone Pine Resources Inc. v. Government of Canada	Environment Canada Province of Quebec **ENVIRONMENT**	Environmental management regulations: Provincial measure revoking oil and gas exploration permits following partial moratorium on hydraulic fracking in Quebec. ($250 million in compensation sought)	Nov 2012	On-going
Windstream Energy LLC v. Government of Canada	Environment Canada Province of Ontario **ENVIRONMENT**	Environmental management regulations: Off shore wind farm project put on hold following a Provincial moratorium on off shore wind farms. ($475 million in compensation sought)	Oct 2012	On-going
Eli Lilly & Company v. Government of Canada	Health Canada **HEALTH**	Food & drug and intellectual property regulations: Invalidation of the Strattera and Zprexa pharma patents because drugs no longer met clinical trial thresholds. ($500 million in compensation sought)	Nov 2012 (original) June 2013 (new)	On-going
CEN Biotech Inc v. Government of Canada	Health Canada **HEALTH**	Health regulation: The CEO of CEN Biotech was denied a licence under The Marijuana for Medicinal Purposes Regulations for security reasons ($4.8 billion USD in damages sought)	Sept 2015	On-going

Source: Foreign Affairs, Trade and Development Canada, Government of Canada database of NAFTA Chapter 11 disputes against Canada: http://www.international.gc.ca/trade-agreements-accords-commerciaux/topics-domaines/disp-diff/gov.aspx?lang=eng[a]

Table 2 – Regulators' views on the relevance of trade and investment commitments

7. To what extent do you consider Canada's trade and investment commitments as relevant to the regulatory process?

#	Answer		Response	%
1	Very much		39	31%
2	Some		61	48%
3	not very much		22	17%
4	not at all		4	3%
	Total		126	100%

Source: Qualtrics Survey of Canadian Federal Regulators – Report May 22 2013

Table 3 – Factors influencing the regulatory development process

6. When developing new regulations, changes to existing regulations, providing regulatory authorization or making decisions on evaluation and monitoring, there are a number of key drivers in your decision making process. Please rank the influences below, where 1 indicates the most influential and 8 the least.

#	Answer	1	2	3	4	5	6	7	8	Total Responses
1	The public environmental, health or safety need	85	21	11	1	3	4	0	0	126
2	Science or technological advances in the field	10	36	15	17	20	6	19	2	126
3	Canada's international trade and investment commitments	6	11	12	24	15	20	31	6	126
4	The views of key industry stakeholders or proponents	3	25	22	25	25	16	7	2	126
5	The views of other stakeholders such as Non-Governmental Organizations (NGOs) or the public	1	9	22	12	27	28	20	6	126
6	Global trends such as the work of international bodies	4	13	30	16	13	22	21	6	126
7	Domestic initiatives such as efforts at regulatory streamlining or red tape reduction	19	18	17	27	12	17	13	2	126
8	Other	10	5	4	2	3	5	2	93	126
	Total	138	138	133	124	118	118	113	117	-

Source: Qualtrics Survey of Canadian Federal Regulators – Report May 22 2013

Table 4 – Regulators' views on the role played by trade and investment commitments

8. When are Canada's trade and investment commitments of most concern to you? Which of the following describe how trade plays a role in your decision making? You can identify as many as are

#	Answer	Response	%
1	When a trade agreement is being negotiated by Canada (to ensure any new commitments are compatible with existing regulations)	45	36%
2	In balancing the economic cost-benefits of a regulatory decision, in order to avoid a barrier to trade or to the free commercial flow of goods and investment	61	49%
3	To ensure that any new regulation would not lead to a trade dispute or litigation from international investors	45	36%
4	As part of the Regulatory Impact Analysis Statement (RIAS) which necessitates consideration of trade and investment implications of any new regulation	62	50%
5	In identifying regulatory alternatives for addressing a public need	50	40%
6	They are rarely of concern	25	20%
7	Other	10	8%

Source: Qualtrics Survey of Canadian Federal Regulators – Report May 22 2013

Table 5 – Logistic regression predicting impact of seniority on the likelihood of a regulator considering trade and investment dispute avoidance as a factor

	B	S.E.	Wald	df	Sig.	Exp (B)	95% C.I. for EXP (B)	
							Lower	Upper
Director General	1.117	.743	2.260	1	.133	3.056	.712	13.107
Director	.417	.662	.397	1	.529	1.517	.415	5.550
Head of Section	.481	.707	.463	1	.496	1.618	.405	6.466
Manager	-.018	.783	.001	1	.982	.982	.212	4.553
Constant	-1.012	.583	3.002	1	.083	.364		

Table 6 – Regulators' views on type of trade and investment agreement most relevant

9. Where trade is a factor, which types of trade commitments are relevant for you to consider when making a regulatory decision? You can identify as many as are relevant.

#	Answer	%
1	World Trade Organization (WTO) commitments	49%
2	North American Free Trade Agreement (NAFTA) commitments	74%
3	Bilateral Free Trade Agreement (FTA) commitments	32%
4	Foreign Investment Protection Agreement (FIPA) commitments	7%
5	Other	21%

Source: Qualtrics Survey of Canadian Federal Regulators – Report May 22 2013

Table 7 – Logistic regression predicting impact of different trade treaties on the likelihood a regulator would consider the avoidance of trade and investment disputes in the regulatory development process

	B	S.E.	Wald	df	Sig.	Exp (B)	95% C.I. for EXP (B)	
							Lower	Upper
WTO	1.709	.474	12.988	1	.000	5.526	2.181	13.999
NAFTA	.927	.603	2.366	1	.124	2.528	.776	8.241
FTA	1.441	.487	8.746	1	.003	4.226	1.626	10.983
FIPA	-.204	1.010	.041	1	.840	.816	.113	5.910
Constant	-2.741	.635	18.598	1	.000	.065		

Table 8 – Logistic regression predicting the impact of regulators' views about the impact of NAFTA Chapter 11 on decision making with the likelihood that these same regulators would consider *'the avoidance of trade and investment disputes'* in the regulatory development process

	B	S.E.	Wald	Df	Sig.	Exp (B)	95% C.I. for EXP (B)	
							Lower	Upper
Big Impact	-1.658	.923	3.230	1	.072	.190	.031	1.162
Small Impact	.223	.632	.124	1	.724	1.250	.362	4.318
No Impact	-1.910	.601	10.098	1	.001	.148	.046	.481
Constant	.405	.456	.789	1	.374	1.500		

Table 9 – Regulators' views on trends in the comprehensiveness of HSE Regulations over last decade

3. To the best of your knowledge, would you say that regulation within your area of expertise has become more or less comprehensive in its coverage over the last decade (where comprehensive refers to the number of emerging areas being regulated)?

#	Answer		%
1	More comprehensive		67%
2	Less comprehensive		16%
3	Other		16%
	Total		100%

Source: Qualtrics survey of Canadian Federal Regulators – Report 22 May 2013

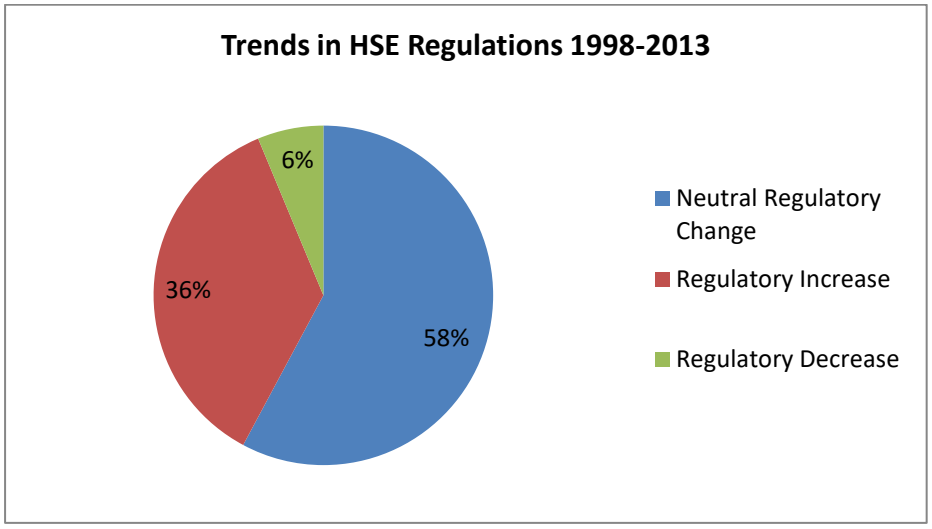
Table 10 – Regulators' views on trends in the stringency of HSE Regulations over last decade

4. To the best of your knowledge, would you say that regulation in your area of expertise has become more or less stringent over the last decade (where stringent refers to the requirements for a greater depth of science to demonstrate acceptability of risk)?

#	Answer		%
1	More stringent		59%
2	Less stringent		21%
3	Other		20%
	Total		100%

Source: Qualtrics survey of Canadian Federal Regulators – Report 22 May 2013

Figure 1 – Composition of adopted HSE regulations – Canada Gazette 2



Analysis of Canada Gazette 2 Data is from Treasury Board archives of Gazette 1: http://canadagazette.gc.ca/archives/archives-eng.html

Footnotes

[1] Smith, Adam. 1776. *The Wealth of* Nations. Layna Mosely makes this point in her book *Capital and National Government* 2003. Cambridge University Press, p.4.

[2] A number of authors make this claim including Andrews 1994, Cerny 1999, Dryzek, Rodrik 1997, Schwartz 1994, Simmons, Dobbin and Garrett 2008

[3] Authors making these claims include Massey (1999), Walter (2000), Vogel (1996), Drezner (2001), Mosley (2005)

[4] International Investment Agreements (IIAs) refer to bilateral investment treaties (BITs) and preferential trade and investment agreements (PTIAs), but do not include investment agreements or stabilisation agreements signed between MNEs and host countries.

[5] Reference is often made to landmark cases such as *S.D. Meyers v. Government of Canada*, *Ethyl Corporation v. Government of Canada*, *Metalclad Corporation v. United States of Mexico* and *Methanex v. United State* as examples of corporate challenges to health, safety and environmental regulations.

[6] The threat of exit has been addressed by scholars such as Vernon (1971), Hirschman (1971), Dunning (1993), Bartik (1988), Stopford and Strange (1991), Vogel (1995), Bartlett and Seleny (1998)

[7] Regulatory Chill is defined by Eric Neumayer in *Greening Trade and Investment*, as a situation where developed countries might either lower environmental standards or fail to

raise them for fear that internationally mobile capital will move to countries with lower standards (p.68). Kevin Grey & Duncan Brack in the OECD Report of the Working Party on Global and Structural Policies on Environmental Issue in Policy-Based Competition for Investment, outline a situation 'where countries refrain from enacting stricter environmental standards in response to fears of losing a competitive edge' (p.8). Kyla Tienhaara argues in *The Expropriation of Environmental Governance* that this notion of regulatory chill has been further extended to address concerns regarding international investment arbitration such that regulators with knowledge of investor state challenges to regulatory measures or the threat of such challenges will curtail regulations or be reticent to pursue more stringent regulations in these areas. This extension of the meaning of regulatory chill has also been advanced by scholars such as Gray 2002 and Peterson 2004 (p.25)

[8] There is a whole host of literature dealing with the issue of the cost burden of investor-state arbitration for developing countries including Eric Gottwald's 2007 article entitled 'Levelling the Playing Field: Is It Time for a Legal Assistance Center for Developing Nations in Investment Treaty Arbitration?' published in the *American University International Law Review*. 22:237, pp237-275

[9] This issue was raised during interviews with tobacco control regulators in a number of developed and developing countries during the fieldwork for my 2014 PhD thesis:

[10] Ibid.

[11] Evidence is mixed as to the effectiveness of IIAs at achieving their three stated goals of protecting, promoting and attracting investment. A 1998 UNCTAD report, along with studies

by Hallward-Dreimier (2003) and Tobin and Rose-Ackerman (2005) all found little or no evidence that BITS had a positive impact on FDI. The second wave of studies from 2004-2008 seemed to solve issues of methodology such as poor data or small sample size. Studies by Buthe and Milner (2004), Egger and Pfaffermayr (2004), Salacuse and Sullivan (2005), Neumayer and Spess (2005), Gross and Trevino (2005), Gallagher and Birch (2006), Egger and Merlo (2007) and a 2008 study by Rose-Ackerman all claimed to demonstrate a positive impact of BITS on FDI. While on balance the more recent studies have confirmed a positive impact of BITs on FDI, a number of studies continue to challenge either the magnitude or causal relationship of this outcome. Swenson (2005), Yackee (2007) and Aisbett (2007) challenged the methodological approach of previous studies and all asked whether previous results reflected cases of reverse causality. A look at the extent to which these agreements are being enforced is one measure of their effectiveness at protecting investment. According to 2012 2013 UNCTAD World Investment Report, investment arbitration cases reached 568 by the end of 2013, although there is evidence to suggest that investors and political risk insurance agencies do not take them into account when making decisions (see Sacks and Sauvant (2009) and Skovgaard Poulsen (2005)).

[12] The OECD 2004 Working Paper on International Investment entitled 'Indirect Expropriation and the Right to Regulate in International Investment Law' outlines that the concept of regulatory taking applies to the 'misuse of otherwise lawful regulation to deprive an owner of the substance of his rights' and is meant to cover such things as 'creeping nationalism'. (p.8)

[13] Tienhaara, Kyla. 2009. *The Expropriation of Environmental Governance: Protecting Foreign Investors at the Expense of Public* Policy, Cambridge University Press outlines case

studies of the threat of investment challenges by mining companies in Ghana, Indonesia and Costa Rica which she purports led to the chilling of domestic environmental regulation.

[14] Some examples of those authors that have looked at this issue include Tienhaara (2009), Schneiderman (2008), Neumeyer (2001)

[15] European Commmission. 'Fact Sheet – Investment Protection and Investor-to-State Dispute Settlements in EU Agreements'. November 2013

[16] Canadian Federal Departments and Agencies included Health Canada, Environment Canada, Transport Canada, Fisheries and Oceans Canada, Human Resources and Skills Development Canada, National Resources Canada, National Energy Board, Canadian Environmental Assessment Agency, Canadian Nuclear Safety Commission, Canadian Food Inspection Agency and Pest Management Regulatory Agency.

[17] This response rate is in line with expectations. A 2000 meta study by Cook et al suggests that the mean response rate for the 56 surveys represented in 39 studies with no missing data on 16 variables was 34.6%. This study also suggests that one can 'expect between a 25% and 30% response rate from an email survey when no follow-up takes place' and that this can be increased with the use of follow-up. (Cook, Colleen and Fred Heath and Russell L. Thompson, 'A Meta-Analysis of Response Rates in Web or Internet Based Surveys', *Educational and Psychological Measurement'* Vol. 60, No. 6 December 2000, 821-836, Sage Publications)

[18] SPSS cross-tabulation indicates that 56.5% Directors, 48.1% Section Heads, 47.4% Managers and 46.7% Other responded 'some' to this question.

[19]Canadian Federal Regulator Interview transcripts – un-attributable quote due to confidentiality

[20] The Canadian Government has been very focussed on regulatory reform over the last ten years resulting from global trends and a desire to modernize the regulatory environment and increase links and ease of doing business with the US. A number of key initiatives have characterized this focus, namely the 2003 *Cabinet Directive on Streamlining Regulations,* 2011 *Regulatory Cooperation Council* with the US and the 2012 *Red Tape Reduction Action Plan*

[21] Canadian Federal Regulator Interview transcripts – un-attributable quote due to confidentiality

[22] SPSS crosstab analysis was undertaken which showed that the Chi Square test for independence indicated a significant association between government departments and the likelihood they consider the avoidance of trade and investment disputes as an important factor in regulatory development, $x^2(9, n=125)=19, p=0.024, phi=0.392$.

[23]The full model under the Hosmer and Lemeshow Test [23]showed goodness of fit with significance value of 1>.05. The model as a whole explained between 3% (Cox and Snell R square) and 4% (Nagelkerke R squared)[23] of the variability based on seniority level and correctly classified 64.8% of cases. None of the independent variables showed a unique statistically significant contribution to the model suggesting that beyond the analysis of this data it may not be generalizable.

[24] Julie Pallant's SPSS Survival Manual (4th edn.). McGraw Hill. 2010 explains that B values are 'equivalent to the B values obtained in a multiple regression analysis'. The positive or negative direction of the B value indicates the direction of the relationship where 'negative B values indicate that an increase in the independent variable score will result in a decreased probability of the case recording a score of 1 in the dependant variable.

[25] Canadian Federal Regulator Interview transcripts – un-attributable quote due to confidentiality

[26] Canadian Federal Regulator Interview transcripts – un-attributable quote due to confidentiality

[27] FIPAs are Canada's equivalent to the bilateral investment treaty (BIT)

[28] An SPSS cross-tabulation was undertaken to look at the relationship between level of seniority and relevance of Canada's various trade commitment. A Chi Square test for independence indicated no significant association between level of seniority and relevance of any of the international trade and investment commitments by agreement type. On the WTO the test showed $x^2(4, n=118)=5.99, p=.20, phi=.22$, on NAFTA $x^2(4, n=119)=2.49, p=.64, phi=1.5$, on FTA $x^2(4, n=119)=4.22, p=.37, phi=.19$, on FIPA $x^2(4, n=119)=3.97, p=.41, phi=.41$

[29] The full model containing all predictors was statistically significant, X^2 (4, N=116) = 33.42, p<.001[29], indicating that the model was able to distinguish between respondents who did and did not consider the avoidance of trade and investment disputes' as relevant to the regulatory development process. The model as a whole explained between 25% (Cox and Snell R

square) and 34.3% (Nagelkerke R squared)[29] of the variability based on type of agreement and correctly classified 74.1% of cases.

[30] Julie Pallant in SPSS Survival Manual quotes Tabachnick and Fidell's 2007 book Using multivariate statistics (5th edn). Boston: Pearson Education, 'the odds ratio represents the change in odds of being in one of the categories of outcome when the value of a predictor increases by one unit. P.177

[31] A cross tabulation in SPSS was undertaken to look at the relationship between level of seniority and views on the impact of NAFTA Chapter 11. The Chi-Square test for independence indicated no significant association for 'no impact' $x^2(4, n=97)=2.42, p=.66,$ *phi=.16, or 'small impact' it showed* $x^2(4, n=98)=4.46, p=.35,$ *phi=.21*

[32] The full model containing all predictors was statistically significant, X^2 (3, N=96) = 20.098, p<.001[32], indicating that the model was able to distinguish between respondents who did and did not consider the avoidance of trade and investment disputes' as relevant to the regulatory development process. The model as a whole explained between 18.9% (Cox and Snell R square) and 25.7% (Nagelkerke R squared)[32] of the variability based on the impact of NAFTA Chapter 11 and correctly classified 72.9% of cases.

[33] Table 1 outlines those NAFTA Chapter 11 challenges which have impacted regulatory measures in the departments of Health Canada and Environment Canada

[34] Both *Chemtura v. Government of Canada* and *Dow AgroScience v. Government of Canada* involved bans on pesticides which come under the remit of the PMRA. The ongoing case

Clayton/Bilcon v. Government of Canada involves the rejection of a basalt quarry and marine terminal following a federal environmental review within the remit of CEAA.

[35] SPSS cross tabulation was undertaken to look at the relationship between government departments and awareness of NAFTA Chapter 11 disputes. A Chi-square test for independence indicated a significant association between government department and awareness of Chapter 11, $x^2(9, n=114)=52.41, p=.000, phi=.68$

[36] Cross tabulation in SPSS did not show a significant relationship between awareness of Chapter 11 disputes on decision making in the regulatory development process. A Chi-square test for independence indicated no significant association, $x^2(3, n=60)=3.69, p=.30, phi=.25$

[37] Cross tabulation in SPSS did not show a significant relationship between awareness of Chapter 11 disputes and whether they also considered the avoidance of trade and investment disputes in the regulatory development process. A Chi-square test for independence (with Yates Continuity Correction) indicated no significant association, , $x^2(1, n=113)=.07, p=.79, phi=.57$

[38] The analysis of the Canada Gazette process involved a detailed review of thousands of published regulations in the Canada Gazette 2, between 1998 and 2013 with a view to identifying those with a particular focus on health, safety or the environment. These numbered 1579 in the case of actual adopted regulations or regulatory changes. This analysis was aimed at understanding the quantity of proposed and adopted regulations by subject area (health, safety or environment) and across federal departments but more importantly whether these new regulations or regulatory changes resulted in an increase or decrease in regulatory stringency

and comprehensiveness. A *regulatory decrease* for the purposes of this study refers to a decrease in the comprehensiveness or stringency of regulations or involves the elimination of regulations. More concretely this would include regulatory changes which exempt a substance after a review or scientific advance, move control of an activity or substance from criminal law to regulation, change a substance from prescription to non-prescription status, increase the allowable level of a restricted or controlled substance or generally reduce the burden of regulatory requirements on industry. Examples of this might include a move away from the criminalization of marihuana to allow for its medicinal use in certain circumstances or the elimination of a requirement for environmental assessments on all projects which are deemed 'unlikely to cause more than minor adverse environmental effects or pose more than minor environmental risks' A *regulatory increase* for the purposes of this study refers to an increase in the comprehensiveness or stringency of regulations achieved by expanding the scope of regulatory coverage to include new substances or areas of activity or by increasing the depth and complexity of compliance requirements. This might involve measures which increase the protection of the environment and human health or general increases in the burden of compliance for industry. Examples of this would include new regulations dealing with hand held radiation devices or those aimed at reducing greenhouse gas emissions through greater emission control standards. A *neutral regulatory change* for the purposes of this study refers to regulations where it is assumed the stringency and comprehensiveness of the regulation does not change, and might include non-substantive regulatory amendments, changes in fees or tariffs, clarifications to regulations or allowing for new uses of an existing registered substance. Examples of this would include changes to fishing or hunting season dates and catch allowances in fishery conservation or the consolidation of Asbestos measures across many disparate Acts

or general regulatory changes aimed at achieving greater efficiency. The main purpose of this analysis is not to attribute value but rather to understand the trend as one possible indicator of regulatory chill. Regulatory chill presupposes regulating less, reducing the stringency and comprehensiveness of regulations but also doing so out of fear for the consequences (whether it be the flight of FDI or the impact of litigation). When all regulations were categorized by health, safety or environmental type it is clear that environmental regulations were most numerous at 661, followed by health at 554 and safety at 364. There was a downward trend in growth rate of new regulations or regulatory changes from a high of 113 regulations in 1998 to 63 in 2013, with the period between 1998 and 2005 averaging 112 regulations per year while the period between 2006-2-13 averaging only 85 regulations per year. This trend towards the streamlining of regulations and modernization efforts aimed at reducing red tape and the regulatory burden on industry is likely a key driver. Other factors may however have played a role such as a reduced imperative to introduce new regulations given the strong regulatory base Canada had already established through its regulatory development initiatives in the 1980s, 1990s and 2000s. The Gazette 2 analysis showed that the trends in adopted regulatory changes under Gazette 2 have been towards neutral regulatory change (58%) or regulatory increases (36%).