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**Pure Economic Loss and Agricultural Biotechnology:  
Comparing Australia, Canada and the Unites States**

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**Abstract**

Social responses to innovations have varied across time. Regulations have been used in an attempt to limit the uptake of innovations (e.g. coffee), violence has been used (e.g. Luddites), experts have tried to convince individuals that an innovation is dangerous to their health (e.g. train travel) and courts have been used to attempt to control or reduce the market share of an innovation (e.g. Microsoft). In the case of agricultural biotechnology, all of these responses have been employed to varying degrees of success: regulations have been put in place in numerous countries that ban the production of genetically modified (GM) crops; violence has been a tool of NGOs opposed to GM crops as they have destroyed field trials; experts have argued in select instances that the consumption of food products derived from GM crops are dangerous to human health; and those opposed to GM crops in the United States are using the courts to seek injunctions against commercial release of new GM varieties and to argue that regulatory protocols were not properly followed. The most common responses by far, and the focus of this paper, is the employment of regulations and the use of courts.

The concept of economic loss in relation to innovation posits that those negatively impacted by the innovation of GM crops are entitled to compensation that offsets the externality. For example, Denmark has established a compensation fund that taxes GM crop adopters, creating a revenue pool to compensate those farmers adversely impacted by the adoption of GM crops in Denmark. In undertaking a thorough assessment of applying economic loss to GM crops, this paper will evaluate the efficiencies of having compensation funded via government efforts versus the use of the court system. The paper will compare and contrast the situation in Australia, Canada and the United States.

**Key Words:** liability; negligence; compensation; economic injury; foreseeability

## **Pure Economic Loss and Agricultural Biotechnology: Comparing Australia, Canada and the United States**

### **1. INTRODUCTION**

Governments are presented with a conundrum of sorts when faced with innovation. A common approach for democratic governments is to focus on doing what is best for the country as a whole, either through the implementation of programs or the establishment of laws and policies. Supporting innovation research is seen as a beneficial investment that governments can make for society as a whole. In fact, numerous international agencies collect data and report on how much investment, as a percentage of gross domestic product, is made in research and development by governments around the world. However, when innovative research results in a transformative technological advancement, such as biotechnology, its entry into the marketplace, will inevitably create winners and losers. The conundrum arises when governments have to decide whether to back the innovation or reject it due to the vocal concerns of its society. This decision is commonly an economic decision in that the innovation promises new high paying jobs, greater tax revenue and potential spin-off investments. In backing the winners, the losers get nothing. The classical example of this is when the automotive industry was emerging, governments did not compensate firms that produced products for the horse-based transportation industry, such as the makers of harness or horse-drawn implements. These firms either had to adapt to the changing technologies and invest in re-tooling their firm or risk going out of business.

So, what has changed? The advent of agricultural biotechnology in the mid-1990s has precipitated demands for protection and even compensation by non-adopters. Some countries have outright banned the technology (e.g. France, Austria, Italy), while others have tried to use international trade agreements to prohibit import of products derived by genetic modification (e.g. European Union). Other countries openly embraced the technology and promoted its adoption (e.g. Canada and the US). However, within the countries that promoted adoption, non-adopters have sought ways and means to protect themselves. Instead of accepting the societal change created by the innovation and seeking ways to market their product as unique, superior or different, and accepting the cost of this market differentiation, the non-adopters have sought compensation for these extra costs. Possibly for the first time in agriculture, the rights of the non-adopter are being expressed and in some cases recognized.

Innovation is actively encouraged by the governments of the United States, Canada and Australia. National innovation strategies,<sup>1</sup> public funding of innovation, taxation and other advantages offered to private entities pursuing research and innovation are examples of this encouragement. Nevertheless, some citizens object to the commercialisation of certain innovations. Objections range from concern about personal injury and environmental damage to ethical and social objections. One particularly controversial innovation is genetically modified (GM) crops. Canada, US and Australia all allow such GMOs to be released into the open environment. This is despite knowing that spread of GMOs to other agricultural premises is possible or even likely and, further, even if there is no actual co-mingling, harm to other agricultural entities is still possible.

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<sup>1</sup> Aust, Dept of Innovation, Industry, Science and Research, *National Enabling Technologies Strategy*, 22 February 2010 <http://www.innovation.gov.au/Industry/Nanotechnology/Pages/NETShomepage.aspx> (viewed 24 Feb 2010).

Take, for example, the facts of *In Re Genetically Modified Rice Litigation* recently decided in the US District Court for Missouri.<sup>2</sup> In that case, Missouri long-grain rice farmers successfully claimed to have been harmed by the contamination of the US rice supply with non-approved GM strains of rice. The claimed harm was a drop in the market price for rice, losses suffered because farmers either could not plant or had to plant different crops or varieties the following year and expenses for cleaning equipment.<sup>3</sup> This harm was caused by the escape of LLRICE 601,<sup>4</sup> developed by one of the defendants, during authorised field trials in the US. LLRICE 601 had not then been approved for human consumption and the escape was a violation of relevant regulations.<sup>5</sup> In August 2006, the rice was found by the US Department of Agriculture (USDA) in trace amounts in the US long-grain rice supply. This led the regulatory authorities of several countries to ban or place stringent testing requirements on any US long-grain rice imports. Judge Perry noted that the plaintiffs' alleged injury was to property, including equipment, land and rice.<sup>6</sup>

Canada and the US are two of the world's five largest adopters of GM crops, with Australia expected to quickly move into the top 10 now that GM canola has been approved.<sup>7</sup> In all three jurisdictions compensation for harms caused by GM crops is a matter for their courts.<sup>8</sup> There is no provision for compensation under the relevant national regulatory schemes.<sup>9</sup> On the other hand, those commercialising GMOs, even in compliance with all relevant regulations, are not given statutory immunity where they nevertheless cause harm to others. The relevant governments clearly intended that questions of liability for harm arising from GMO releases be determined by common law principles.<sup>10</sup>

<sup>2</sup> *In Re Genetically Modified Rice Litigation* Case No 4:06MD1811 CDP, 2009 US Dist LEXIS 98302, 9 October 2009.

<sup>3</sup> *In Re Genetically Modified Rice Litigation* Case No 4:06MD1811 CDP, 2009 US Dist LEXIS 98302, 9 October 2009 [42].

<sup>4</sup> Genetically modified to be resistant to a Bayer herbicide, LibertyLink.

<sup>5</sup> *In Re Genetically Modified Rice Litigation* Case No 4:06MD1811 CDP, 2009 US Dist LEXIS 98302, 9 October 2009 [63].

<sup>6</sup> *In Re Genetically Modified Rice Litigation* Case No 4:06MD1811 CDP, 2009 US Dist LEXIS 98302, 9 October 2009 [47]. [me- no discussion by judge of level of contmn nec before is prop damage etc . She seems to have accepted the plfs' claim that because of 'the commodity-based structure of the US long-grain rice prodn and marketing chain and the fungible and interchangeable nature of the rice within that prodn and marketing chain, physical contamination or damage to any part of the chain is physical contamination or damage to the entire chain – and all the long-grain rice therein.' Master Consolidated Class Action Complaint, dated May 17, 2007, *In Re Genetically Modified Rice Litigation* Case No 4:06MD1811 CDP, para 117. The plaintiffs therefore alleged that the defendants' conduct caused them 'physical harm'.]

<sup>7</sup> James, 2010. *Global Status of Commercialization of GM/Biotech Crops: 2009*.

<sup>8</sup> Canadian provincial legislation, the Agricultural Operation Acts, prevent the suing of neighbouring farmers for what is considered standard farming practices. This raises the question of when does an innovation become standard. I have used case law relating to aerial spraying to suggest that 10 years following commercialization makes the technology standard. One could also use adoption rates to say that once it passes 50% it is standard

<sup>9</sup> In some States of Australia compensation is available under State legislation in limited circumstances. See *Cultivating Chaos*.

<sup>10</sup> Interim Office of the Gene Technology Regulator, Submission No 77 to the Senate Committee on Community Affairs for its report on the Gene Technology Bill 2000 (Cth) (Canberra, October 2000), p 146; See also Aust, Senate Committee on Community Affairs, *A Cautionary Tale: Fish Don't Lay Tomatoes. A Report on the Gene Technology Bill 2000* (November 2000) Tabled 1/11/00 PP No 263/00 ('Cautionary Tale Report'), pp 151-2; Aust, House of Representatives Standing Committee on Primary Industries and Regional Services, *Work in Progress: Proceed with Caution. Primary Producer Access to Gene Technology* (Canberra, June 2000), [7.108]. The government review of the regulations in 2006 (Aust, Dept of Health and Ageing, *Statutory Review of the Gene Technology Act 2000 and The Gene Technology Agreement (2006)*) decided against adding strict liability for contamination (pp 38-9), a compensation fund (pp39-41) or mandatory insurance (pp 41-2).

Whilst not raised in the *GM Rice Litigation*, economic loss unrelated to injury to the person or property of the plaintiffs<sup>11</sup> may also be caused by GM crops. For example, a buyer or even an entire market may decide not to buy a farmer's crop even though there was no actual contamination of it. Alternatively, a farmer may be unable to pursue their preferred method of farming, such as organic farming, or will need to change agricultural practices because of the release of GM crops in their region.<sup>12</sup> This is known as pure economic loss - 'an adverse impact on the plaintiff's financial position' due to a change in the value of the plaintiff's assets and/or reduced profitability of the plaintiff's economic activities.<sup>13</sup> In a market economy there is always a risk of these things happening and the issue for the courts is under what circumstances should the plaintiff be relieved of that risk and the defendant made to bear it?<sup>14</sup> In the context of GM farming, the Organic Federation of Australia (OFA) has stated that the right to be 'GM-free' is a 'fundamental right' that must be preserved as it goes to the heart of the responsibility that farmers have to ensure that their actions do not impact on others.<sup>15</sup> Industry, on the other hand, has said:

The concept of freedom to farm needs to be given appropriate consideration. We pose the rhetorical question; how far do the rights of organic growers extend before they are able to restrict the ability and freedom of adjacent farmers to make their own decisions in respect of growing non-GM and GM crops in a district.<sup>16</sup>

It is uncertain whether the choice of non-GM agriculture will be treated preferentially by the common law. But it is clear that the courts of all three jurisdictions are concerned not to unduly interfere with the legitimate pursuit of personal gain, such that commentators have suggested that 'tort law reflects what might be called "commercial morality"'.<sup>17</sup> How the courts balance one person's desire not to adopt a transformative innovation, such as GMOs, against another's desire to adopt that innovation, such as by farming GMOs, is an issue relevant to any transformative innovation.

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[compare other jurisdictions such as Denmark where compensation schemes have been established. 2004 Act on the Growing etc of Genetically Modified Crops].

<sup>11</sup> US, Restatement (Third) of Torts: Econ. Torts and Related Wrongs §8, at 3 (Council Draft No 1, 2006).

<sup>12</sup> [Note intro of GM could also produce eco benefit for non adopters – eg intro of GM crops may increase demand for organic produce, therefore being an economic gain for non GM farmers. Further, as pointed out in an Australian study, there may be environmental benefits such as the decrease in the volume of agricultural chemicals used or use of less persistent agricultural chemicals which might mean organic producers can adopt less costly agricultural chemical contact avoidance measures. Stephen Apted and Kasia Mazur, *ABARE Research Report 07.11, Potential impacts from the introduction of GM canola on organic farming in Australia, May 2007, p 30.*]

<sup>13</sup> Peter T Burns and Joost Blom, *Economic Interests in Canadian Tort Law* Lexis Nexis Canada Inc 2009, p 2.

<sup>14</sup> Peter T Burns and Joost Blom, *Economic Interests in Canadian Tort Law* Lexis Nexis Canada Inc 2009, p 3.

<sup>15</sup> Science and Economic Policy Branch, *Liability Issues Associated with GM Crops in Australia*, Scoping Study (Australian Dept of Agriculture, Fisheries and Forestry, September 2003), p 3 citing Submission No 54 to the Senate Community Affairs References Committee, Parliament of Australia (Canberra, October 2000) (Organic Federation of Australia).

<sup>16</sup> Science and Economic Policy Branch, *Liability Issues Associated with GM Crops in Australia*, Scoping Study (Australian Dept of Agriculture, Fisheries and Forestry, September 2003), p 4 citing Submission No 42 to the Senate Community Affairs References Committee, Parliament of Australia (Canberra, October 2000) (Florigene Ltd and Nugrain Pty Ltd (Vic)).

<sup>17</sup> F Trindade, P Cane and M Lunney, *The Law of Torts in Australia* (4<sup>th</sup> ed, 2007, Oxford University Press), p 492.

Of the four innovation response mechanisms (regulatory, violence, use of experts and courts) we can dismiss both violence and use of experts as being, at best, fringe participants in the debate about biotechnology. Violence in relation to the intentional destruction of field trials was more common at the turn of the millennium, but would appear to have declined in occurrence, if not disappeared completely in North America over the past couple of years. Infrequent, isolated reports of the destruction of field trials still occur, but it can not be held that present day society has embraced the Luddite approach as a viable means of dealing with innovation. The use of experts, either through published articles, books or conference presentations as a means of rejecting biotechnology has not developed any public momentum. This is not to say that some of the experts have not presented thought provoking ideas, they have, but it is more the case that additional scientific research has countered the initial claim or refuted it entirely. Additionally, the media has not responded to the use of experts as a way of sowing social discord towards genetically modified crops. With this then, we focus this paper on the remaining two options, regulations and the role of the courts.

Regulations have been used to address innovation for practically as long as there have been industries. Building codes, labour laws and unions, all in part, owe their origins to methods of dealing with innovation. Although our ancestors coped with the innovation of the day and the resulting impacts on societies, we are presently a society that is increasingly fixated on the mitigation and to a large extent, the eradication of risk.

Previous societies have used regulations to also deal with the social challenges of innovation. Examples can be found in coffee and automobiles. Coffee entered Europe in the early part of the 16<sup>th</sup> century and was seen by the governments of the day as an evil concoction. The German government went the furthest and actually banned the sale of coffee in the early 1700s, citing the destruction of marriages as the reason for these regulations. Social understanding evolved and by the late 1700s one German state enacted legislation stating that if a husband could not procure coffee for his wife, the wife had grounds for divorce.

The introduction of automobiles at the end of the 19<sup>th</sup> and early 20<sup>th</sup> centuries, provides another example of using regulations to deal with innovation. Many urban centers enacted regulations that required a woman to walk ahead of an automobile waving a red flag to alert other citizens (presumably those on horseback) of the approaching automobile. Additionally, vehicles had to pull over to the side of the road when meeting a wagon. These are but two examples of regulations being used to cope with the social changes created by innovation.

The commercialization of innovative GM crop technologies has resulted in some jurisdictions using a variety of regulatory mechanisms to control and manage the technology, while other jurisdictions have relied on the court system to deal with issues arising from the commercialization of the technology.

Legislation can be used to ban an innovative product. France's current ban on GM crop production, is an example of this as the French government had previously allowed the production of small amounts of GM corn but it is now prohibited. More commonly though, regulation (whether that be by legislation or other form of regulation) is used by governments and policy makers to manage or control the development and approval of such a product and / or the innovation once it has entered the marketplace.

The role of the court is less about restricting or preventing the commercialization of a new innovative product than it is about dealing with the marketplace impacts following

commercialization. Of course, courts can and have been used to seek injunctions against a specific event (i.e. construction of a new dam or building) and to prohibit the use of unsafe products, but it is without precedence for a court to outright ban an innovation prior to its commercial release into a society. An injunction against GM wheat was sought, as part of a class action lawsuit against Aventis and Monsanto, by organic canola farmers, but this portion of the case was dropped prior to a decision of the court.

This article begins by examining the economic rationale for having the state compensate non-adopters for economic loss incurred as a result of widespread adoption of GM crop technology. The authors argue that governments are not efficient allocators of compensation and that the role of awarding compensation should be the jurisdiction of the courts. The article then considers the potential common law liability of both adopting farmers and those creating, distributing or growing GM seeds and crops towards non-GM farmers. It does not consider the potential liability of regulators nor the liability of adopting farmers to each other. The examination will be undertaken through the lens of liability for pure economic loss in negligence, in particular whether there is a duty of care, for two reasons. First, negligence is a cause of action commonly relied on in such cases. Secondly, the legal concerns taken into account by a court in the duty analysis could be expected to reflect the jurisdiction's concerns and values. The normative judicial concerns addressed in the duty analysis in each jurisdiction will be examined. As Stapleton writes in relation to pure economic loss cases in, amongst others, the courts of Australia and Canada (footnotes omitted):<sup>18</sup>

‘courts now tend to use an open-textured analysis of all the substantive legal concerns weighing for and against recognition of a duty, be they moral, economic, or other types of concerns relevant to the incidence of tort liability.’

At a higher level, this article will try to draw conclusions as to the courts' attitude to innovation generally as demonstrated through the tort of negligence.<sup>19</sup> This will be particularly important during the usual time lag between the commercialisation of an innovation and the availability of insurance for harm caused by that innovation. It is not intended to argue that the courts of these jurisdictions use economic theory to reach their decisions.<sup>20</sup>

## **2. ECONOMIC LOSS AND GOVERNMENT**

Innovations impact societies in a myriad of ways. While the overwhelming majority of these impacts are beneficial, otherwise our societies would grow increasingly sceptical of innovation, not all impacts are. While our daily use and reliance on email is certainly a benefit and has changed how academics and a multitude of other industries work, it has undeniably increased our workload and demands made upon our time. Another example is the benefit of cell phones, but with the problems created by vehicle drivers talking on their

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<sup>18</sup> Jane Stapleton, ‘Comparative Economic Loss: Lessons from Case-Law-focused “Middle Theory”’, (2002) 50 *UCLA L Rev* 531, 542-3.

<sup>19</sup> There has been work considering the possible role of common law tort liability in encouraging and deterring voluntary, precautionary study of innovative products generally. David A Dana, ‘When Less Liability May Mean More Precaution: The Case of Nanotechnology’ (2009) *Northwestern University School of Law Law and Economics Series No 09-43; Public Law and Legal Theory Series No. 09-24*, <http://ssrn.com/abstract=1518100>, p 4. But assumed harm was human health harm.

<sup>20</sup> For discussion explaining why economic high theory has little influence over the appellate courts in Canada and Australia, see Jane Stapleton, ‘Comparative Economic Loss: Lessons from Case-Law-focused “Middle Theory”’, (2002) 50 *UCLA L Rev* 531, 533.

cell phone while driving. Industrial economies have tended to support the quest for new innovations by rewarding early innovators with patents and/or monopolies for their technologies. More recently, governments have sustained this quest by providing various federal support mechanisms (e.g. grants, tax incentives, infrastructure development, etc.) for innovative research and development.

As an innovation is adopted by the society into which it is commercialized and the technology becomes accepted and valued by the adopters, it is at this time that the negative externalities of the innovation start to become apparent. For example, in the 1970s, when both microwave ovens and pacemakers were new and increasing in numbers, there was a potential for people with pacemakers to be affected by the use of a microwave oven. Many businesses in the 1980s had public signs announcing that microwave ovens were in use in the premises. Technological improvements in both microwave ovens and pacemakers removed the potential hazard of this situation and public signs about the use of microwave ovens have disappeared.

In most instances, negative externalities are dealt with through the provision of insurance. In the event that an externality develops, firms or individuals can purchase insurance that will compensate them should the externality develop and affect them. However, it can take time for the insurance industry to respond to the demands for insurance. An example of this can be found in the auto industry. The use of autos increased rapidly in the first two decades of the 20<sup>th</sup> century and during this period, it became evident that while there were numerous advantages to the growing use of autos, there were also some problems. The increased use of automobiles caused accidents, some of which were with innocent pedestrians, resulting in deaths. Massachusetts was the first American state to enforce compulsory motor vehicle insurance in 1927 (Blanchard, 1936). Similarly in Australia, third party insurance to ensure recompense for victims of auto accidents has been compulsory for about 75 years (Balkin and Davis, 2008).

The challenge with the innovation of GM crops is that none of the insurance firms have offered insurance against co-mingling. As the adoption of GM crops (canola, corn, cotton and soybeans) increased, the incidence of co-mingling began to increase and in some cases, the premiums of some non-GM crops were lost due to the co-mingling of GM and non-GM crops. Insurance firms have been asked to provide insurance for co-mingling, but the response from the insurance industry has been that they are, so far, unable to determine the risk threshold for co-mingling and therefore, their actuaries can not determine the price of an insurance premium to charge potential clients. At the present time, the insurance industry is unable to provide insurance against negative externalities that result from the production of GM crops.

Normally, regulations are used to manage the safe and efficient use or application of a product or technology where harm of some kind may be caused. In the case of GM crops in Australia, regulatory review and oversight to protect human health and safety and the environment is a federal jurisdiction and done by the Gene Technology Regulator (GTR). In the early years of the 21<sup>st</sup> century, the GTR approved the commercialization of GM crops in Australia, however, due to public concerns, most States imposed a moratorium on the technology on the basis of economic concerns. Most of the moratoriums were enacted in 2004 and were for a period of three years. By 2007, considerably more was known about GM crops and their impacts and several States began the cautious approval of GM crop production.



In terms of commercializing GM crop technologies, Canada and the US are global leaders. Public concerns simply were not an issue in the early to mid 1990s, when the initial crop varieties were proceeding through the regulatory system. This is not to say that there was no public awareness of the issue, but rather, the social voice was not loud enough to trigger any political involvement. In fact, according to many of the biotech pioneers, the agricultural biotechnology industry asked for more rigorous regulatory requirements than what were offered by federal regulators. While regulations were used to ensure the safety of these crop varieties, once they were approved, the capacity to regulate the technology ceased. At this point, the onus of responsibility fell to industry. In this case, if those that chose not to adopt the technology felt that they were being adversely affected, it would be the responsibility of their industry to develop a management system or production protocols to protect their production practices.

Direct federal or state/provincial regulation in North America was not an option to address possible economic loss because regulators do not have the mandate to control products in the marketplace that have been approved for commercial use as long as the products are not causing safety related problems. Economic loss is not considered to be a safety issue. Therefore, we turn our attention to other government options.

Negative externalities can be managed and in some case prevented through the use of taxes. The emission of pollution from factories is a negative externality that has been managed through the application of a tax. Pigou (1932) proposed a tax on externalities as a means of limiting or removing the presence of negative externalities in society. A Pigovian tax is a fee that is paid by a polluter usually to the government, based on the units of pollution. This tax, if implemented at the correct level, is socially efficient as it removes the dead weight loss associated with the tax.

While on the surface, levying a Pigovian tax on the innovation of GM crops would seem like a remedy to the challenge of lost premiums for non-adopters, as one delves deeper into the issue, it is not. For example, in 2009 in Western Canada, 85% of the canola production was genetically modified, herbicide tolerant (GMHT) and a further 11% was mutagenic herbicide tolerant, leaving about 4% of the canola produced in Western Canada as being varieties that are not herbicide tolerant. In the United States, the adoption rate for GM soybeans is 90%, while the rates for cotton and corn range from 70%-80% (James, 2010). In Australia, GM cotton accounts for over 90% total production (AFAA, 2009). All of the GM varieties of these crop types have been approved for production by the relevant regulatory agencies, thereby making their classification as pollution in the Pigovian sense, a challenge.

This starts to get to the heart of the matter of pure economic loss by documenting that the 'winners' far outnumber the 'losers' and should society step in and argue that non-adopter rights are equal to adopter rights therefore, compensation should be available regardless of how few non-adopters are affected. In the absence of an insurance market, should the state be willing to protect the economic rights of the individual? Safety and civil liberty are completely separate issues and the concept of economic rights starts to push the boundaries of accepted norms. The basic tenant of market economies is that individuals have a right to make a profit, but there are no limits on the degree of profit maximizing. If there is no ceiling to profit, by equality, there should be no floor or minimum threshold of profit that an individual should expect.

Based on Pigou, it is possible to extend the concept of negative externalities to the individual level, so that even if one person is adversely affected by something, it can be said to create the potential for an economic loss to that individual. The potential of this situation can be construed as not being a Pareto improvement. Situations are said to be a Pareto improvement where at least one person is made 'better off' without making another person 'worse off'. Based on the combined theory of Pigou and Pareto, the commercialization of GM crops that adversely affects non-adopters, would establish that non-adopters have been made 'worse off' due to the negative externalities of lost premiums.

However, the Kaldor-Hick criteria can address this situation. The Kaldor-Hicks criteria holds that: first, if the 'winners' of an innovation are able to compensate the 'losers' then the innovation is a Pareto improvement; and second, if the 'losers' are unable to bribe the 'winners' to prevent the commercialization of the innovation it is also an improvement. In relation to the commercialization of GM crops, the latter criterion holds as the number of non-adopters is not large and the ability of an individual farmer [or is it all non-adopters?] to bribe the multinational seed development firms is nonexistent. The former criterion only partially holds as the global biotechnology industry has developed The Compact (CropLife International, 2009), a liability compensation mechanism for biodiversity damage. No compensation for non-adopter economic loss is provided for in The Compact.

If an economic loss compensation scheme for non-adopters of GM crops were to be established, it would ultimately be undertaken by a federal government. Denmark has established such a compensation scheme, for a more detailed assessment of this, see Smyth, *et al.*, (2010). The redistribution of wealth has taxed many a society and government. The variety of wealth redistribution programs and mechanisms are diverse and according to Alston, *et al.*, (1998) many economists assumed that the cost of wealth redistribution was equal to the revenue that was redirected. These original assumptions held that the redistribution of money by government was costless. This is obviously not the case and further research provided cost estimates that ranged from \$1.20 to \$1.50 for every dollar distributed. In a review of this literature, Fullerton (1991) reconciled the results and suggests that the marginal cost of taxation (in the USA) is considerably lower than first thought, ranging from \$1.07 to \$1.24.

While the cost of redistribution of monies is an important one, it is not the main concern. Compensation schemes that are mandated by government, regardless of who funds them, do not address the problem. The allocation of compensation to non-adopters does not get at the heart of how to reduce or remove the co-mingling of GM and non-GM crops; it will not end the challenge of pure economic loss. This is especially the case if funds from general government revenue are used to fund the compensation scheme as opposed to making certain that tax revenue from a Pigovian form of tax are used. The involvement of government in addressing the negative externality ultimately means that the externality will increase over time as the rate of adoption increases.

This theoretical review would suggest that when an innovation results in the creation of negative externalities and there is no insurance mechanism in place to deal with the externality, that government involvement is viewed as inefficient. Therefore, we now turn to examine the role of the courts in relation to pure economic loss.

### 3. ECONOMIC LOSS AND THE COURTS

#### 3.1 Negligence Causing Pure Economic Loss

The relationship between tort law and economic interests is an uneasy one. As noted by two Canadian commentators<sup>21</sup>

...as new markets are created, new technologies developed, and new conflicts of competing economic interests occur, the courts have had to create new causes of action, to modify or even stifle old ones. In each case the judge or judges concerned bring their experience and judicial values to bear on the “socially proper” outcome to adopt. In each case the courts regulate market behaviour, utilizing doctrinal devices such as “unreasonableness” in negligence...

The law of negligence in all three jurisdictions was originally derived from the United Kingdom. However, differences in the development of the law, in particular the treatment of recovery for pure economic loss caused by negligence, gives rise to differences in the precise legal rules. These arguably reflect, to some extent, different societal values in the jurisdictions. A major difficulty for innovative products such as GMOs is predicting whether their use will be regarded as falling below societal standards and the harm they cause will be considered actionable by courts.

In each of Canada, Australia and the US, establishing a duty of care in respect of pure economic loss, requires that type of loss to the plaintiff to be reasonably foreseeable. However, because of concerns about the effect of liability in such cases, something more is required for a duty of care. A duty of care is not imposed merely because a person knows that their careless act may cause economic loss to another.<sup>22</sup>

A negligence action claiming pure economic loss caused by the release of GM crops is arguably most likely to be brought in the US but is least likely to be successful in that country, because of the ‘pure economic loss doctrine’ which bars recovery of pure economic loss in certain negligence cases.<sup>23</sup> This is so even if the loss is reasonably foreseeable. The rationale for this doctrine is to avoid the imposition of extensive and indeterminate liability,<sup>24</sup> such liability potentially imposing ‘ruinous consequences on socially useful activity’.<sup>25</sup>

In Canada, pure economic loss cases are generally categorised into one of five recognised categories of claims,<sup>26</sup> the most relevant for these purposes being relational economic loss and negligent performance of a service. Relational economic loss is loss suffered by the plaintiff because the defendant’s negligence has damaged a third party’s property. So, to take the *GM Rice Litigation* example, if the defendant did indeed contaminate some farmers’ rice

<sup>21</sup> Peter T Burns and Joost Blom, *Economic Interests in Canadian Tort Law* Lexis Nexis Canada Inc 2009, Preface.

<sup>22</sup> *Cooper v Hobart* [2001] 3 SCR 537 at [30]; *Hill v Van Erp* (1997) 188 CLR 159 at 211 (McHugh J).

<sup>23</sup> *In Re Genetically Modified Rice Litigation* Case No 4:06MD1811 CDP, 2009 US Dist LEXIS 98302, 9 October 2009 [44].

<sup>24</sup> Peter Benson, ‘The Problem with Pure Economic Loss’ (2009) 60 South Carolina Law Review 823-79, at 832 citing Fleming James, Jr, ‘Limitations on Liability for Economic Loss Caused by Negligence: A Pragmatic Appraisal’ (1972) 25 Vand L Rev 43, at 55.

<sup>25</sup> Peter Benson, ‘The Problem with Pure Economic Loss’ (2009) 60 South Carolina Law Review 823-79, at 831.

<sup>26</sup> Peter T Burns and Joost Blom, *Economic Interests in Canadian Tort Law* Lexis Nexis Canada Inc 2009, p 14 citing *Canadian National Railway Co v Norsk Pacific Steamship Co* [1992] SCJ No 40, [1992] 1 SCR 1021 at 1049, 91 DLR (4<sup>th</sup>) 289 at 299 (SCC).

crop, then other farmers may suffer harm because they are no longer able to sell their crops into their intended markets at all or at the price they expected. Of course, this result could occur even without actual contamination of any crop – merely the threat of such contamination may be enough to have market repercussions. In that case there would be no damage to a third party’s property and it would not be relational economic loss.<sup>27</sup>

The negligent performance of a service category refers to cases where the plaintiff’s harm is due to the ‘plaintiff’s financial position being adversely changed as a result of the defendant’s failure to perform competently a task that the defendant had undertaken to perform’.<sup>28</sup> It could perhaps be argued that by releasing a GM crop pursuant to relevant regulations, a commercialiser or GM farmer has ‘undertaken’ to the regulator to comply with relevant regulations, and that where they fail to in fact comply, causing contamination or threatened contamination, then the case should fall into such category. However, even if that (weak) argument was successful, these types of claim are generally unsuccessful under Canadian law and will not be considered further here.<sup>29</sup> Further, where the commercialiser and GM farmers comply with all relevant regulations, then the case does not fall into this category.

Novel Canadian cases, not falling into one of the recognised groups require the application of a three part test. In such a case, in addition to reasonable foreseeability, the plaintiff must establish proximity between themselves and the defendant, involving ‘the demonstration that the defendant was in a close and direct relationship with the plaintiff such that it is just to impose a duty of care on him’.<sup>30</sup> Policy considerations arising from the relationship between the parties form part of this proximity analysis.<sup>31</sup> Finally, the court must consider whether there exist any residual policy considerations justifying denial of liability.<sup>32</sup> These include ‘the effect of recognizing the present duty of care on other legal obligations, the impact of the imposition of the duty of care on the legal system, and the effect of imposing liability on society in general’, and the fear of indeterminate liability.<sup>33</sup>

Australian courts also place heavy emphasis on policy considerations in determining whether there is a duty of care, even when the reasonable foreseeability requirement has been satisfied. It is generally agreed that the additional duty requirement involves consideration of the relevant policy or factual considerations, or salient features,<sup>34</sup> of this particular category

<sup>27</sup> *Brooks v Canadian Pacific Railway Ltd* [2007] SJ No 367, 283 DLR (4<sup>th</sup>) 540, 2007 SKQB 247 (Sask QB).

<sup>28</sup> Peter T Burns and Joost Blom, *Economic Interests in Canadian Tort Law* Lexis Nexis Canada Inc 2009, p 377.

<sup>29</sup> Peter T Burns and Joost Blom, *Economic Interests in Canadian Tort Law* Lexis Nexis Canada Inc 2009, p 377.

<sup>30</sup> Lara Khoury and Stuart Smyth, ‘Reasonable Foreseeability and Liability in Relation to Genetically Modified Organisms’ (2007) 27 *Bulletin of Science, Technology & Society* 215-232, 223. citing *Edwards v Law Society of Upper Canada* [2001] 3 SCR 562.

<sup>31</sup> Lara Khoury and Stuart Smyth, ‘Reasonable Foreseeability and Liability in Relation to Genetically Modified Organisms’ (2007) 27 *Bulletin of Science, Technology & Society* 215-232, 223 citing *Cooper v Hobart*, [2001] 3 SCR 537.

<sup>32</sup> *Cooper v Hobart* [2001] 3 SCR 537 para 37.

<sup>33</sup> Lara Khoury and Stuart Smyth, ‘Reasonable Foreseeability and Liability in Relation to Genetically Modified Organisms’ (2007) 27 *Bulletin of Science, Technology & Society* 215-232, 223. Re indeterminacy citing *Bow Valley Huskey v Saint John* 1997 para 62-63; *Canadian National Railway v Norsk Pacific Steamship Co* 1992 para 110-1; *Cooper v Hobart* 2001 para 54; *D’Amato v Badger* 1996 para 18; *Hercules Management Ltd v Ernst & Young* 1997 para 31-41; *Winnipeg Condominium v Bird Construction* 1995 para 48 a contrario.

<sup>34</sup> This term was used by Gummow J in *Perre* (1999) 198 CLR 180 at [198]. See also [201]. Gleeson CJ agreed with Gummow’s J conclusions at [12]. See also Callinan J at [406]. See also *Graham Barclay Oyster Pty Ltd v Ryan* (2002) 211 CLR 540 at [243] (Kirby J). With respect to criteria suggested to be relevant to liability for

of negligence which bear on the question of duty of care.<sup>35</sup> Factors for or against the duty of care must be considered.<sup>36</sup> In essence the common law imposes liability ‘in situations where it is reasonable to require a person, in the position of the alleged wrongdoer and in the circumstances of the alleged wrongdoing, to be liable for the particular kind of injury suffered as a result of the alleged wrongdoing.’<sup>37</sup>

The Australian High Court considers the following factors as relevant in cases of pure economic loss caused by a negligent act:<sup>38</sup> indeterminacy; unreasonable interference with personal autonomy, economic freedom and market competition; control by the defendant over the plaintiff’s legal rights; vulnerability of the plaintiff and reliance by the plaintiff and the undertaking of responsibility by the defendant; and the existing statutory regime and common law regulating the relevant act.

A significant difficulty in predicting the outcome of any particular proceeding is that the decision as to what factors are important in any particular case is subjective.<sup>39</sup> Nevertheless, the factors described above include those factors used by US courts to justify the imposition of or departure from the economic loss doctrine as well as those factors assessed by the Canadian courts in their three part test. They will therefore be considered in more detail below in the context of GM crops following a brief description of relevant case law in each jurisdiction.

### 3.1.1 United States

#### *GM Case Law*

The US Department of Agriculture (USDA) regulates importation, movement and field-testing of plants to protect against pest crops. Its current regulations mean there is arguably

pure economic loss following High Court’s decisions in the area see P Cane, ‘The blight of economic loss: Is there life after *Perre v Apand?*’ (2000) 8 *Torts Law Journal* 246.

<sup>35</sup> *Johnson Tiles* (2003) Aust Torts Reports 81-692 at [742]; *Sullivan v Moody* (2001) 207 CLR 562 at [50]; R Rana, ‘Negligence and Pure Economic Loss: The Dance of the Seven Veils’ (1999) 68 *Australian Construction Law Newsletter* 50, 50; J Stapleton, ‘Comparative Economic Loss: Lessons From Case-Law-Focused “Middle Theory”’ (2002) 50 *University of California Los Angeles Law Review* 531, 583.

<sup>36</sup> *Reynolds v Katoomba RSL All Services Club Ltd* [2001] NSWCA 234 (Unreported, Giles JA, 20 September 2001) [136].

<sup>37</sup> *Dowdel v Knispel Fruit Juices Pty Ltd* [2003] FCA 851 at [73] (Selway J).

<sup>38</sup> All of the following other than the ‘control’ factor are taken from the judgment of Gillard J *Johnson Tiles* (2003) Aust Torts Reports 81-692 at [755] in his analysis of the High Court decision in *Perre*. For other judicial summaries of the policy factors identified as relevant in cases of pure economic loss by the High Court in *Perre* see: *Dovuro Pty Ltd v Wilkins* (2000) 105 FCR 476 at [12]-[25] (Branson J); *McKellar v Container Terminal Management Services Ltd (No 2)* [2000] FCA 1608 (Unreported, Weinberg J, 10 November 2000) [50]-[63]. See also, for eg, *Graham Barclay Oysters Pty Ltd v Ryan* (2000) 102 FCR 307 at [272]-[281] (Lindgren J); *Ilievska-Dieva v SGIO Insurance Ltd* [2000] WASCA 161 (Unreported, Kennedy, Wallwork and Murray JJ, 9 June 2000) [13]-[29] (Wallwork J); *Papadopoulos v Hristoforidis* [1999] NSWSC 1017 (Unreported, Wood CJ, 8 October 1999) [14]-[15]; *Shalhoub v Buchanan* [2002] NSWSC 622 (Unreported, Simpson J, 12 July 2002) [23]-[30].

<sup>39</sup> As Gillard J notes ‘[a] consideration of the cases enables one to compile a list of relevant matters in determining the question of duty of care. However, one has to proceed with caution, as some of the matters are not necessarily relevant to a particular claim for purely economic loss and others may be relevant but may be accorded different weight depending upon the circumstances. Of course, the list is not exhaustive and other matters may be considered relevant in a particular case.’ *Johnson Tiles* (2003) Aust Torts Reports 81-692 at [735]. See also J Stapleton, ‘Duty of Care Factors: a Selection from the Judicial Menus’ in Cain and Stapleton, *The Law of Obligations: Essays in Celebration of John Fleming* at p 88 (not seen). See also warning of McHugh J in *Crimmins v Stevedoring Industry Finance Committee* (1999) 200 CLR 1 at [77].

no obligation on commercialisers or GM farmers to contain approved GM crops, and it is the responsibility of those who do not want GM contamination to take precautions to prevent that.<sup>40</sup> This is in contrast to Australian regulations where responsibilities are often imposed on commercialisers and GM farmers to contain approved GMOs. However, there are US regulations forbidding the escape of GM crops unapproved for commercial production undergoing field trials. US regulations can also forbid the use of GM crops in human food. For example, in the US *StarLink Litigation*,<sup>41</sup> GM corn approved only for sale as animal feed and ethanol production entered the human food chain.<sup>42</sup> Contaminated corn products, such as taco shells, were then withdrawn from sale. Many companies including grain handlers, farmers, food processors and retailers then successfully looked to the developer / patent owner, Aventis CropScience (now Bayer CropScience), for compensation.<sup>43</sup> However, in both the *StarLink* and *GM Rice Litigation*, the plaintiffs' property had been contaminated by the defendants' GM crops. The situation where there has been no actual contamination but nevertheless is a loss of market access or inability to continue to farm in the way the plaintiff had previously done because of the need to take (often expensive) precautions against GM contamination was not considered.

### *Pure Economic Loss*

In *Sample v Monsanto Co*<sup>44</sup> growers of conventional soybeans and corn brought a class action against GM seed developers – Monsanto Company, Pioneer Hi-Bred International, Inc and Syngenta, Inc – for, inter alia, negligence. Claims of property damage were abandoned. Instead it was alleged that the commercial release of GM crops in the US caused the loss of markets because of concerns about contamination by conventional crops with GM crops in marketing channels.<sup>45</sup> The Court applied the 'pure economic loss doctrine' to dismiss the claim.<sup>46</sup>

As noted above, the pure economic loss doctrine bars recovery of pure economic loss in a variety of situations if there is no personal injury or physical damage to property other than the property at issue in the case.<sup>47</sup> This rule constrains the foreseeability requirement and thus avoids imposing extensive and indeterminate liability on the defendant.<sup>48</sup> However,

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<sup>40</sup> Chap 2 of Smyth book, p 27.

<sup>41</sup> *Re StarLink Corn Products Liability Litigation* 2002. 211 F2002. 211 F Supp 2d 1060, 1062 (N.D. III2002).

<sup>42</sup> The US Environmental Protection Agency had deemed the corn unfit for human consumption because the traits of the protein (Cry9C) produced as a result of the genetic modification were shared with a known human allergen.

<sup>43</sup> *Re StarLink Corn Products Liability Litigation* 2002. 211 F2002. 211 F Supp 2d 1060, 1062 (N.D. III2002). The case was settled out of court for US\$110 million on 7 April 2003. Lara Khoury and Stuart Smyth, 'Reasonable Foreseeability and Liability in Relation to Genetically Modified Organisms' (2007) 27 *Bulletin of Science, Technology & Society* 215-232, 222.

<sup>44</sup> 283 F Supp 2d (E.D. Mo 2003) 1088, 1090.

<sup>45</sup> 283 F Supp 2d (E.D. Mo 2003) 1088, 1091-93.

<sup>46</sup> See also *Agra Marke, Inc v Aventis CropScience USA LP*, No MDL 1403, 03 C 4385 (2005) WL 327020 (N.D. III. 2005) which Khoury and Smyth say (p 31) was a subsequent *StarLink* induced litigation where the plaintiff claimed damages for loss of premium for conventional corn and claimed part of settlement monies. The Court ruled the plaintiff didn't have a claim because the crops had not suffered direct physical injury while owned by the plaintiff.

<sup>47</sup> *In Re Genetically Modified Rice Litigation* Case No 4:06MD1811 CDP, 2009 US Dist LEXIS 98302, 9 October 2009 [44].

<sup>48</sup> *Louisiana ex rel Guste v M/V Testbank* 752 F. 2d 1019, 1023 (5<sup>th</sup> Cir. 1985).

individual US States have different rules in relation to the doctrine's application. For example, on hearing motions for summary judgment in the *GM Rice Litigation*, Judge Perry noted that Missouri courts have rejected the doctrine if the particular duty alleged to have been breached arose from the common law, as opposed to arising from contract.<sup>49</sup> Further, the doctrine did not apply if, as was the case there, the plaintiffs were claiming damage to other property besides the defective property itself (in that case, the GM rice).<sup>50</sup>

Benson, an American commentator, argues that the basis of the economic loss doctrine is a right-based one.<sup>51</sup> He asserts that the imposition of a duty requires both foreseeable harm and misfeasance in the sense that the defendant has interfered with something that comes under the plaintiff's exclusive rights as against the defendant.<sup>52</sup> The usual requirement of a proprietary or possessory interest in the damaged property is therefore only one way to show this, albeit a common one. Where plaintiffs claim to have lost potential markets because of the introduction of GM crops then, pursuant to Benson's argument, there is no exclusive right as against the defendant that has been injured.<sup>53</sup> 'The fact that plaintiffs may wish, or even happen, to benefit from the business of others and may plan on this basis does not establish a right to this benefit as against defendants.'<sup>54</sup>

### 3.1.2 Canada

#### *GM Case Law*

In *Hoffman v Monsanto Canada Inc*<sup>55</sup> the Saskatchewan Court of Appeal confirmed that manufacturers of GM canola approved under federal law, were not under a duty of care to farmers who could lose their organic certification of that crop by GM contamination and

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<sup>49</sup> *In Re Genetically Modified Rice Litigation* Case No 4:06MD1811 CDP , 2009 US Dist LEXIS 98302, 9 October 2009 [45].

<sup>50</sup> *In Re Genetically Modified Rice Litigation* Case No 4:06MD1811 CDP , 2009 US Dist LEXIS 98302, 9 October 2009 [47].

<sup>51</sup> Peter Benson, 'The Problem with Pure Economic Loss' (2009) 60 South Carolina Law Review 823-79, at 844. This argument is made in relation to relational economic loss, but later in the article it is made regarding all negligence claims (see p 866).

<sup>52</sup> Peter Benson, 'The Problem with Pure Economic Loss' (2009) 60 South Carolina Law Review 823-79, at 874. Those rights could be proprietary, possessory or contractual. Per p 846.

<sup>53</sup> Peter Benson, 'The Problem with Pure Economic Loss' (2009) 60 South Carolina Law Review 823-79, at 868.

<sup>54</sup> Peter Benson, 'The Problem with Pure Economic Loss' (2009) 60 South Carolina Law Review 823-79, at 868.

<sup>55</sup> [2007] SJ No 182, 283 DLR (4<sup>th</sup>) 190, 2007 SKCA 47 (Sask CA) leave to appeal refused [2007] SCCA No 347 (SCC). This is a continuation of *Hoffman & Beaudoin v Bayer CropScience and Monsanto*, a class action brought on behalf of 1250 certified organic grain farmers of Saskatchewan after Monsanto Roundup Ready canola and Bayer's Liberty Link canola was found on organic farmers land. May 2005 Saskatoon Court of Queen's Bench dismissed claim for compen to be certified as a class action because not all (or even a signif minority) organic farmers financially damaged by contamination – 2005 SKQB 225, 15 CELR (3d) 42, [2005] 7 WWR 665, 264 Sask R 1 (Sask QB, Smith J). Smith J also believed claim did not disclose plausible legal basis for imposing liability on def on basis of, inter alia, negligence. Khoury and Smyth say even though organic farmers were foreseeable victims, the court found there was not sufficient proximate relationship between manufacturers and organic farmers to warrant duty of care. Decision then appealed to Saskatchewan Court of Appeal which is what I've discussed in text. The case was appealed to the Canadian Supreme Court but that court declined to hear the case, giving no reasons.

therefore their premium for it.<sup>56</sup> This was because there was insufficient proximity between the parties and also, there were policy reasons to negate such a duty.<sup>57</sup> Burns and Blom cite this decision as an example of the prospect of indeterminate liability inhibiting the recognition of a duty where there is no contract or series of contracts in which both parties participated.<sup>58</sup> They assert the indeterminacy lies in the ‘fact that the defendant would be exposed to a liability, the extent of which would be difficult for the defendant to gauge and the risk of which would be difficult or impossible for the defendant to circumscribe.’<sup>59</sup> The Court itself says that the government approval of the unconfined release of the GMO provided a powerful policy reason for negating any duty of care.<sup>60</sup>

### *Pure Economic Loss*

As noted above, so called contractual relational economic loss cases, where the plaintiff has a contractual relationship with the third person whose property was damaged or interfered with by the defendant are unlikely to be successful. In *Bow Valley Husky (Bermuda) Ltd v Saint John Shipbuilding Ltd*<sup>61</sup> the Canadian Supreme Court found that whilst economic loss was reasonably foreseeable on the facts, the prospect of indeterminate liability meant that there was no duty. There was nothing to distinguish the two plaintiffs from others whose business depended on the damaged property.<sup>62</sup> Confining plaintiffs to users of the rig was rejected as a way to overcome indeterminacy on the basis that it was arbitrary and without legal or social justification.<sup>63</sup> Further, other policy concerns pointed to no duty as well: imposing a duty would not enhance deterrence of negligent conduct (because the owner of the damaged property could already sue the defendant), the plaintiffs were not vulnerable and could have allocated the risk by contract with the third party which the plaintiffs in fact owned.<sup>64</sup>

GM contamination claims are likely to raise non-contractual relational economic loss claims in which the plaintiff(s) do not have a contractual relationship with the third party but were nevertheless dependant on the characteristics of a third party’s property in some way. Such claims are likely to raise even greater indeterminacy concerns and so a duty is even less likely to arise in such cases. However, in *Sauer v Canada (Attorney-General)*,<sup>65</sup> a class action on behalf of Canadian commercial cattle farmers for losses suffered when Canadian beef exports were stopped because of a single case of ‘mad cow disease’ allegedly caused by the animal eating the defendant’s feed, the Ontario Court of Appeal upheld the motion judge’s refusal to

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<sup>56</sup> Claims eco loss through loss of European market for organic canola (per Smyth chap – Hoffman v Monsanto Canada Inc 2005 Vol 4030 Saskatchewan § 218), loss to organic farmers of practical option to choose to grow organic canola (§ 219) and for removal of volunteer GM canola growing on their land (§220).

<sup>57</sup> [2007] SJ No 182, 283 DLR (4<sup>th</sup>) 190, 2007 SKCA 47 (Sask CA) at [59-61]. In *Schmeiser v Monsanto Canada Inc* (2005) the plaintiff sought damages for cost of removing volunteers from her organic garden, alleging that the volunteers were GM. The Provincial Court of Saskatchewan dismissed the claim when the plaintiff failed to appear in court. The court also noted that it was not proven the GM volunteers were the defendant’s Roundup Ready plants. In obiter dictum, the court added that the defendant did not owe a duty of care to the plaintiff to ensure there was no unwanted spread of its’ GM canola. There was no explanation for this in the judgment.

<sup>58</sup> Peter T Burns and Joost Blom, *Economic Interests in Canadian Tort Law* Lexis Nexis Canada Inc 2009, p 393.

<sup>59</sup> Peter T Burns and Joost Blom, *Economic Interests in Canadian Tort Law* Lexis Nexis Canada Inc 2009, p 393.

<sup>60</sup> [2007] SJ No 182, 283 DLR (4<sup>th</sup>) 190, 2007 SKCA 47 (Sask CA) at [60].

<sup>61</sup> [1997] SCJ No 111, [1997] 3 SCR 1210, 153 DLR (4<sup>th</sup>) 385 (SCC).

<sup>62</sup> Paras 64-67.

<sup>63</sup> PH Osborne, *The Law of Torts* (3<sup>rd</sup> ed) 2007 Irwin Law Inc, Canada, p 189.

<sup>64</sup> Paras 68-69.

<sup>65</sup> [2007] OJ No 2443, 31 BLR (4<sup>th</sup>) 20, 2007 ONCA 454 (Ont CA).



strike out a claim of negligence.<sup>66</sup> The Court said the decision in *Hoffman* was of little assistance because it was made in the context of the test for certification of a class action.<sup>67</sup> Indeterminacy was, it seems, not of such concern in this case where the parties were ‘part of one integrated industry, from the supply of feed through to the sale of cattle’.<sup>68</sup> In addition to this economic link, there was a regulatory link because feed is regulated nationally ‘in the interests of the participants in it and the public’.<sup>69</sup> Such an approach could also be taken with GM crops.

### 3.1.3 Australia

#### *GM Case Law*

In Australia, research and development, field trialling and commercial growing of GM crops is regulated by a federal authority, the Gene Technology Regulator.<sup>70</sup> Some Australian States also have legislation regulating the release of certain GMOs, including some GM crops. There have been no decided cases concerning agricultural GMOs in Australia. Nevertheless, there is one particularly relevant High Court case concerning claims resulting from agricultural contamination.

In *Perre v Apand Pty Ltd*<sup>71</sup> a South Australian farm owned by the Sparnons was contaminated by a potato disease<sup>72</sup> following the supply of infected seed potatoes to the Sparnons by the respondent. The importation of the infected seed potatoes into SA by the respondent was illegal.<sup>73</sup> The disease caused physical damage to the Sparnons’ potatoes. The Sparnons therefore suffered property damage because their tangible property, the potatoes, was damaged by the disease introduced by the respondents. The Sparnons also suffered consequential economic loss, such as lost profits they would otherwise have received upon the sale of vegetables grown on their property and the costs of eliminating the disease from their land. The Full Court of the Australian Federal Court found the respondent liable in negligence to the Sparnons for all such damage.<sup>74</sup> The respondent did not appeal to the High Court from that decision.

The Perres were a group of potato producers on properties between about 2 to 3 1/2 kms around the Sparnons’ farm. Some of them grew potatoes while others processed and packed them. The disease did not spread to their properties and they had no contractual relationship with the respondent. However, their businesses were affected by the damage to the Sparnons’ property. Most of the Perres’ potatoes were sold in Western Australia where they received twice as much as they did in SA. Upon the outbreak of the disease on the Sparnons’ property, the Perres lost their export market. Regulations in WA<sup>75</sup> prohibited the sale of

<sup>66</sup> Peter T Burns and Joost Blom, *Economic Interests in Canadian Tort Law* Lexis Nexis Canada Inc 2009, p 392 say in fn 284 that leave to appeal was refused (sub nom *Canada (Minister of Agriculture) v Sauer*) [2007] SCCA No 454 (SCC).

<sup>67</sup> [2007] OJ No 2443, 31 BLR (4<sup>th</sup>) 20, 2007 ONCA 454 (Ont CA) at [42].

<sup>68</sup> [2007] OJ No 2443, 31 BLR (4<sup>th</sup>) 20, 2007 ONCA 454 (Ont CA) at [39].

<sup>69</sup> [2007] OJ No 2443, 31 BLR (4<sup>th</sup>) 20, 2007 ONCA 454 (Ont CA) at [39].

<sup>70</sup> Pursuant to the *Gene Technology Act 2000* (Cth).

<sup>71</sup> (1999) 198 CLR 180.

<sup>72</sup> Caused by *Pseudomonas solanacearum*.

<sup>73</sup> Pursuant to *Fruit and Plant Protection Act 1968* (SA).

<sup>74</sup> *Perre v Apand Pty Ltd* (1997) 80 FCR 19 (Full Fed Ct). The defendant was also found liable for breach of contract arising from implied warranties as to fitness of the seed potatoes.

<sup>75</sup> The Plant Diseases Regulations 1989 (WA) made under the *Plant Diseases Act 1914* (WA).

potatoes in that State if grown on a property, or processed with other potatoes grown, within 20 kms of a property infected with bacterial wilt in the previous five years. Due to those regulations the entire region in which the Sparnons lived lost its export approved status despite the fact that the disease did not spread beyond the Sparnons' property. Landowners also claimed that the value of their land had been reduced because it could not be used for growing potatoes for the WA market.

The Australian High Court unanimously held that the loss suffered by the Perres was pure economic loss.<sup>76</sup> Such economic loss was caused by the respondent's damage to a third party's, the Sparnons, property. Two of the judges found that certain of the Perres were one step further removed from the property damage suffered by the Sparnons than the other members of the Perre group. Accordingly, although all seven judges found that those of the Perre group who grew potatoes succeeded in negligence, only five found that those who processed and packed the potatoes could succeed.<sup>77</sup> The reasons for the decision are discussed in the next sections.

## 3.2 Relevant Legal Concerns

### 3.2.1 Indeterminate Liability

The avoidance of indeterminate liability is a primary concern in pure economic loss cases in all three jurisdictions.<sup>78</sup> Liability is indeterminate when the likely number of claims and the nature of them cannot be realistically calculated.<sup>79</sup> In Australia at least, for liability to be determinate the defendant's knowledge need not be of individual persons; liability can be determinate when at the time of the negligence the tortfeasor *could* have ascertained the identity of the specific class of persons likely to be affected.<sup>80</sup>

Some members of High Court in *Perre* discussed the indeterminacy factor.<sup>81</sup> It was noted that so long as the class of persons who may be affected is ascertainable it does not matter if the class is numerous although the size of the class can be relevant.<sup>82</sup> Some knowledge of the plaintiff by the defendant is therefore an important factor in determining whether there is a duty.<sup>83</sup> In *Perre* the respondent knew there was a great risk of disease in what it was doing,<sup>84</sup>

<sup>76</sup> Gummow J said that the Perres' case 'is best approached on the substantial footing that they do not complain of "physical" damage to their land or the tangible assets used in their business operations there'. (1999) 198 CLR 180 at [166].

<sup>77</sup> McHugh and Hayne JJ held that those of the Perre group who had only a packing and processing interest could not recover for pure economic loss. (1999) 198 CLR 180 at [144]-[145] and [352]-[353] respectively.

<sup>78</sup> See, for eg, *Caltex* (1976) 136 CLR 529 at 593 (Mason J). See also 555 (Gibbs J); *Perre* (1999) 198 CLR 180 at [15] and [32] (Gaudron J), [102], [106]-[113] (McHugh J), [206] (Gummow J), [297]-[299] (Kirby J), [335]-[336] (Hayne J).

<sup>79</sup> *Perre* (1999) 198 CLR 180 at [107]-[108] (McHugh J).

<sup>80</sup> *Perre* (1999) 198 CLR 180 at [111] (McHugh J) and [336] (Hayne J).

<sup>81</sup> *Perre* (1999) 198 CLR 180 at [106]-[113] (McHugh J), [335]-[336] (Hayne J) and [409] (Callinan J). All pointed out that the respondent's liability was necessarily determinate in this case because of the WA legislation. J L R Davis, 'Liability for careless acts or omissions causing pure economic loss: *Perre v Apand Pty Ltd*' (2000) 8 *Torts Law Journal* 123, 129.

<sup>82</sup> Eg, *Perre* (1999) 198 CLR 180 at [107] and [139] (McHugh J). Hayne J also observed that '[t]he damage suffered by persons affected by the defendant's negligence may be very large; there may be many who are affected. But neither of those considerations means that the liability is indeterminate.' *Perre* (1999) 198 CLR 180 at [336].

<sup>83</sup> C D Baker et al, *Torts Law in Principle* (Revised 3<sup>rd</sup> ed, LawBook Co, Sydney, 2002), p 8-36.

that the economic impact on those near a grower who had the disease on their farm could be disastrous, that the impact would be due to the provisions of the WA legislation concerned and that SA farmers sold their potatoes to WA.<sup>85</sup> The Court held that there was no risk of indeterminacy, at least with respect to some of the plaintiffs/appellants.

In the case of GMOs, commercialisers and GM farmers would or should be aware of the existence of particular markets for non-GMOs and regulatory obligations imposed on those growing GMOs. Further, the number of neighbours whose property may be invaded or affected is finite and ascertainable.<sup>86</sup> Indeterminacy in respect of those who have directly and primarily suffered harm, that is first line victims, should therefore not be a basis on which a court refuses to find a duty of care.<sup>87</sup>

However, indeterminacy will mean that no duty of care is likely to be owed to second line or ripple effect victims. Such victims would, for example, be persons who handle the produce of GM co-mingled neighbours of the GM farmer.<sup>88</sup> As a general rule those who suffer loss as a consequence of the primary or first line victim suffering loss (that is, the person who has directly suffered harm) are not owed any duty of care to avoid pure economic loss.<sup>89</sup> For example, Kirby J in *Perre* noted there would be no duty owed to store owners in the local town or truckers who carried the potatoes to WA on the facts before him even though they lost income because of the contamination.<sup>90</sup> McHugh J in *Perre*<sup>91</sup> said:

While the defendant might reasonably foresee that the first line victims might have contractual and similar relationships with others, it would usually be stretching the concept of determinacy to hold that the defendant could have realistically calculated its liability to second line victims.

Similarly, second line victims would be an unascertainable class in the case of GMO releases because it would be impossible to say how many are likely to be in the class.

Commercialisers and GM farmers could not realistically calculate the numbers affected or, if required, the quantum of claims as at the time of the release.

Regulations put in place by state or national governments may have a significant role to play in determining whether indeterminacy is a relevant concern. For example, in a case concerning the contamination of cattle by an insecticide used in growing cotton, after cattle grazed on cotton stubble, the Australian Federal Court refused to recognise a duty of care to, amongst others, exporters who lost business or profit because of the effect of controls

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<sup>84</sup> Distributing uncertified seed potatoes.

<sup>85</sup> With respect to some matters, the knowledge was constructive knowledge rather than actual.

<sup>86</sup> As the Court held in *McMullin v ICI Australia Operations Pty Ltd* (1997) 72 FCR 1.

<sup>87</sup> See also *Dovuro Pty Ltd v Wilkins* (2000) 105 FCR 476 at [29] (Branson J) where the vulnerable class was described to be limited and ascertainable. The class comprised the ultimate purchasers of the contaminated seed.

<sup>88</sup> For eg, the StarLink situation in US where GM corn approved only for sale as animal feed, entered the human food chain. Corn products, such as taco shells, then had to be withdrawn from sale. A number of companies including grain handlers, farmers, food processors and retailers then looked to the patent owner and commercialiser, Aventis CropScience, for compensation. On the StarLink matter generally see, D L Uchtmann, 'Starlink TM – A Case Study of Agricultural Biotechnology Regulation' (2002) 7 *Drake Journal of Agricultural Law* 159; R Bratspies, 'Myths of Voluntary Compliance: Lessons from the StarLink Corn Fiasco' (2003) 27 *William & Mary Environmental Law & Policy Review* 591.

<sup>89</sup> *Perre* (1999) 198 CLR 180 at [112]; *Johnson Tiles* (2003) Aust Torts Reports 81-692 at [939].

<sup>90</sup> *Perre* (1999) 198 CLR 180 at [298].

<sup>91</sup> *Perre* (1999) 198 CLR 180 at [112].

introduced by foreign governments.<sup>92</sup> In *Perre*, the economic loss flowed from state regulations but it was not where the line regarding indeterminacy was drawn – some who suffered loss because of the regulation were allowed to recover, others were not. In the case of GM crops, the line may therefore not be drawn on the basis of whether the crop is legally approved in the particular country or not.

*Unreasonable Interference with Personal Autonomy, Economic Freedom and Market Competition*

Reluctance to interfere with personal autonomy, competitive commercial practice, such practice even involving deliberate action causing economic loss to others, and with the right to legitimately pursue personal gain in business is another primary concern of the courts in all three jurisdictions in pure economic loss claims.<sup>93</sup> The courts are reluctant to hamper economic competition in the marketplace by protecting or compensating resultant losses of commercial interests, opportunities or advantages.<sup>94</sup> Reluctance to interfere with ordinary business conduct or an individual's autonomy is of little relevance though where the defendant already owes a duty of care to do or not to do something to someone other than the plaintiff or where the defendant is doing something illegal.<sup>95</sup>

These factors, it is submitted, point to there being no duty owed by commercialisers and GM farmers with respect to pure economic loss where neither the plaintiff nor any other person has suffered property damage because of contamination. In both the Canadian *Bow Husky* and Australian *Perre* decisions, the defendant/respondent already owed a duty of care to another person which required them not to act in the way in which they had acted. In *Bow Husky* that duty was owed to the rig owner; in *Perre* it was owed to the Sparnons. In contrast, besides the duty under consideration the commercialiser or GM farmer will arguably owe no *other* duty of care with respect to GMO releases if no property damage has been or will be caused to the plaintiff or other third party.

Further, imposing a duty of care on commercialisers or GM farmers when *lawfully* releasing GMOs to avoid causing pure economic loss to neighbours is arguably inconsistent with the legitimate pursuit by the releaser of financial gain.<sup>96</sup> Commercialisers and GM farmers, like non-GM farmers, have a commercial interest in producing their crops. The plaintiff and the GM farmer may in some cases be in economic competition with each other. For example,

<sup>92</sup> *McMullin v ICI Operations Pty Ltd (No 7)* (1999) 169 ALR 227. No maximum residue level, or MRL, had been set for the insecticide internationally. Therefore meat with any of the insecticide present could therefore be rejected by overseas markets.

<sup>93</sup> All members of the *Perre* Court noted that finding the respondent liable in that case would not derogate from its pursuit of its own commercial advantage. J L R Davis, 'Liability for careless acts or omissions causing pure economic loss: *Perre v Apand Pty Ltd*' (2000) 8 *Torts Law Journal* 123, 130. See [5] (Gleeson CJ), [32]-[33] (Gaudron J), [279] (Kirby J), [114]-[117] (McHugh J) and [335] (Hayne J). See also *Bryan v Maloney* (1995) 182 CLR 609 at 618-9; *Woolcock Street Investments Pty Ltd v CDG Pty Ltd* [2004] HCA 16 at [78]-[79].

<sup>94</sup> B McGivern, 'Tortious liability for (selected) genetic harm: Exploring the arguments' (2002) 10 *Torts Law Journal* 41, 59. See also *Jaensch v Coffey* (1983-4) 155 CLR 549 at 578 (Deane J); *Sutherland Shire Council v Heyman* (1985) 157 CLR 424 at 502-3 (Deane J); and *Hill v Van Erp* (1997) 188 CLR 159 at 179 (Dawson J), 192-3 (Gaudron J), 215-6 (McHugh J), 235-6 (Gummow J).

<sup>95</sup> *Perre* (1999) 198 CLR 180 at [50] and [117] (McHugh J).

<sup>96</sup> Cf Dalton who concludes that the autonomy and freedom of actions of commercialisers would not be impaired by the imposition of a duty of care to neighbours because they are already under a 'statutory obligation to guard against the risks of contamination'. It is not clear what the statutory obligation is because the *GT Act* does not impose such an 'obligation'. D Dalton, 'Transgenic Crops and Genetic Contamination: Assessing the Need for a Regulatory Response to Protect Organic Farmers' (2003) 8 *The Australasian Journal of Natural Resources Law and Policy* 129, 153.

they may both grow canola intended for a particular overseas market. Imposing a duty could hinder competition.

Finally, it could be submitted that the plaintiff, by adopting a form of agriculture susceptible to adverse consequences if GMOs are released, should not be able to force commercialisers and GM farmers to cease doing something they otherwise could.<sup>97</sup> Imposing a duty of care on commercialisers and GM farmers is arguably not in accord with the community standards reflected in the relevant regulations and government policies in all three jurisdictions.<sup>98</sup> In *Perre* and the *US GM Rice Litigation* the defendant's activity was illegal.<sup>99</sup> GMO releases will be prima facie lawful if there has been compliance with the relevant regulations. Extending liability to pure economic loss in such cases may reduce the use of GMOs. Even if insurance is theoretically available, it may not be practically securable because the risk of liability will be difficult to estimate given the potential number of plaintiffs and amounts involved.<sup>100</sup> This may have the effect of decreasing the types of agriculture practised in Australia, Canada and the US which may in itself be an adverse consequence for consumers. If the plaintiff or another person has suffered property damage though, a duty of care with respect to that damage would be owed. Causing property damage to another is not considered legitimate market competition.

#### *Control by Defendant*

That the defendant has control over the enjoyment of a legal right by another, not necessarily the plaintiff, is a factor in favour of a duty with respect to pure economic loss. In *Hill v Van Erp*<sup>101</sup> a solicitor was found to control the realisation of the testatrix's intentions and the rights of any proposed beneficiaries when organising the witnessing of a will. Both Gaudron<sup>102</sup> and Gummow<sup>103</sup> JJ of the Australian High Court saw that control as a special factor warranting the imposition of a duty.<sup>104</sup> The testatrix and the beneficiary had to rely on the solicitor and it could not really be known that the matter had not been handled correctly until after the testatrix's death. In *Perre* Gaudron J pursued that approach. She noted that '[t]he respondent controlled the activity on the Sparnons' land'.<sup>105</sup> Her Honour concluded that:

Where a person is in a position to control the exercise or enjoyment by another of a legal right, that position of control and, by corollary, the other's special dependence on the person with control are, in my view, special factors...such that the law will impose liability upon the person with control if his or her negligent act or omission

<sup>97</sup> P Cane, 'The blight of economic loss: Is there life after *Perre v Apand*?' (2000) 8 *Torts Law Journal* 246, 260-1.

<sup>98</sup> See *Perre* (1999) 198 CLR 180 at [103]-[104], [101] and [117] (McHugh J). See also *Dovuro Pty Ltd v Wilkins* (2000) 105 FCR 476 at [30] (Branson J) where it was held on the facts that the defendant's behaviour was not legitimately protecting or pursuing business interests.

<sup>99</sup> Per *Fruit and Plant Protection Act 1968* (SA). An important factor to Kirby and Hayne JJ. See *Perre* (1999) 198 CLR 180 at [300]-[301] (Hayne J) and [349] (Kirby J).

<sup>100</sup> *Esanda Finance Corporation Ltd v Peat Marwick Hungerfords* (1997) 188 CLR 241 at 282 (McHugh J).  
<sup>101</sup> (1997) 188 CLR 159.

<sup>102</sup> (1997) 188 CLR 159 at 198-9. Gaudron J also noted that this was different to the factor of assumption of responsibility and reliance, control being in some respects a more stringent test (at 198-9).

<sup>103</sup> (1997) 188 CLR 159 at 234.

<sup>104</sup> Dawson J, with whom Toohey J agreed, emphasised that 'the intended beneficiary's interests [were] totally and unavoidably dependant upon the proper performance of a function within the sole province of the solicitor'. *Hill v Van Erp* (1997) 188 CLR 159 at 186.

<sup>105</sup> (1999) 198 CLR 180 at [14].

results in the loss or impairment of that right and is, thereby, productive of economic loss.<sup>106</sup>

Neighbours may argue they have a legal right to pursue any lawful activity on their land, including GM-free agriculture. The enjoyment of that ‘right’ is controlled by the commercialiser and GM farmer because their actions determine whether GM-free agriculture remains possible. Three arguments could be made in response to this. First, it could be asserted that choice of method of agriculture is not a right for these purposes. Secondly, many of the consequences suffered by the plaintiff are outside the commercialiser and GM farmers’ control. For example, the plaintiff may be unable to export their produce because of rules of international trade regarding GMO content; they may have to label their produce sold domestically in a particular way because of food or consumer protection legislation; or the plaintiff may lose their organic certification in Australia or crop premium in North America because of the rules of the relevant organic certification scheme. Finally, it could be asserted that the relevant regulators rather than the commercialiser and GM farmer are in control: it is their actions which determine whether the activities go ahead. Only the first of these is likely to be successful.

With respect to the first argument, what Gaudron J intended to be included as a right is unclear. Anything that can be lawfully done could fall within the term.<sup>107</sup> It is submitted that choice of agricultural style should and would not be considered a right protected by a duty of care just as a ‘right’ to trade was considered not to be such a right by McHugh J in *Perre*.<sup>108</sup> More importantly for commercialisers and GM farmers, only Gaudron J has pursued this factor as being significant. McHugh J in *Perre* referred to it as relevant<sup>109</sup> but none of the other members of the High Court emphasised it. Instead they emphasised a related factor, that of the plaintiff’s vulnerability, discussed next.

That many of the consequences suffered by the plaintiff are outside the control of the commercialiser and GM farmer is unlikely to mean they are not ‘in control’. It is likely a court would instead consider this all the more reason they should ensure that they do not do something that puts others at risk of not complying with relevant regulations or requirements.<sup>110</sup>

In regards to the third argument, it is true that the relevant regulations determine whether a release can lawfully occur. But it is the commercialiser or GM farmer who decides whether to proceed and whether to take additional precautions. In *Perre*, the respondent did not control the WA law making it illegal for the Perres to sell their potatoes in that State. Nevertheless, Gaudron J said that the respondent’s relationship with the Perres was ‘closely analogous to that which obtains where one person is in a position to control the exercise or enjoyment of a legal right by another person’.<sup>111</sup> The respondent knew, she noted, that a class of persons ‘availed themselves of the right to sell potatoes in Western Australia’,<sup>112</sup> that they would lose the right to do so if bacterial wilt was detected near them and the class were

<sup>106</sup> (1999) 198 CLR 180 at [38].

<sup>107</sup> See *Perre* (1999) 198 CLR 180 at [85] (McHugh J).

<sup>108</sup> *Perre* (1999) 198 CLR 180 at [85] (McHugh J).

<sup>109</sup> *Perre* (1999) 198 CLR 180 at [127] and [129] (McHugh J). See also *Woolcock Street Investments Pty Ltd v CDG Pty Ltd* [2004] HCA 16 at [222] (Callinan J).

<sup>110</sup> *McMullin v ICI Australia Operations Pty Ltd* (1997) 72 FCR 1.

<sup>111</sup> (1999) 198 CLR 180 at [41].

<sup>112</sup> (1999) 198 CLR 180 at [41].

powerless to protect their own interests.<sup>113</sup> Commercialisers and GM farmers know of the risk to others and often know the magnitude of the risk.<sup>114</sup> It is therefore submitted that a court would find that the commercialiser and GM farmer is in ‘control’.

*Vulnerability – Reliance and Assumption of Responsibility*

Stapleton has suggested that protecting the vulnerable is a core value of tort law.<sup>115</sup> If the defendant is ‘in control’ of a risk-producing activity the plaintiff’s vulnerability to, or special dependence on, the defendant to control the risk or activity is an important policy factor in cases of pure economic loss.<sup>116</sup> Gleeson CJ in *Perre* said:

Knowledge (actual, or that which a reasonable person would have) of an individual, or an ascertainable class of persons, who is or are reliant, and therefore vulnerable, is a significant factor in establishing a duty of care.<sup>117</sup>

Gaudron<sup>118</sup> and McHugh<sup>119</sup> JJ in *Perre* also adopt the concept of special vulnerability of a plaintiff attracting a duty of care. McHugh J in *Woolcock Street Investments Pty Ltd v CDG Pty Ltd* said vulnerability to risk means:

that by reason of ignorance or social, political or economic constraints, the plaintiff was not able to protect him or herself from the risk of injury.<sup>120</sup>

At least two indicators are important in the context of the ‘vulnerability factor’.<sup>121</sup> These are reliance and assumption of responsibility. As Baron explains, reliance in this context means an expectation by the plaintiff that the defendant will use due care towards them.<sup>122</sup> The expectation is said to arise from the fact that the defendant knows that the plaintiff is depending upon them to use such care.<sup>123</sup> An assumption of responsibility by the defendant to the plaintiff means that the defendant has accepted or is deemed by the law to have accepted by their conduct that the defendant will be liable to the plaintiff for the

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<sup>113</sup> (1999) 198 CLR 180 at [41].

<sup>114</sup> *Woolcock Street Investments Pty Ltd v CDG Pty Ltd* [2004] HCA 16 at 33 [87] (McHugh J).

<sup>115</sup> J Stapleton, ‘Comparative Economic Loss: Lessons From Case-Law-Focused “Middle Theory”’ (2002) 50 *UCLA Law Review* 531, 535.

<sup>116</sup> All members of the *Perre* Court considered this relevant although different interpretations were given to the term vulnerability. J L R Davis, ‘Liability for careless acts or omissions causing pure economic loss: *Perre v Apand Pty Ltd*’ (2000) 8 *Torts Law Journal* 123, 130. See also *Woolcock Street Investments Pty Ltd v CDG Pty Ltd* [2004] HCA 16 at [23] (Gleeson CJ, Gummow, Hayne and Heydon JJ).

<sup>117</sup> *Perre* (1999) 198 CLR 180 at [10]. See also [215]-[216] (Gummow J).

<sup>118</sup> *Perre* (1999) 198 CLR 180 at [38] and [42]. See also judgment of Toohey and Gaudron JJ in *Esanda Finance Corporation Ltd v Peat Marwick Hungerfords* (1997) 188 CLR 241 at 263-4.

<sup>119</sup> *Perre* (1999) 198 CLR 180 at [118]-[129].

<sup>120</sup> [2004] HCA 16 at [80].

<sup>121</sup> See *Perre* (1999) 198 CLR 180 at [118], [120], [124]-[125] and [129] (McHugh J) where McHugh J says two things are important in this factor but that they are not the only indicators of vulnerability. Gleeson J in *Perre* also referred to a vulnerability factor. See [10] and Gummow J (with whom Gleeson CJ agreed) at [216]. Vulnerability was also emphasised by the High Court in *Burnie Port Authority v General Jones Pty Ltd* (1994) 179 CLR 520; *Pyrenees Shire Council v Day* (1998) 192 CLR 330; *Crimmins v Stevedoring Industry Finance Committee* (1999) 200 CLR 1.

<sup>122</sup> A Baron, ‘The “Mystery” of Negligence and Economic Loss: When is a Duty of Care Owed?’ (2000) 19 *Australian Bar Review* 167, 194.

<sup>123</sup> A Baron, ‘The “Mystery” of Negligence and Economic Loss: When is a Duty of Care Owed?’ (2000) 19 *Australian Bar Review* 167, 194.

consequences of that conduct.<sup>124</sup> Alternatively the defendant may have assumed responsibility by generating in the plaintiff an expectation based on the defendant's conduct that such liability will result.<sup>125</sup>

This approach puts the onus on the plaintiff to protect its own interests and to take steps to avoid or minimise a possible risk of harm to those interests.<sup>126</sup> The court considers whether the plaintiff was entitled to rely, and was reasonable in relying, on the defendant. If there were other steps the plaintiff could and should reasonably have taken to protect their own economic interests then the plaintiff may not be considered to be vulnerable and a duty of care may not be owed.<sup>127</sup> On the other hand, if a commercialiser or GM farmer's behaviour is risky or unreasonable they may be considered to have assumed responsibility for the consequences of their conduct and a duty may arise. This factor begins to overlap with that of the defendant's control of the relevant risks. Thus plaintiffs could argue that because commercialisers or GM farmers are best able to insure against harm because they have the best knowledge of the possible risks and can offset any costs by passing them onto consumers, and because commercialisers and GM farmers choose to release GMOs for commercial gain, they are in control and thus owe a duty to anyone injured by their acts.<sup>128</sup>

Taking the last point first, given that the release will have been authorised by the relevant regulators, commercialisers and GM farmers may assert that their conduct is not risky or unreasonable. In granting authorisation to release the GMO, the regulator must have assessed the risks of harm as objectively manageable and acceptable.<sup>129</sup> Commercialisers could therefore assert that the regulators having struck a balance between the parties' competing interests, the court should not seek to reopen the matter.<sup>130</sup> However, the regulations do not require consideration of all the factors relevant to a court's assessment of duty. For example, under Australian regulations, the economic impact of a GMO release is irrelevant. Therefore, assessment by them that a GMO release is acceptable does not necessarily mean that a court would consider that the balance has been struck in the right place and that therefore commercialisers and GM farmers have not assumed responsibility for economic harm caused to others when releasing GMOs.

With respect to the first point, it is submitted that the availability of insurance to defendants should not be a determining factor. As Stapleton points out it is morally incoherent that an

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<sup>124</sup> A Baron, 'The "Mystery" of Negligence and Economic Loss: When *is* a Duty of Care Owed?' (2000) 19 *Australian Bar Review* 167, 194.

<sup>125</sup> A Baron, 'The "Mystery" of Negligence and Economic Loss: When *is* a Duty of Care Owed?' (2000) 19 *Australian Bar Review* 167, 194.

<sup>126</sup> *Johnson Tiles* (2003) Aust Torts Reports 81-692 at [997]. In *Johnson Tiles* the findings of fact with respect to this factor were that there had been an uninterrupted supply in the past but all users were aware of the risk of interruption to the gas supply and could have taken steps to protect themselves such as by getting electric equipment, back up generators or insurance.

<sup>127</sup> P Cane, 'The blight of economic loss: Is there life after *Perre v Apand*?' (2000) 8 *Torts Law Journal* 246, 251.

<sup>128</sup> See D Dalton, 'Transgenic Crops and Genetic Contamination: Assessing the Need for a Regulatory Response to Protect Organic Farmers' (2003) 8 *The Australasian Journal of Natural Resources Law and Policy* 129, 152 who concludes surrounding farmers are vulnerable.

<sup>129</sup> C Lawson, 'Risk Assessment in the Regulation of Gene Technology under the Gene Technology Act 2000 (Cth) and the Gene Technology Regulations 2001 (Cth)' (2002) 19 *Environmental and Planning Law Journal* 195, 197.

<sup>130</sup> See *R v Secretary of State for the Environment and Ministry of Agriculture Fisheries and Food, ex parte Watson* [1999] Env LR 310 at 312 (Simon Brown LJ).



equally culpable but uninsurable actor should escape what an insured actor does not. Nor should the victim be denied recompense on this basis.<sup>131</sup>

With respect to reliance by the plaintiff on the defendant using due care, McHugh J in *Perre* said that if it was reasonably open to the plaintiff to take steps to protect themselves then there is no need for a duty of care.<sup>132</sup> In the case of neighbours, commercialisers and GM farmers could point to steps that could be taken to avoid the risk of economic harm or minimise damage to themselves. For example, plaintiffs could produce sexually incompatible crops or increase buffer zones on their property between their crops and the GMO.<sup>133</sup> It is less easy for others to protect themselves and precautions will not always be available to plaintiffs. Even if they are, it may not be reasonable to require the plaintiff to take them. The issue for commercialisers and GM farmers then is whether it is reasonable to expect plaintiffs to take such steps to protect themselves. How reasonableness at this stage is to be determined is not clear. Presumably it involves many of the same considerations relevant when assessing both the defendant's fault at the breach of duty stage as well as when considering whether the plaintiff has been contributorily negligent.<sup>134</sup> In that case, the likelihood of economic harm, the gravity of any harm and the cost and difficulty of taking precautions will all be important. This will require a case by case assessment. It seems likely that a court will decide, on policy, that tort law protection should not be denied to plaintiffs who fail to take all but the most straightforward precautions.<sup>135</sup> What steps are reasonably to be taken by the plaintiff varies in each case but some guidance can be gleaned from the case law.<sup>136</sup>

In *Perre* the appellants took no steps to protect themselves from the effects of the respondent's negligence. The appellants were not found to have acted unreasonably.<sup>137</sup> Callinan J said that the appellants were entitled to expect that a person like the respondent would act carefully and responsibly in carrying out an experimental activity that had a real and acknowledged potential to cause grave harm to the appellants.<sup>138</sup> Plaintiffs in GMO release cases may argue that they also should not be required to take steps to protect themselves. However, in *Perre* the appellants were unaware of the risk to them posed by the respondent's act. They therefore could not be said to have been unreasonable in not taking steps to protect themselves and were instead considered vulnerable by the court. In GMO release cases, plaintiffs would or should be aware of the risk to them posed by the commercialiser and GM farmer's act. Plaintiffs will know of the commercialiser and GM farmer's activities at least because of the publicity given to the introduction of GM crops. Common knowledge means commercialisers, GM farmers *and* other farmers should be aware of the risk of harm to others following GMO releases, even where regulators' approval is obtained. They are therefore not as vulnerable as the parties in *Perre*.

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<sup>131</sup> J Stapleton, 'Tort, Insurance and Ideology' (1995) 58 *Modern Law Review* 820, 825-6.

<sup>132</sup> On the facts of *Perre*, he held there was nothing the plaintiffs could have done to protect themselves.

<sup>133</sup> These steps may not always be practically possible.

<sup>134</sup> Eg, the plaintiff's lack of backup power sources was considered relevant to whether there was a duty in *Johnson Tiles* (2003) Aust Torts Reports 81-692. Cf *Heeney v Best* (1979) 108 DLR (3d) 367 (Ont CA) where the failure to install an auxiliary generator by an electricity-dependant firm was treated as contributory negligence.

<sup>135</sup> J G Fleming, 'Tort in a Contractual Matrix' (1995) 3 *Tort Law Review* 12, 24.

<sup>136</sup> As McHugh J has said, '[t]he degree and the nature of vulnerability sufficient to found a duty of care will no doubt vary from category to category and from case to case.' *Perre* (1999) 198 CLR 180 at [129] (McHugh J).

<sup>137</sup> *Perre* (1999) 198 CLR 180 at [149] (McHugh J) and [216] (Gummow J).

<sup>138</sup> *Perre* (1999) 198 CLR 180 at [430]. See also generally [407]-[422].

Commercialisers and GM farmers may assert that insuring against loss of or damage to their crops is a reasonable precaution by plaintiffs. However, it is questionable whether the availability of insurance to either party is relevant or a reasonable precaution.<sup>139</sup> McHugh J in *Perre* expressly stated that whether the plaintiff is insured is generally irrelevant to the issue of vulnerability.<sup>140</sup> In any case, it seems that it will be difficult for either party to insure in respect of such harm.<sup>141</sup>

With respect to an action between commercialisers or GM farmers and neighbours though, there will generally be no contract between them. The plaintiff therefore could not have secured protection via contract. This factor merges with the issue of vulnerability. However, at least one commentator has submitted that the lack of a contract between the parties favours recognition of a duty of care by the defendant.<sup>142</sup>

#### *Existing Statutory Regime and Common Law*

In *Perre* McHugh J said that where another body of law effectively deals with the economic loss, the court should be slow to use negligence law to impose a duty of care on defendants. This was particularly important he thought where to do so interferes with a coherent body of law in another field.<sup>143</sup> As noted above, the effect of recognising a duty of care on other legal obligations is also relevant in Canadian law.

That there are regulatory regimes regulating GMO releases is therefore relevant to whether a court should find a duty of care to avoid pure economic loss.<sup>144</sup> The presence of a statutory regime may be as a matter of policy a factor militating against the finding of a duty of care.<sup>145</sup> As a general proposition, a court should not find a duty of care to avoid pure economic loss if the duty resting upon the tortfeasor would be inconsistent with a duty imposed by a statutory instrument.<sup>146</sup> However, the relevant regulations do not deal with commercialisers or GM farmers' liability to others following approved releases. Plaintiffs could therefore submit that

<sup>139</sup> See J Stapleton, 'Tort, Insurance and Ideology' (1995) 58 *Modern Law Review* 820 and cases cited therein.

<sup>140</sup> *Perre* (1999) 198 CLR 180 at [130] (McHugh J). Cf *Johnson Tiles* (2003) Aust Torts Reports 81-692 at [1101] and [1103] where Gillard J found that the availability of insurance to the plaintiff can negate vulnerability as a factor because it offers a reasonable way for the plaintiff to protect themselves. See also *Caltex* where Caltex could have anticipated its loss and allowed for it by taking out insurance cover. The High Court did not take insurance into account in that case. Stephen J, in fact, expressly rejected the relevance of insurance. (1976) 136 CLR 529 at 580. On this aspect of *Caltex* see eg J A Smillie, 'Negligence and Economic Loss' (1982) 32 *University of Toronto Law Journal* 231.

<sup>141</sup> Re availability of insurance it was noted in Tas, Parliamentary Joint Select Committee, *Report on Gene Technology* (2001), p 109 that 'producers, growers and those who may suffer accidental contamination may find difficulty in obtaining adequate insurance to cover damages in the event that they are held liable another [sic] person's loss.' Whilst not clear, it seems the Committee intended to point out that it would be difficult for commercialisers (that is, those that may be liable for another's loss) to get insurance rather than how difficult it would be for plaintiffs to get the same. Query whether neighbours could actually get such insurance.

<sup>142</sup> J G Fleming, 'Tort in a Contractual Matrix' (1995) 3 *Tort Law Review* 12, 19. See *Ross v Caunters* [1980] Ch 297; *White v Jones* [1993] 3 WLR 730; *Hill v Van Erp* (1997) 188 CLR 159. Cf A Baron who submits that the existence of a contract between the parties is a factor in favour of finding that a prima facie duty of care is owed. A Baron, 'The "Mystery" of Negligence and Economic Loss: When is a Duty of Care Owed?' (2000) 19 *Australian Bar Review* 167, 194. But see also *Bryan v Maloney* (1995) 182 CLR 609 at 620-1.

<sup>143</sup> *Perre* (1999) 198 CLR 180 at [120]. See also *Hill v Van Erp* (1997) 188 CLR 159 at 184 (Dawson J).

<sup>144</sup> *Perre* (1999) 198 CLR 180 at [5] (Gleeson CJ) and [121] (McHugh J); *Sullivan v Moody* (2001) 207 CLR 562 at [50].

<sup>145</sup> *Johnson Tiles* (2003) Aust Torts Reports 81-692 at [1171].

<sup>146</sup> *Sullivan v Moody* (2001) 207 CLR 562 at [60] and [62] (Gleeson CJ, Gaudron, McHugh, Hayne and Callinan JJ).

government intended the law of negligence to apply concurrently with the legislation. A court is likely to agree and conclude that finding a duty of care is owed by commercialisers and GM farmers is not inconsistent with the relevant regulations and does not interfere with any decision-making under the statutes.

Commercialisers and GM farmers could make two points in response to such an argument. First, GMOs are the subject of a comprehensive system of international and national regulation and are not prohibited, unlike the situation in *Perre*.<sup>147</sup> This is a factor against finding a duty of care. Secondly, in imposing a duty of care on commercialisers and GM farmers in respect of pure economic loss sustained because of GMO releases, the law of negligence would arguably be undermining another body of law, that of the statutory regulation of GMOs. It would be intruding into an already established area of law and government policy, the statutory schemes regulating GMO releases. McHugh J in *Perre* said ‘I do not think that a duty can be held to exist in any case of pure economic loss without considering the effect of the application of these general principles’.<sup>148</sup> Finding a duty of care was owed by commercialisers and GM farmers means they will need to, in effect, second guess the decisions of the regulators and not proceed with releases that government, through those regimes, decides can proceed.

Whilst it is true that GMO releases are comprehensively regulated, it is submitted that the above arguments are unlikely to succeed. Finding a duty to take reasonable care when carrying out authorised releases is unlikely to be considered unacceptable interference with the regulatory schemes.<sup>149</sup> Satisfying a duty of care does not require conduct contrary to such legislation.

### 3.2.2 Conclusions Regarding Duty

Predicting the outcome of negligence actions brought with respect to pure economic loss caused by GMO releases is difficult, particularly because of the importance of the facts of each case and because of the policy factors relevant in determining whether a duty of care is owed.<sup>150</sup> Different courts may reach different conclusions with respect to policy matters because of ‘differences in social and economic conditions and in judicial assessments of community values and the proper role and scope of tort law’.<sup>151</sup> Nevertheless, the following conclusions are suggested.

The following points are in favour of a duty of care with respect to pure economic loss.

- There is no real risk of indeterminacy in the case of neighbours – but this is different for the wider group. The neighbours, as potential plaintiffs are, as individuals or members of an ascertainable class, identifiable to such an extent that there are probably sufficient limits on the scope of potential liability to overcome the fear of indeterminacy.<sup>152</sup>
- Commercialisers and GM farmers control whether others can exercise their legal ‘right’ to engage in non-GM agriculture.

<sup>147</sup> In dissent. *Dovuro Pty Ltd v Wilkins* (2000) 105 FCR 476 at [187].

<sup>148</sup> *Perre* (1999) 198 CLR 180 at [105].

<sup>149</sup> See *Dovuro Pty Ltd v Wilkins* (2000) 105 FCR 476 at [35] (Branson J) where Branson J noted that finding a duty of care to warn of contamination would not interfere with the law governing the sale of goods generally.

<sup>150</sup> See *Woolcock Street Investments Pty Ltd v CDG Pty Ltd* [2004] HCA 16 at 46 [123] (Kirby J).

<sup>151</sup> F Trindade and P Cane, *The Law of Torts in Australia* (3<sup>rd</sup> ed, Oxford University Press, Melbourne, 1999), p 352.

<sup>152</sup> B McGivern, ‘Tortious liability for (selected) genetic harm: Exploring the arguments’ (2002) 10 *Torts Law Journal* 41, 60.

- The expected lack of contract between the parties means there is no justification for a court refusing to find a duty of care on the basis of interference with contractual arrangements.

However, it has been submitted that other factors point to finding no duty of care. These are:

- There will not always be vulnerability pointing to a strong need for imposing a duty of care. Neighbours and others in the industry will, or should be, aware of the GMO release and can in some cases take precautions to avoid or minimise the risk to them. In other cases though, there will be no precautions available to the plaintiff or it may be unreasonable to expect them to take them.
- The release is part of a legitimate pursuit of commercial interests by the commercialiser and GM farmer in accordance with a statutory scheme established to facilitate the very releases complained of.
- Unlike in *Perre*<sup>153</sup> if no property damage is caused the commercialiser and GM farmer will not owe a pre-existing duty of care to another person in respect of the same act. Imposing a duty of care in such circumstances will therefore be creating a new restraint on the commercialisers and GM farmers' legitimate business activities.
- Given that the release is not illegal, unlike in *Perre*, and that plaintiffs can take steps to protect themselves, community standards with respect to culpability would not demand the imposition of a duty.
- Control over the agricultural practices of others may not be a significant factor or freedom to farm as desired may not be a 'legal right'.
- Imposing a duty of care interferes with legislative regimes because it prevents commercialisers and GM farmers doing something government has authorised in the circumstances described in the legislation. However, plaintiffs could respond here that government did not intend to oust the common law.

Commercialisers and GM farmers could submit on the basis of the above that there is no duty with respect to pure economic loss. They could assert that this is consistent with the commercial freedom of defendants stressed by the Australian High Court in *Perre* and later cases.

Non-adopters may respond that recognising a duty with respect to pure economic loss in such cases prevents situations arising where non-adopters would, for example, be able to recover in respect of crops lost because of GM contamination (property damage), the profit that would be expected from the sale of that crop (consequential economic loss) and loss of organic certification (consequential economic loss) but unable to recover in respect of the lost profits from future crops while non-GM status is regained (pure economic loss). However, the courts have not found this to be a reason to allow recovery in the past.<sup>154</sup>

Nevertheless, it is submitted that an Australian court is likely to find that a duty of care arises in such cases. The court will need to reconcile two competing interests. Reluctance to unduly interfere with legitimate economic freedom strongly points to no duty being owed by commercialisers and GM farmers. However, non-adopters economic freedom to pursue particular types of agriculture incompatible with GMOs is generally vulnerable to the defendant's actions. Unless, there is a particular action the non-adopter could take to prevent harm, reconciliation is likely to require a duty being found for two reasons.

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<sup>153</sup> Where duty of care was already owed to the farmers, the Sparsons, whose potatoes were contaminated by potato blight.

<sup>154</sup> See eg, *Spartan Steel & Alloys Ltd v Martin & Co (Contractors) Pty Ltd* [1973] QB 27. See also *Johnson Tiles* (2003) Aust Torts Reports 81-692 at [622] and [627].

First, this is consistent with an economic analysis of where responsibility should lie. Commercialisers and GM farmers, by releasing GMOs, are receiving an economic benefit from the activity causing the harm.<sup>155</sup> It is appropriate that they therefore owe a duty when taking such action. Secondly, not to find a duty was owed would create a fractured agricultural environment. Those raising and releasing conventional organisms would owe a duty whilst those raising GMOs would not. [This will be different in Canada at least where farmers can't sue each other] It would be extremely difficult for a court to justify protecting one type of agriculture in such a way. That GM agriculture is strictly regulated would only seem to suggest that it is all the more appropriate that a duty to take reasonable care be owed. Further, commercialisers and GM farmers may be concerned about their rights with respect to contamination of their organisms by non-GMOs or GMOs modified in a different way to those of the commercialiser or GM farmer. For example, as Branson J in *Dovuro* noted, purity of canola crops is commercially important.<sup>156</sup> The spread of canola that is either non-GM or modified in a different way to the canola on the GM farmer's land may therefore concern commercialisers and GM farmers. Many of the same consequences described as following GM contamination of an organic crop would then follow for the commercialiser and GM farmer. Arguably there is no justification for treating this situation differently to that which is the subject of this study.

#### 4. CONCLUSION

If compensation is to be provided to non-adopters, who should provide it: The society getting the advantage of the innovative technology, the farmers who adopt GM (like Denmark fund) or the particular commercialiser or GM farmer responsible for the particular GMO that caused the harm (as would happen in the US, Canada and Australia if a suit was successful)?

In jurisdictions such as Denmark, where a revenue pool is used to compensate, society has decided that non-GM adopters should be compensated whether or not there is a right to be a non-adopter or not be effected by new technology. In essence, they have created such a right and it is worth whatever the fund gives to them. The above analysis of the economic efficiencies of having such funds via government efforts shows this is inefficient.

In countries that rely on the courts (like the ones discussed above), society has left it to the courts to decide whether the right not to adopt GM or not be effected by GM is a legal right, the interference with which can be compensated. And it is possible that as between these countries, the courts will answer that question differently. If a court in a particular country decides there is no duty of care it effectively is deciding that there is no legal right to not be affected by a new technology. If it decides there can be a legal duty, that does not necessarily answer the question because the remainder of the ingredients to succeed in negligence still have to be present. But it means it is possible. Further, because the courts consider a variety of legal concerns in deciding whether there is a duty, this decision presumably reflects the views and attitudes of that country's society regarding those concerns. Those attitudes may also show whether the particular society has an innovator or traditional technology bias – particularly their willingness to describe something as a 'worthy harm' that will be

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<sup>155</sup> A B Endres, "'GMO:' Genetically Modified Organism or Gigantic Monetary Obligation? The Liability Schemes for GMO Damage in the United States and the European Union' (2000) 22 *Loyola Los Angeles International & Comparative Law Review* 453, 485.

<sup>156</sup> Because it enhances uniformity in oil quality. *Dovuro Pty Ltd v Wilkins* (2000) 105 FCR 476 at [4]. See also P E Bilsborrow et al, 'Contamination of edible double-low oilseed rape crops via pollen transfer from high erucic cultivars' (1998) 76 *Journal of the Science of Food and Agriculture* 17.

compensated through the courts or whether, as evidenced by a finding by their courts of no duty of care for policy reasons, the preference is for the innovator.

In any case, in all countries insurance is desirable before the release of a GMO because it is unclear if there is a legal right to compensation by non-adopters (unless the relevant country has a law that says people can only be compensated by the fund and lose their private right to sue). It maybe that it will be the availability of insurance and confidence that the court in the relevant country will not find liability that is going to determine whether a new technology is successfully introduced.