

‘But It Was My Idea!’

**A Statutory Compensation
Scheme for Employee
Inventors?**

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I INTRODUCTION

Most patents are held by employers for inventions made by their employees.¹ The law on employees' inventions is not covered by international instruments or internationally harmonised,² but statutory compensation schemes for employed inventors appear to be a worldwide trend.³

The large awards granted to employees by the Japanese Courts recently have drawn a huge amount of international commentary and put compensation schemes for employee inventors into the spotlight. In the *Nakamura* decision by the Tokyo District Court⁴ the inventor of the blue light emitting diode (LED), was awarded US\$190 million.⁵ This was a revolutionary piece of technology used in cell phones and computer displays. He claimed to have received only US\$180 for his invention when he assigned it to his employer.⁶ The decision was appealed and the Tokyo High Court requested that the parties settle,⁷ which they did, for US\$8 million.⁸ The decision has had the effect in Japan of companies giving their researchers a larger share in the benefits of their research.⁹

The accepted rationale of the patent monopoly is that it provides an economic

¹ Becky White and Teresa Griffiths, 'Intellectual Property' in John Dawson and Nicola Peart (eds), *The Law of Research: A Guide* (2003) 311. In the UK, Phillips and Firth estimate that 90% of patents are granted to employed inventors: Jeremy Phillips and Alison Firth *Introduction to Intellectual Property Law* (4th ed, 2001) [9.3].

² It is suggested that international harmonisation on employed inventor laws is not feasible because of different social, economic, political and cultural backgrounds between countries: Vai Io Lo 'Employee Inventions and Works for Hire in Japan: A Comparative Study Against the US, Chinese, and German Systems' (2002) 16 *Temple International and Comparative Law Journal* 279, fn 5.

³ Germany, Austria, France, the Scandinavian countries, the Netherlands, and Japan all provide for additional compensation to an employee paid to do research: Philip Grubb, *Patents for Chemicals, Pharmaceuticals and Biotechnology: Fundamentals of Global Law, Practice and Strategy* (4th ed, 2004) 395; Matthew Bender, *World Patent Law and Practice*, vol 2 (at rel 96-10/97) 2-29, identifies 47 countries that have compensation features for employed inventors.

⁴ *Nichia Corp v Shuji Nakamura* 13 WA 17772 (Tokyo Dist. Ct, 30 Jan 2004) as reported in Philip Grubb, above n 3, 395.

⁵ Jean Healy, 'The Application of Japanese Article 35 Regarding "Reasonable" Compensation for Patents by Employed Inventors in *Syuji Nakamura v Nichia Corporation*' (2005) 17 *Pace International Law Review* 387, 391.

⁶ Emma Barraclough, 'The Inventors Strike Back' (2004) [March] *Managing Intellectual Property* 20, 20.

⁷ Yunjoo Lee and Malcolm Langley, 'Employees' Inventions: Statutory Compensation Schemes in Japan and the UK' (2005) 27(7) *European Intellectual Property Review* 250, 250.

⁸ Dennis Normile, 'Inventor Knocks Japan's System After Settlement' (2005) 307 *Science* 337.

⁹ Says Hiroyuki Yoshikawa, President of the National Institute of Advanced Industrial Science and Technology, reported in Dennis Normile, *ibid* 337.

incentive to create inventions of commercial value, and at the same time offers a reward for their creation and public disclosure.¹⁰ A patent gives its owner the exclusive right to make, use, and sell the invention.¹¹ This right is referred to as the patent monopoly. Patents are granted for inventions that are novel, involve an inventive step,¹² and are useful. A patent term can last for 20 years.¹³ Broadly speaking, inventorship determines who has the right to apply for a patent,¹⁴ and ownership determines who has the right to exploit the invention under the patent monopoly.

The law relating to employee inventors is at a junction of patent law, employment law, and contract.¹⁵ Compensation legislation aims to address the intersection of two different legal approaches: that of employment law which gives the employer the rights to things created by employees and requires a duty of fidelity owed by employees to their employers; and that of patent law which is based on the inventor having the primary right to benefit from his or her invention by receiving patent protection and incentives for it. The employment law aspects of the relationship will not be examined in detail in this dissertation.

The first section of this dissertation will set out how the current law on employees' inventions functions in New Zealand and consider changes that could be made to it.¹⁶ It will conclude that the current judicial enquiry into the ownership of an invention

¹⁰ Susy Frankel and Geoff McLay, *Intellectual Property in New Zealand* (2002) 324. It is unlikely, though, that rewarding effort is an important justificatory base for the entire patent system eg those who labour but whose inventions fall short of patentability, and those who independently create the invention but are not first to file for it, will not be rewarded with a patent monopoly: Gerald Dworkin, 'Commentary: Legal and Ethical Issues' in Vivian Weil and John Snapper (eds) *Owning Scientific and Technical Information: Value and Ethical Issues* (1989) 250; and A Kuflik 'Moral Foundations of Intellectual Property Rights' in Vivian Weil and John Snapper (eds) *Owning Scientific and Technical Information: Value and Ethical Issues* (1989) 219, 227. The economic arguments in favour of a patent system are based on an underlying utilitarian moral framework for collective social utility: A H Goldman, 'Ethical Issues in Proprietary Restrictions on Research Results' in Vivian Weil and John Snapper (eds) *Owning Scientific and Technical Information: Value and Ethical Issues* (1989) 70.

¹¹ *Patents Regulations 1954* schedule 3, forms A and B.

¹² ie are not obvious. The test for obviousness involves postulating whether an uninventive person (or team) skilled in the field would see the alleged inventive step as something worth trying: *Ancare New Zealand Ltd v Cyanamid of NZ Ltd* [2000] 3 NZLR 299, [43] (CA).

¹³ *Patents Act 1953* s 30(3), presuming the requisite renewal fees are paid: s 30(4).

¹⁴ Or under the Draft Patents Bill, to be granted a patent: cl 21.

¹⁵ Lee and Langley, 'Employees' Inventions: Statutory Compensation Schemes in Japan and the UK', above n 7, 250.

¹⁶ The rights and obligations of public service employees and may differ from those of employees in private employment, and will not be considered in this dissertation.

and its patent rights in the employment context is cumbersome and should be replaced by a simplified statutory enquiry, and that a provision should be introduced to remove the ability of an employer to diminish an employee's legal rights in an invention before it is made.

The relationship between employers and their employee inventors with regard to patent law must be optimised for fairness, incentives, efficiency, functionality and the national economic interest, which lies at the heart of patent law.¹⁷ This dissertation will examine how these issues are met in the context of the compensation regimes in the UK, Germany and Japan. It will look at policy considerations and the effect of the patent incentive in the employment context to determine whether it is worthwhile to add a compensation provision to the Patents Draft Bill 2005,¹⁸ and will conclude that the most appropriate form for a compensation scheme to take in New Zealand is the imposition of a statutory minimum for employee inventors.

¹⁷ *Wellcome Foundation Ltd v Commissioner of Patents* [1983] NZLR 385, 389 (CA) (Cooke P). Cooke P considered that issues raised by the Parker Committee in 1916 (unpublished) and the Report of the Sargent Committee and mentioned in the Report of the Banks Committee suggest that 'the evolution of patent law cannot be governed solely by the kind of juridical analysis that aims at identifying principles and steadily shaping them into an intellectually satisfying pattern'.

¹⁸ This Draft Bill has not yet been introduced into parliament. Provision for employee inventors was not addressed in the Draft Bill, perhaps because most patents granted in New Zealand are for applications made under the Paris Convention for the Protection of Industrial Property and the Patent Cooperation Treaty, and thus have their origin overseas. 73% of patent applications in New Zealand in 2005 were for foreign patent applications: World Intellectual Property Organisation, *Patent Report*, (2007 Edition), available at: <http://www.wipo.int/ipstats/en/statistics/patents/patent_report_2007.html#P270_17708>. This, however, is not a reason to overlook the rights of New Zealand employees as against their employers.

II THE CURRENT LEGAL POSITION OF EMPLOYED INVENTORS

In general, the view advanced by the patent scheme is that the creator of a patentable invention should also be the first owner of that invention. Entitlement to a patent and its benefits therefore depends on being the inventor or deriving title from the inventor.¹⁹ The need to derive title from the inventor, and the right of an inventor to be mentioned as such on the patent documents show the importance and centrality the inventor assumes in the patent system. In the employment context, however, employment law concepts override the ‘inventor as owner’ principle.

Compensation can provide a middle way between the two legal approaches. In order to gain compensation for their inventions, employee inventors overseas must have two circumstances fulfilled: firstly, that they are legally seen as one of the inventors of the invention, and secondly, that because of the circumstances of the invention, their employer is entitled to the patent ownership and hence any benefits deriving from it.

A *Rights Against Other Employees: Determining Who the True and First Inventors Are*

As the law stands, the rights to an invention made by employees will usually belong to the employer, so who the inventors were is not generally of much legal significance, although the inventors may have strong career-related reasons for wanting to be listed as an inventor. If a compensation scheme were to be adopted, inventorship would assume a greater role to the parties involved.

When a scientific paper is published or presented at a conference, credit will often go to the people who contributed most towards the discovery or invention. For the purposes of patent law though, the inventor cannot be chosen and may not be the person who ‘contributed most’. ‘Inventor’ is a legal concept, and who the inventors are is a question of fact, so in proceedings it is for the Court or Commissioner to discover whether the right people have been named on the patent as inventors.

¹⁹ *Patents Act 1953* s 7(1); *Patents Draft Bill 2005* cl 21(1).

The ‘true and first inventor’²⁰ or his or her assignee are the only persons entitled to make a patent application,²¹ and this includes the inventor’s employer. Under the Draft Bill anyone can apply for a patent but only the ‘true and first inventor’ or his successor in title²² is entitled to have it granted to them,²³ and a patentee may deal with the patent as the absolute owner of it.²⁴ All patent applications must name the person claiming to be the ‘true and first inventor’.²⁵ If the applicant is not the true and first inventor then the application must contain a declaration that that person is believed to be the inventor.²⁶

A person can also apply if they feel they are entitled to the patent as the true creator of the invention, and that the person being granted the patent obtained it from him or her in contravention of his or her rights as inventor. It is on the ground commonly referred to as ‘obtaining’ that inventorship will come up for consideration by the Commissioner of Patents²⁷ in opposition proceedings before the patent is granted²⁸ or revocation proceedings after grant.²⁹ In either case the ground of objection will be:

That the applicant for the patent, or the person described in the application as the true and first inventor, obtained the invention or any part thereof from him, or from a person of whom he is the personal representative.

²⁰ *Patents Act 1953* s 7(1).

²¹ *Patents Act 1953* s 7(1). The *Patents Act 1953* removed the possibility of having a nominee as the applicant. The first importer of an invention is also treated as the “true and first inventor” of it in New Zealand: *Sherman v Merck & Co. Inc* (Unreported, HC Wellington, AP184-00, McGechan J, 11 April 2001). The right to be granted a patent by importation of an invention is preserved in the Draft Bill: cl 175(4)(b) indicates that it is only for the purposes of naming rights that a person is not to be treated as inventor by virtue of importing an invention.

²² Or the personal representative of either of them: *Patents Draft Bill 2005* cl 21.

²³ *Patents Draft Bill 2005* cl 21.

²⁴ *Patents Draft Bill 2005* cl 22(1).

²⁵ *Patents Act 1953* s 8(2).

²⁶ *Patents Act 1953* s 8(2).

²⁷ With appeal to the High Court: ss 21(5) and 42(4).

²⁸ *Patents Act 1953* s 21(1)(a).

²⁹ *Patents Act 1953* s 42(1). The grounds for revocation proceedings before the Commissioner are those on which the patent could have been opposed: s 42(1).

Inventorship is considered in the first limb of the two part test set out by the Commissioner for establishing this ground of ‘obtaining’:³⁰

1. Who is/are the true and first inventor(s)?
2. Was the invention obtained in contravention of the Opponent’s rights?

To succeed on this ground requires more than the applicant finding out about the invention: ‘Obtaining must surely involve the *misuse* of knowledge by some party, i.e. an application for protection of an invention by a person not entitled to apply in contravention of the rights of the person truly entitled to apply under s.7(1) of the Act’.³¹ In the employment context this misuse would be omitting inventors, or applying as the employer/employee when the other party had the legal right to apply.

In the High Court, inventorship will be considered in revocation proceedings on the following grounds:

That the patent was granted on the application of a person not entitled under the provisions of this Act to apply therefor,³² or

That the patent was obtained in contravention of the rights of the person who makes the application to the Court or any person under or through whom he claims.³³

³⁰ *A2 Corporation Limited v New Zealand Dairy Board and JP Hill*, Intellectual Property Office of New Zealand, 2005/15, 4 July 2005, Assistant Commissioner Popplewell, 22. This two part test builds on the often-cited section from *Eric Graeme King v Robert Blundell Norgate*, New Zealand Patent Office, 22 December 1992, Commissioner Burton, 11:

To succeed on the ground of obtaining, an opponent must show that some other person (or persons) was (were) the true and first inventors, and that the invention subject of an application for protection under challenge, was obtained from that person(s) in contravention of the rights of the opponent. As is established by the case law, this places the burden of proof upon the opponent to establish firstly that some person other than that named by the applicant is the true and first inventor, and secondly that there was some relationship between the parties which gave rise to the act of obtaining.

This requirement of a relationship is needed because New Zealand proceeds on a first-to-file basis like most other countries except the US, which proceeds on a first-to-invent basis. A high burden of proof is needed to establish the ground of ‘obtaining’: *Stuart’s Application* (1892) 9 RPC 452.

³¹ *Wade’s Application*, New Zealand Patent Office, 1981/01, 9 January 1981, Assistant Commissioner Burton, 11. This was most recently affirmed in *Yang Xuming v Colin Graeme Gower*, Intellectual Property Office of New Zealand, P9/2001, 18 April 2001, Assistant Commissioner Popplewell, 5.

³² s 41(1)(b). The person claiming to be the true and first inventor (s 7(1)(a)) and his or her assignee (s 7(1)(b)) are the only persons entitled to make an application. The Court will not consider oppositions prior to grant, except on appeal from decisions by the Commissioner: *Patents Act 1953* s 21(5).

³³ *Patents Act 1953* s 41(1)(c).

The Draft Bill makes no provision for the consideration of inventorship before the patent is granted. After grant, the patent will be able to be revoked by the Commissioner or Court³⁴ if the patentee is not entitled to the patent.³⁵

2 *The inventorship enquiry*

The starting point for the modern enquiry into inventorship comes from *Henry Brothers (Magherafelt) Ltd v Ministry of Defence*.³⁶ A person will be an inventor or joint inventor if they contributed to the ‘inventive concept’.³⁷ The phrase appears to have come from section 14(5)(d) of the *Patents Act 1977* (UK) concerning the making of an application:

(5) The claim or claims³⁸ shall- (d) relate to one invention or to a group of inventions which are so linked as to form a single inventive concept.

The equivalent section in the New Zealand Act merely requires that the claims relate to ‘a single invention’.³⁹ Therefore an idea inherent in the requirements for UK claims may have been incorporated in NZ by the adoption of the *Henry Brothers* test. This is likely to be of little consequence, though, as the enquiry is substantially the same as has been taken by the Commissioner in the past.

The test ‘who was responsible for the inventive concept?’ as the test of inventorship was adopted by the Supreme Court of Canada in *Apotex Inc v Wellcome Foundation Ltd*⁴⁰ and in the New Zealand Commissioner of Patents’ decision *A2 Corporation Limited v New Zealand Dairy Board and JP Hill*.⁴¹ If more than one person has contributed to the inventive concept they will be joint inventors. Conceivably they

³⁴ cl 104(1).

³⁵ cl 105(1)(b).

³⁶ [1999] RPC 442.

³⁷ Ibid 706. Although the decision was overturned on its facts the approach was upheld by the Court of Appeal: [1999] RPC 442.

³⁸ The ‘claims’ refer to the application drafted by a patent attorney, setting out a numbered list of what is claimed as the patent monopoly. Each claim may incorporate a new aspect for the invention so as to progressively narrow the scope of the monopoly.

³⁹ *Patents Act 1953* s 10(4).

⁴⁰ (2002) 21 CPR (4th) 499.

⁴¹ Intellectual Property Office of New Zealand, 2005/15, 4 July 2005, Assistant Commissioner Popplewell. This test was recently endorsed as still being the ‘key question’ by the UK Court of Appeal in *Yeda Research and Development Co Ltd v Rhone-Poulenc Rorer International Holdings Inc* [2006] EWCA Civ 1094, [40].

may add to the inventive concept at different times, and may not have physical contact with each other, but they must contribute to the same invention.⁴² The inventive concept is not the same as what is contained in the patent claims, although the claims will assist in determining it.⁴³ The inventorship enquiry was recently expressed by the UK Court of Appeal in *Markem Corporation v Zipher Ltd* as: ‘What one is looking for is “the heart” of the invention. There may be more than one “heart” but each claim is not to be considered as a separate “heart” on its own.’⁴⁴ This decision has not yet been followed in New Zealand, although it appears to be much the same enquiry as that taken by the Commissioner in the *A2 Corporation Limited v New Zealand Dairy Board and JP Hill*, but it is highly likely that a Court or Commissioner would follow it the next time inventorship came up for determination, as UK patent law cases are generally followed in New Zealand without much enquiry.

The inventive concept should not be divided into sub-concepts considered separately.⁴⁵ In *Henry Brothers* Jacob J said, ‘I do not think it is right to divide up the claim for an invention which consists of a combination of elements and then to seek to identify who contributed which element. I think the inquiry is more fundamental than that,’⁴⁶ and in *Stanelco Fibre Optics v Bioprogress*:⁴⁷ ‘It is clear that a mechanistic, element by element approach to inventorship will not produce a fair result.’⁴⁸ The Court observed that a feature may form the substance of a claim on the patent application that could overcome a bare novelty objection, and gave the illustration of painting the invention pink, but concluded that such a contribution would have ‘no substantial bearing on the inventive concept...some stripping of a claim of its verbiage may be necessary to determine the inventive concept, and consequently the inventor’.⁴⁹

This test from *Henry Brothers* was adopted in New Zealand, and the *Stanelco* decision was cited, by the Commissioner in *A2 Corporation Limited v New Zealand*

⁴² White and Griffiths, above n 1, 311.

⁴³ *Markem Corporation v Zipher Ltd* [2005] EWCA (Civ) 267, [102].

⁴⁴ *Ibid* [102].

⁴⁵ *IDA Ltd v University of Southampton* [2006] EWCA Civ 145, [43] (Jacob LJ).

⁴⁶ [1997] RPC 693, 706.

⁴⁷ [2004] EWHC 2187.

⁴⁸ *Ibid* [15].

⁴⁹ *Ibid* [15]. This passage was cited with approval in another High Court case *GE Healthcare Ltd v Perkinelmer Life Sciences (UK) Ltd* [2006] EWHC 214, 103.

Dairy Board and JP Hill.⁵⁰ Professor Elliot and Dr Hill at the Dairy Board were co-inventors on a patent describing the diabetogenic β -caseins in milk and methods of obtaining non-diabetogenic ones via selective breeding.⁵¹ Professor Elliot told Dr McLachlan of A2 of the effects of the β -caseins they had discovered. Dr McLachlan discovered a correlation between those same β -caseins and coronary heart disease, and A2 filed a patent application. The Dairy Board brought an opposition based on ‘obtaining’.

The Commissioner did not explicitly identify the inventive concept, but appears to proceed on the basis that it was using genotyping in the selection of cows in order to form a milking herd whose milk contained one or more of β -caseins A², A³, D and E, and was substantially free of β -caseins A¹, B and C.⁵² As there was no evidence that the idea for genotyping the cows had come from anyone other than Dr McLachlan, he was true and first inventor and the ground of ‘obtaining’ failed. The inclusion of a use in the treatment or prevention of coronary heart disease did not limit the scope of the claims and was not part of the inventive concept, as the milk produced was the same whether or not this ‘limitation’ was present.⁵³ The claims had been narrowed during the opposition proceedings but this did not affect the inventive concept.⁵⁴ This shows that the Commissioner is using the same approach as that recently set out by the UK Court of Appeal in *Markem Corporation v Zipher Ltd*:⁵⁵ ‘Who contributed what and what rights if any they had in it lies at the heart of the enquiry, not what monopolies were actually claimed.’

3 *The inventor’s right to be named*

Whether or not the patent is held by him or her, the ‘actual deviser’⁵⁶ has the right to be named as inventor in the complete specification, the granted patent and the register

⁵⁰ Intellectual Property Office of New Zealand, 2005/15, 4 July 2005, Assistant Commissioner Popplewell, 22, 23 of the decision, respectively.

⁵¹ *Ibid* 23.

⁵² *Ibid* 25. The Commissioner added, though, that unlike in this case there could be many situations where a new use which results in the modification of a product would result in a patentable invention.

⁵³ *Ibid* 25.

⁵⁴ *Ibid* 25.

⁵⁵ [2005] EWCA (Civ) 267, [101].

⁵⁶ *Patents Act 1953* s 23(2).

of patents.⁵⁷ This right is akin to a moral right of recognition, as the substantive rights of patent ownership are given primarily to the ‘true and first inventor’.⁵⁸

A person can apply to the Court or Commissioner if they feel their contribution to the invention has not been recognised and that they were entitled to be considered as an ‘actual deviser’.⁵⁹ In order to qualify the Commissioner must be satisfied that that person is the inventor of the invention or of a substantial part⁶⁰ or that the application for the patent is a direct consequence of his being the inventor.⁶¹

This begs the question whether a person could contribute to a substantial part and thus become listed under this section as an ‘actual deviser’, but not have contributed to the inventive concept, and therefore not have the right to apply for a patent as a ‘true and first inventor’. In the *A2* case, the use of the milk for coronary heart disease could arguably be a substantial part of the invention as it was included in all the major claims, but it was not considered part of the inventive concept. If a person contributed only this idea would they be entitled to a right to be named as inventor but not have a right to apply? Probably in this context the phrase ‘substantial part’ would have the same meaning as it does in copyright law, meaning the original part, which in the patent context would be the inventive part, or the ‘inventive concept’. This would mean that in terms of inventorship an ‘actual deviser’ and a ‘true and first inventor’ would need to have contributed the same mental step, even with the adoption of the UK test.

⁵⁷ *Patents Act 1953* s 23(1). This right of the ‘actual deviser’ to be mentioned as inventor is preserved in the *Patents Draft Bill 2005* cl 175. This is in contrast to the position in the UK, where inventor is defined as ‘actual deviser’ for the entire Act: *Patents Act 1977* (UK) s7(3).

⁵⁸ The ‘true and first inventor’ or his or her assignee are the only persons entitled to make a patent application under the *Patents Act 1953* s 7(1), and if the applicant is not the true and first inventor, the patent can be opposed before it is granted (s 21(1)(a)) or revoked after grant (ss 41-42).

⁵⁹ *Patents Act 1953* s 23(4).

⁶⁰ *Patents Act 1953* s 23(1)(a), *Patents Draft Bill 2005* cl 175(4)(a).

⁶¹ *Patents Act 1953* s 23(1)(b), *Patents Draft Bill 2005* cl 175(4)(b).

B *Rights Against the Employer: Was the Invention Made in the Course of
Employment?*

The *Patents Act 1953* does not set out the criteria for determining the ownership of an invention made by an employee. The rights to an invention made by an employee will be contained in the employment contract, either by express provision or by an implied term which will be read in by the common law in certain circumstances.⁶² The common law rule is that if an employee makes an invention in the course of employment which it was part of his or her duty to make then the invention, the patent, and any consequential financial benefits flowing from it are the sole property of the employer.⁶³ Contractual agreements will be valid as long as they are not an unreasonable restraint of trade.⁶⁴ Many employment contracts vary the common law rule by a pre-invention assignment agreement.⁶⁵

It wasn't always this way. Before the turn of the 20th century employees were legally entitled to own the rights to their inventions even if made during employment, but a shift in the way the employment contract was viewed and the rise of the corporation saw the courts begin to favour the interests of employers.⁶⁶ *Heald's Patents*⁶⁷ in 1891 was the last case in which an employee held the same right to exploitation of his invention as if he had been self-employed.⁶⁸ From this the current "high water mark"⁶⁹ of *Sterling Engineering Co. Limited v Patchett*⁷⁰ was reached, where the common law rule was described by Viscount Simonds:⁷¹

⁶² T A Blanco White, *Patents for Inventions and the Protection of Industrial Designs* (4th ed, 1974) [9-302].

⁶³ *Ibid.*

⁶⁴ ie if they restrict the employee's ability to accept other employment after the contract with the current employer ends: *Triplex Safety Glass Co v Scorah* [1937] 4 All ER 693. But see *Electrolux v Hudson* [1977] FSR 312 (Ch D), discussed below Part II(B)(5).

⁶⁵ Such agreements are particularly common in the US: Thomas Savitsky, 'Compensation for Employee Inventions' (1991) 73 *Journal of the Patent and Trademark Office Society* 645.

⁶⁶ Jeremy Phillips and Michael Hoolahan, *Employees' Inventions in the United Kingdom* (1982) 42-51; Catherine Fisk, 'Removing the 'Fuel of Interest' from the 'Fire of Genius': Law and the Employee-Inventor, 1830-1930' (1998) 65 *University of Chicago Law Review* 1127.

⁶⁷ (1891) 8 RPC 429.

⁶⁸ Phillips and Hoolahan, above n 67, 43.

⁶⁹ Owen Morgan, 'Product innovation – employees and intellectual property' (1994) [April] *New Zealand Law Journal* 152, 153.

⁷⁰ [1955] AC 534.

⁷¹ *Ibid* 543. This passage was recently selected as enunciating the common law rule, in *Liffe Administration & Management v Pinkava* [2007] EWCA Civ 217, [37]. Where the term is implied that the rights in the invention belong to the employer, the employee is a trustee for those rights, including any patent rights, and as a trustee must not do anything to the disadvantage of the employer

Where the employee in the course of this employment (i.e., in his employer's time and with his materials) makes an invention which it falls within his duty to make (as was the case here) he holds his interest in the invention and in any resulting patent as trustee for the employer unless he can show that he has a beneficial interest which the law recognizes.

This is based on an implied duty of fidelity to the employer, and the term will be implied where the appropriation of the invention and patent rights in it by the employee would conflict with this duty. If the employee has applied for or had patents granted to him, they can be ordered to be transferred to the employer.⁷²

Because an inventor must do something affirmative and observable before an invention can be identified, it is possible for an employee to leave the company while the conception of the invention is inchoate and before it has taken on a concrete form - or at least before there is any evidence of its conception - and thus qualify for the patent in his or her own right.⁷³ This is what would have happened in *L Church Holdings (Australia) Pty Ltd v Marine Propulsion Limited*⁷⁴ in the absence of a pre-invention assignment agreement. The Assistant Commissioner found that an improved propellor was made after the employment ceased, because the evidence established only that the inventor had had 'preliminary thoughts' on the invention during the employment and had not yet worked out 'how to put his basic ideas into practical effect or developed them into the substantive form described and claimed in the complete specification.'⁷⁵

That employees do not usually own the rights in their inventions has been criticised as

beneficiary: *Edisonia Ld v Forse* (1908) 25 RPC 546.

⁷² In *Edisonia Ld v Forse*, the employee was additionally ordered to pay damages, and an inquiry as to account of profits was ordered against a company with which he was connected and had granted a license to.

⁷³ Robert Merges, 'The Law and Economics of Employee Inventions' (1999) 13 *Harvard Journal of Law and Technology* 1, 47. This would apply as long as the invention does not involve confidential information or breach a restraint of trade clause in the employee's contract, which is unlikely in practice. Merges argues that by revealing their inventions employees opt into employer ownership and remain bound by their employment contracts and that even the broadest of pre-invention assignment agreements do not cover inventions that are not yet conceived.

⁷⁴ Patent Office New Zealand, 13 April 1992, Assistant Commissioner Popplewell.

⁷⁵ *Ibid* 17. In that case the invention was the property of the employer, because the propellor designed was an improvement on the employer's propellor, and was covered by an agreement to assign patent rights in such improvements for two years following employment.

unfair.⁷⁶ But in terms of economic theory and practicality, having property rights to inventions vest in the inventor's employer is much more sound. Merges defends the prevailing law and assignment agreements on four economic grounds: strategic bargaining analysis; team production theory; principal-agent theory; and the employer's assumption of risk.⁷⁷ Having invention ownership vest in the employee would create a lot of practical difficulties for its exploitation, and joint ownership between employer and employee would also be problematic.

1 *When will the term be implied?*

There are three situations in which the term of employer ownership will be implied. Firstly, where the nature of the job means that the employee is directly employed to invent or design, in a position such as engineering draughtsman, or where he or she has a research commitment.⁷⁸ Secondly, where the invention was made in the course of employment and as part of the employee's duty to make it.⁷⁹ This category incorporates the first but also includes the position of employees in non-research type roles who make inventions which may relate to the employer's business, or use the employer's time or resources, although these factors are not determinative.⁸⁰ Thirdly, the rights in the invention may belong to the employer through a duty of good faith or fidelity, if it would be inconsistent with this duty that the employee should hold the invention against the employer.⁸¹ Good faith and fidelity are fundamental to every employment relationship,⁸² are still owed to the employer in the employee's spare time,⁸³ and include an obligation on the employee to use his or her inventive faculties

⁷⁶ Ann Bartow, 'Inventors of the World, Unite! A Call for Collective Action by Employee-Inventors' (1997) 37 *Santa Clara Law Review* 673; Steven Cherenky, 'A Penny for Their Thoughts: Employee-Inventors, Preinvention Assignment Agreements, Property, and Personhood' (1993) 81 *California Law Review* 597; Jay Dratler, 'Incentives for People: The Forgotten Purpose of the Patent System' (1979) 16 *Harvard Journal on Legislation* 129.

⁷⁷ Merges, above n 74, 12. In more detail these inefficiencies are: bargaining and transaction costs, particularly employee holdups; the difficulties of monitoring and compensating the members of R&D groups; principal-agent problems, in particular the danger that employee ownership would over-reward inventive tasks at the expense of other job requirements; and a change in the implicit risk allocation between employer and employee.

⁷⁸ *Adamson v Kenworthy* (1932) 49 RPC 57.

⁷⁹ *Sterling Engineering Co. Limited v Patchett* [1955] AC 534.

⁸⁰ *Fine Industrial Commodities Limited v Powling* (1954) 53 RPC 253, 257 (Danckwerts J).

⁸¹ *Worthington Pumping Engine Co. v Moore* (1903) 20 RPC 41. Company directors owe a duty to act in good faith in the best interests of the company: *Companies Act 1993* s 131.

⁸² *Robb v Green* [1895] 2 QB 315.

⁸³ *Hivac Ltd v Park Royal Scientific Instruments Ltd* [1946] 1 Ch 169.

to the best of his or her ability to complete the instructions received.⁸⁴ The duty of good faith is usually used as a basis for the implied term in cases concerning the employee's position or status. Senior employees such as directors and manager may also simultaneously be in a fiduciary position to the company, and where this occurs any inventions will be held on trust for the company. The resulting enquiry is fairly complicated, as shown in the diagram of Phillips and Hoolahan⁸⁵ (see figure 1, Appendix).

In *Worthington Pumping Engine Co. v Moore*⁸⁶ the employee was the UK agent for a US firm. Because of his position of extreme responsibility and the trust reposed in him, it would have been inconsistent with the good faith implied in the employment contract for Mr Moore to hold the three patents he had taken out other than on trust for his employer.⁸⁷ In *British Syphon Co. v Homewood*,⁸⁸ Mr Homewood was employed in a general advisory capacity for his employer who made soda water syphons. During the period of employment he invented a soda water dispenser. Roxburgh J held that he had a duty not to put himself in a position where he could not give the best advice to his employer because of his personal interest.⁸⁹

In the case of a manager whose invention is not derived directly from the employer's business, there may be a duty simply to keep the employers informed of the invention and the patent for it, as in *Re Selz Ltd's Application*.⁹⁰ The manager concerned worked for a lampshade manufacturer, and came up with an invention using plastic packaging, that among other things, could be used for packaging lampshades. The judge held that the invention belonged to the employee because it was not inconsistent with good faith for him to retain it, based on his obligations to the company.⁹¹

⁸⁴ *Adamson v Kenworthy* (1932) 49 RPC 57.

⁸⁵ Phillips and Hoolahan, above n 67, 15.

⁸⁶ (1903) 20 RPC 41.

⁸⁷ *Ibid* 49.

⁸⁸ [1956] RPC 225.

⁸⁹ *Ibid* 231.

⁹⁰ (1953) 71 RPC 158.

⁹¹ *Ibid* 168.

Whether the term will be implied in the employment contract and its resulting scope will be determined with reference to the nature of the employee's duties. The court will look to the employee's actual duties, to account for the fact that those duties may be changed during the period of employment. The contract of employment,⁹² job description,⁹³ advertisement of the position,⁹⁴ a letter of engagement,⁹⁵ funding information and letters to third parties as to what the employee was working on⁹⁶ will all be useful in determining what duties were expected of the employee at the time of making the invention.

The nature of this enquiry was misapplied in *Wade's Application*,⁹⁷ where the Assistant Commissioner interpreted *Electrolux v Hudson*⁹⁸ as holding that the employee's duties should be determined only with reference to what the employee was hired to do, and in order to determine his employment duties, looked only to the job specification and description and not to what the employee actually did on a day to day basis.⁹⁹ In *Empress Abalone Ltd v Langdon*¹⁰⁰ the position was corrected, as the Court of Appeal directed Palmer J in the Employment Court to reconsider the issue of whether the invention was made in the course of employment based on a wide variety of factors.

Mr Langdon was employed by Empress Abalone and worked on a project for spherical abalone pearls, funded by the Foundation for Research, Science and Technology (FRST). He developed improved methods for making half pearls, on his own time and without using the materials or facilities of his employer, and applied for patents for them. To ascertain the nature of Mr Langdon's duties, Palmer J had considered only the FRST project.

⁹² *Electrolux v Hudson* [1977] FSR 312.

⁹³ *Greater Glasgow Health Board's Application* [1996] RPC 207.

⁹⁴ *Re Selz Ltd's Application* (1953) 71 RPC 158.

⁹⁵ *Barnett Instruments Ltd v Overton* (1949) 66 RPC 315, 323.

⁹⁶ *Empress Abalone Ltd v Langdon* [2000] 2 ERNZ 53.

⁹⁷ New Zealand Patent Office, 9 January 1981, 1981/01, Assistant Commissioner Burton.

⁹⁸ [1977] FSR 312.

⁹⁹ New Zealand Patent Office, 9 January 1981, 1981/01, Assistant Commissioner Burton, 12. This proposition was subsequently cited as a correct statement of the law in Andrew Brown and Anthony Grant, *The Law of Intellectual Property in New Zealand* (1989) 493.

¹⁰⁰ [2000] 2 ERNZ 53.

As the case was on appeal from the Employment Court,¹⁰¹ the Court of Appeal could not construct the employment contract itself,¹⁰² but could consider whether the approach by the Employment Court judge was right in law.¹⁰³ The Court of Appeal concluded that the factors that should have been considered were: the research proposal to FRST showing Mr Langdon's involvement; the project contract between Empress Abalone and FRST; a letter to FRST confirming Mr Langdon was working full time on the project; accounting statements attributing the whole of his salary to the FRST project; Mr Langdon's seniority and the fact he was responsible for the running of the employer's facility at Kaikoura; the fact that he had been employed before the project had been approved and that his employment was not contingent on obtaining the funding; and his actual day to day work, including work at another site for which he said he was 'not employed to do'.¹⁰⁴

In relation to the duty of fidelity, the Court asked what the employer was "entitled" to expect of the employee.¹⁰⁵ The Court of Appeal indicated that they would have the ownership of the inventions vest in the employer due to Mr Langdon's position of seniority, likening his position to that of the employer as the 'alter ego'¹⁰⁶ of the company in *Worthington Pumping Engine Co. v Moore*.

Palmer J in the Employment Court considered the guidance by the Court of Appeal but considered that Mr Langdon was far from the 'alter ego' of the company, because among other things he was not involved in management of the project or expenditure, whereas Mr Moore in the *Worthington* case had sole control of all the company's staff

¹⁰¹ *Empress Abalone Ltd v Langdon* [2000] 1 ERNZ 147.

¹⁰² Under the *Employment Contracts Act 1991* s 135, the construction of employment contracts was reserved for the Employment Court. The same jurisdiction is now reserved to the Employment Court and Employment Relations Authority under the *Employment Relations Act 2000* s 214. This exclusive jurisdiction would probably not have to be used in all cases concerning patent employment disputes. An initial hearing was needed before the *Empress Abalone v Langdon* litigation could proceed in the Employment Court, because of the issues of patent rights involved. It is likely that in cases where the contract of employment is unwritten, as in the *Empress Abalone* case, the dispute would be taken in the Employment Court, or referred there by the High Court or at the request of one of the parties on the ground that the High Court lacked jurisdiction. Where the evidence is more straightforward the case is likely to be able to proceed before the Patents Commissioner or the High Court as usual in patent disputes.

¹⁰³ [2000] 2 ERNZ 53, [4].

¹⁰⁴ *Ibid* [17].

¹⁰⁵ *Ibid* [11].

¹⁰⁶ *Ibid* [16].

and financial matters.¹⁰⁷ Mr Langdon undertook tasks in the course of the spherical pearl project that could also impact on the culture of half pearls, such as feeding times and water temperature and the number of inserts placed into the paua, but that did not mean it was part of his duty to invent a better method of growing half pearls.¹⁰⁸ In addition Mr Langdon was only paid to do work on the spherical pearl project,¹⁰⁹ the other work he had done had nothing to do with the invention,¹¹⁰ and when Mr Langdon was offered employment it was on the basis that he would be working full time on the project and his agreement would be needed to alter that understanding.¹¹¹ It was concluded that the scope of the FRST project and the scope of Mr Langdon's duties were the same.¹¹² Creating the half-pearl inventions was outside the scope of Mr Langdon's duties, and neither had Empress Abalone established a legal right to the interests in the patents based on the implied duty of good faith.

It is submitted that the correct outcome was reached by Palmer J, but also that the Court of Appeal was right to direct him to widen his initial enquiry. It can be seen from this case that the enquiry in practice is more holistic than the step by step flow diagram of Phillips and Hoolahan¹¹³ (see figure 1, Appendix), but nonetheless complicated. In the UK the common law enquiry was replaced by section 39 of the *Patents Act 1977* (UK) and the resulting enquiry is much simpler¹¹⁴ (see figure 2, Appendix).

3 *The UK statutory provision on employees' inventions*

The Court in *Empress Abalone* distinguished a UK case *Greater Glasgow Health Board's Application*¹¹⁵ decided under section 39 of the *Patents Act 1977* (UK). That section provides that an invention made by an employee will belong to his employer¹¹⁶ if:

¹⁰⁷ [2000] 2 ERNZ 481, [136-137].

¹⁰⁸ Ibid [109].

¹⁰⁹ Ibid [122].

¹¹⁰ Ibid [118], [125].

¹¹¹ Ibid [124].

¹¹² Ibid [125].

¹¹³ Phillips and Hoolahan, above n 67, 15.

¹¹⁴ Ibid 54.

¹¹⁵ [1996] RPC 207.

¹¹⁶ For the purposes of the *Patents Act 1977* (UK).

- (a) it was made in the course of the normal duties of the employee or in the course of duties falling outside his normal duties, but specifically assigned to him, and the circumstances in either case were such that an invention might reasonably be expected to result from the carrying out of his duties;¹¹⁷ or
- (b) the invention was made in the course of the duties of the employee and, at the time of making the invention, because of the nature of his duties and the particular responsibilities arising from the nature of his duties he had a special obligation to further the interests of the employer's undertaking.¹¹⁸

In *Greater Glasgow Health Board's Application* a registrar at a teaching hospital made a optical spacing device which could be used in his ophthalmic examinations. The invention was made during private study at home. His job description included participation in teaching and he could advance his career by using the University's research facilities, but his only listed duties were clinical responsibilities. Jacob J held that the doctor's duty to treat patients did not extend to finding new ways of diagnosing and treating those patients,¹¹⁹ and that his invention was a useful accessory to his contracted work but not really part of it.¹²⁰

4 *Is this section declaratory of the common law?*

The New Zealand Court of Appeal in *Empress Abalone Ltd v Langdon* regarded the UK provision as declaratory, being prepared to consider and distinguish *Greater Glasgow Health Board's Application*.¹²¹ Perhaps this highlights the tendency of the New Zealand judiciary to incorporate overseas developments in patent law. Cooke P in *Smith Kline & French Laboratories Ltd v Attorney-General*¹²² stressed the importance of overseas developments in patent law, as New Zealand operated in an international environment in this area of law and consistency was important.¹²³ New Zealand judges have made 'remarkable use of overseas developments' in patent

¹¹⁷ *Patents Act 1977 (UK)* s 39(1)(a).

¹¹⁸ *Patents Act 1977 (UK)* s 39(1)(b).

¹¹⁹ [1996] RPC 207, 223.

¹²⁰ *Ibid* 224.

¹²¹ [2000] 2 ERNZ 53, [16].

¹²² [1991] 2 NZLR 560 (CA).

¹²³ *Ibid* 563.

law.¹²⁴

The UK statutory wording appears to incorporate the two limbs of the common law rule: the ‘course of employment’ limb; and the ‘duty of good faith’ limb. Whether this section is declaratory of the common law was doubted in the first reported case, *Harris’ Patent*¹²⁵ but in *Greater Glasgow Health Board’s Application* Jacob J considered that the common law “[c]ourse of employment” is much the same as the “normal duties” plus “specifically assigned duties” duties of section 39(1),¹²⁶ and he re-expressed this view in *Liffe Administration & Management v Pinkava*.¹²⁷ It is submitted that these statements are correct. Any consideration of ‘normal duties’ is likely to be more restricted than ‘actual duties’, as ‘normal’ contemplates something that has been normalised by being done more than once, but the other limb of section 39(1)(a) brings the section back in line with the common law, in that the inclusion of a task that is done at the request of the employer will cover any duties which are actual but not ‘normal’. Although the view has been expressed that ‘in the course of employment’ might be broader than the ‘duties’ in section 39(1)(a),¹²⁸ it is difficult to imagine a duty which is ‘actual’ on the common law enquiry but is not covered by section 39(1)(a).

The requirement in section 39(1)(a) that an invention be reasonably expected to result is different from the common law. Probably it is the attempted embodiment of the following principle: the employer should not be able to claim an employee’s invention unless the employee is paid to do the kind of work from which that invention is expected to result.¹²⁹

It is submitted, though, that due to the inherently uncertain nature of invention, in that it is impossible to know for sure if an invention will ever result from an activity, and that in order to be patentable the invention must be novel and non-obvious, the

¹²⁴ Frankel and McLay, above n 10, 324.

¹²⁵ [1985] RPC 19 (Falconer J).

¹²⁶ [1996] RPC 207, 223.

¹²⁷ [2007] EWCA Civ 217 [101].

¹²⁸ P A Chandler, ‘Employees’ Inventions: Inventorship and Ownership’ (1997) 19 *European Intellectual Property Review* 262, fn 31.

¹²⁹ This principle was one of several outlined by Phillips and Firth as having been implicitly accepted in the *Patents Act 1977* (UK): Jeremy Phillips and Alison Firth *Introduction to Intellectual Property Law* (4th ed, 2001) [9.8].

threshold of expectation will be low. In the absence of a position of seniority, at common law an invention that was intimately related to the employer's business, but had no connection to the carrying out of the employee's duties would belong to the employee.¹³⁰ The requirement of expectation in the UK Act serves to further enforce the required link between potential inventions and the employee's actual duties, and not to the employer's wider business interests. Therefore it is submitted that in cases that are close to the line, the reference to an expectation of invention will raise a doubt that will act in favour of the employee. In this respect, it is submitted, the UK Act steps very slightly from the common law in favour of employees.

In *Liffe Administration & Management v Pinkava* it was argued that s 39(1)(a) required the resulting invention to be similar to one that could reasonably be expected. LIFFE had instructed Dr Pinkava to work on a credit derivative future that could be electronically traded. He instead invented a system and related inventions for trading certain financial swaps electronically, which previously had been thought too complicated to achieve. The requirement that the invention be similar to what could be expected was rejected by the UK Court of Appeal, along with the qualifications that the employee must have been asked to do what was achieved,¹³¹ that the invention must provide a solution to a pre-identified problem, or contribute to the achievement of the aim of the employee's duties.¹³² An invention can be reasonably expected to result from the duties even if the particular invention could not.¹³³ These are all consistent with the common law. The reference to 'an invention' in section 39(1)(a) rather than 'the invention' means that if the employee is employed to innovate then the subsection would normally be satisfied.¹³⁴

The *Pinkava* decision departs from the common law by including personal attributes of the employee as a consideration in the inquiry into ownership. The employee's personal attributes were seen as a relevant factor in whether an invention could be expected to result by a majority of the Court, although that consideration did not affect the outcome of the case. Under the UK Act as interpreted in *Pinkava* it is

¹³⁰ *Electrolux v Hudson* [1977] FSR 312 (Ch D).

¹³¹ [2007] EWCA Civ 217, [81].

¹³² *Ibid* [77].

¹³³ *Ibid* [81].

¹³⁴ *Ibid* [102] (Jacob LJ).

conceivable that the ownership of a serendipitous invention such as Teflon®,¹³⁵ arising by chance observation and deduction, may rest with the employee, where it was made in the course of normal duties but, because the employee was not seen as intelligent or inventive, they were not reasonably expected to make it. Under the common law there is little doubt such an invention would have belonged to the employer. I agree with the dissent of Jacobs LJ in *Pinkava* that the personal abilities of the employee should not be seen as a relevant circumstance for whether an invention could be ‘reasonably expected’. The expectation is related to the duties and not to the employee themselves. Ownership should not depend on ‘whether the individual employee is thick or brilliant’.¹³⁶

The other limb of section 39 clarifies the enquiry to be used in the case of a senior employee, basing it on the employee’s duties and responsibilities so as to establish a ‘special obligation to further the interests of the employer’s undertaking’, rather than an enquiry into whether it is consistent with good faith that the employee retain the invention. In the case of a senior employee, the invention must still arise ‘in the course of the duties of the employee’. This was not required by the common law,¹³⁷ but given that where a special obligation arises, subsection (b) removes the need for a reasonable expectation and includes all the actual duties undertaken provided they are consistent with the position in the business,¹³⁸ the outcome is likely to be the same as under the common law. In summary, the UK provisions are a ‘pretty close approximation’¹³⁹ to the common law rule but the enquiry is more straightforward.

New Zealand should adopt statutory provisions based on the UK provisions to replace the common law, as it would not involve any great change in outcomes but would simplify the enquiry undertaken by an adjudicator immensely.¹⁴⁰ This would allow the Courts to legitimately take advantage of UK precedent, as not many cases on

¹³⁵ Teflon® was invented by accident, while the employee was carrying out work on new forms of a refrigerant: R Friedel, ‘The Accidental Inventor’ (1996) [Oct] *Discover* 58.

¹³⁶ [2007] EWCA Civ 217, [103] (Jacob LJ).

¹³⁷ See *Worthington Pumping Engine Co. v Moore* (1903) 20 RPC 41 and *British Syphon Co. v Homewood* [1956] RPC 225.

¹³⁸ Chandler, ‘Employees’ Inventions: Inventorship and Ownership’, above n 133, 266.

¹³⁹ William Cornish, ‘Rights in Employees’ Inventions: The United Kingdom Position’ (1990) 21 *International Review of Industrial Property and Copyright Law* 298, 300.

¹⁴⁰ As summarised in the flow diagrams in Phillips and Hoolahan, above n 67, 54, contained in the Appendix in figures 1 and 2.

employment disputes occur in New Zealand. Given that the major change made to the common law by section 39 as constructed in *Pinkava* is negative (on the author's view), the requirement of a 'reasonable expectation that an invention result' should be included with caution, perhaps with the statutory proviso that the characteristics of the employee are not to be considered in the test of ownership.

5 *Preserving the employee's common law rights*

The common law position can be varied by contract between the parties. Allowing the parties to determine ownership of inventions and patent rights themselves is advocated by a New Zealand commentator.¹⁴¹ It is submitted, however, that having the common law as a fall-back position is not appropriate as it encourages employers to try to increase their level of ownership in the drafting of employment contracts. Such agreements usually work to the detriment of the employee as a result of unequal bargaining power,¹⁴² and can result in employer ownership of all inventions whose creation used any of the employer's time or materials, relate at all to the employer's field of business, or are created during the period of employment whether at work or not. Pre-invention assignment provisions may come as standard terms of employment, or the employee may not appreciate the value of what is being given up, as depending on the nature of the job it may be difficult to know if any patentable inventions will result and what they will be worth if they do.¹⁴³ The relevant information required to make inventions is often in the form of trade secrets or knowledge about the employer's products or processes that must be obtained on the job, and by definition a patentable invention is one that contains a certain amount of pre-invention uncertainty.¹⁴⁴

In a context of increasing joint ventures between New Zealand start-up companies and overseas partners who may impose terms on the parties, the rights of employed inventors need to be preserved. Because the common law term will still be implied even where the express term has been held to constitute an unreasonable restraint of

¹⁴¹ Morgan, above n 70, 152.

¹⁴² Savitsky, above n 66.

¹⁴³ *Report of the Committee to Examine the Patent System and Patent Law*, Chairman M A L Banks, Cmnd 4407 (1970) [459].

¹⁴⁴ In that it must be non-obvious or involve an inventive step.

trade, the employer is given ‘two bites at the cherry’¹⁴⁵ to obtain the employee’s invention. In the UK the ability to diminish the employee’s legal rights on employee’s inventions is excluded by statute.¹⁴⁶ A similar provision should be adopted in New Zealand to recognise that it is unreasonable for an employer to take ownership of rights to inventions as yet unmade, that would have belonged to the employee under the common law. The common law was tending towards restricting the ability to contractually diminish an employee’s rights prior to the *Patents Act 1977 (UK)*¹⁴⁷ through legal policy¹⁴⁸ expressed as an extended concept of the doctrine of restraint of trade in the *Electrolux v Hudson* decision. The employment contract in that case contained a standard clause that the company owned all inventions ‘relating to any articles manufactured and/or marketed by the company or its associated companies or undertakings or firms in the United Kingdom or elsewhere.’¹⁴⁹ Whitford J refused to enforce the clause against a storeman on the basis that it was an unreasonable restraint of his trade. It was said in *obiter* that the clause was likely to be unenforceable even against a research worker because of the diversity of the subsidiaries associated with Electrolux to which the clause could apply.¹⁵⁰ It is arguable that the doctrine of restraint of trade was being used here when there was no restraint of trade at all.¹⁵¹ Mr Hudson was not prevented by the clause from carrying out his trade of storekeeper or from any inventive activities, and the clause would have applied for the duration of the employment but no longer, meaning he was not prevented from doing his best for a subsequent employer.¹⁵²

Restraint of trade as a limit on the scope of contracts relating to inventions has never been considered in New Zealand. Opportunity for its consideration by the Commissioner came up recently in *L Church Holdings (Australia) Pty Ltd v Marine*

¹⁴⁵ Jill McKeough, Andrew Stewart and Philip Griffith, *Intellectual Property in Australia* (3rd ed, 2004) 377.

¹⁴⁶ UK *Patents Act 1977 (UK)* s 42(2).

¹⁴⁷ Phillips and Firth, above n 134, [9.8] fn 2.

¹⁴⁸ Cornish, above n 145, 300.

¹⁴⁹ [1977] FSR 312 (Ch D), 321.

¹⁵⁰ *Ibid* 323. The decision has been wrongly cited as establishing that agreements to assign all inventions are unenforceable under the common law: Grubb, above n 3, 388.

¹⁵¹ Phillips and Hoolahan, above n 67, 35. The authors report that the doctrine of restraint of trade may not even be applicable to restraints operating during the currency of the existing contract of employment.

¹⁵² *Ibid* 36.

*Propulsion Limited*¹⁵³ and *Sealed Air Corporation v Moffitt*,¹⁵⁴ but was overlooked. Both cases concerned assignment agreements, the first relating to improvements made after the termination of employment, the second relating to any inventions conceived while employed that ‘may be useful to any present or contemplated activity, interest or line of investigation of the Company or any subsidiary’. The company in that case was based in the US. Although it is likely that on the facts of *Sealed Air Corporation v Moffitt* the invention would have belonged to the employer under the term implied by the common law, the clause in question was very similar to that used in *Electrolux v Hudson*, and as such the question of its enforceability should have been considered by the Commissioner. In these circumstances where the common law enquiry is being overlooked, the adoption of a statutory provision is necessary to limit the ability of the employer to contractually reduce the employee’s rights in inventions not yet made.

C *The Current Apportionment Provision - Section 65 of the Patents Act 1953*

Section 65 provides for the resolution of disputes between employer and employee by the Commissioner, who can determine the matter and make such orders as he thinks fit, or decline to deal with it if it would be more properly dealt with by the Court.¹⁵⁵ The section was new in 1953,¹⁵⁶ and was adopted from section 56 of the *Patents Act 1949 (UK)*.

Under section 65(2) the Commissioner can apportion the patent or benefit of the invention between them:

In proceedings before the Court between an employer and a person who is or was at the material time his employee, or upon application made to the Commissioner under subsection (1) of this section, the Court or Commissioner may, unless satisfied that one or other of the parties is entitled, to the exclusion of the other, to the benefit of an

¹⁵³ Patent Office New Zealand, 13 April 1992, Assistant Commissioner Popplewell.

¹⁵⁴ Intellectual Property Office of New Zealand, P14/2007, 11 June 2007, Assistant Commissioner Popplewell.

¹⁵⁵ *Patents Act 1953* s 65(1). *Sealed Air Corporation v Moffitt* is the only decision made under this section.

¹⁵⁶ The sister section was introduced in the UK for the first time in the *Patents Act 1949 (UK)* as a result of recommendations made by the Swan Committee: *Patents and Designs Act Final Report of the Departmental Committee*, Chairman K R Swan, Cmnd 7206 (1947).

invention made by the employee, by order provide for the apportionment between them of the benefit of the invention, and of any patent granted or to be granted in respect thereof, in such manner as the Court or Commissioner considers just.

This subsection was introduced in the interests of fairness to employees, where it was thought that the strict common law award of all rights to either employer or employee could result in injustice.¹⁵⁷ It was intended that the patent or benefit could be apportioned between employer and employee if fairness demanded it.¹⁵⁸

The power of apportionment was rendered redundant by the House of Lords in *Sterling Engineering Co. Limited v Patchett*. The Lords held that the common law gave absolute ownership of an invention to either employer or employee,¹⁵⁹ and that section 56(2) did not make any changes to this situation. The reference to one of the parties being ‘entitled’ to an apportionment could therefore only refer to legal entitlement.¹⁶⁰ Constructed this way, the section was ‘virtually a dead letter’,¹⁶¹ needing an enforceable agreement (with the respective shares unagreed) to exist before it could be applied.¹⁶²

Section 65(2) has never been used in New Zealand. The *Patchett v Sterling* decision has been treated as definitive on New Zealand’s section 65,¹⁶³ and it is highly unlikely that a Court or Commissioner would decline to follow it here.

The equivalent of section 65¹⁶⁴ was removed in the UK, and a limited statutory recourse to compensation for employed inventors was introduced in its place.¹⁶⁵ The

¹⁵⁷ *Banks Committee Report*, above n 149, [447].

¹⁵⁸ *Report of the Commission to Inquire into and Report Upon the Law of Patents, Designs, and Trade-Marks*, Chairman H E Evans, Vol 3, H-10A (1950) [44]; *Patents and Designs Act Final Report of the Departmental Committee*, Chairman K R Swan, Cmnd 7206 (1947) [25].

¹⁵⁹ Joint ownership between an employer and employee can only arise by express agreement: *Barnett Instruments Ltd v Overton* (1949) 66 RPC 315, 323.

¹⁶⁰ The word ‘entitled was recently considered again in the context of inventorship by the UK Court of Appeal in *Markem Corporation v Zipher Ltd* [2005] EWCA (Civ) 267 and the conclusion was consistent with the *Sterling v Patchett* decision, that is, that to be ‘entitled’, a legal or equitable title is required and not merely a moral right. It was considered in the context of entitlement to make an application for a patent under the *Patents Act 1977* (UK) s 8.

¹⁶¹ *Banks Committee Report*, above n 149, [447].

¹⁶² [1955] AC 534, 546 (Lord Reid).

¹⁶³ Morgan, above n 70, 155.

¹⁶⁴ *Patents Act 1949* (UK) s 56.

¹⁶⁵ *Patents Act 1977* (UK), ss 40-41.

section has been removed in the Draft Bill but no provision on sharing the benefits of an employees' inventions has been put in its place.

1 *Joint ownership*

There is a certain appeal in re-drafting the simplicity of section 65(2), however allowing the employer and employee(s) to jointly own the patent is not a practical solution. Section 63(1) of the Patents Act provides that co-owners have an equal and undivided share in the patent, meaning that co-ownership will increase transaction costs and the complexity associated with the exploitation of a patent. Although both an employer and employee have an interest in the employer's business, their interests are not as aligned as those of co-inventors in a joint venture, for example. In addition, by virtue of section 63(2) of the Act, each co-owner is entitled to make, use, exercise and sell the invention without accounting to the other, but the consent of all co-owners is needed to assign a share in the patent rights or to grant licences. This would create huge problems where the employer co-owned the patent with all the co-inventors responsible for the invention, especially as the monopoly term progressed and some inventors left the employment, perhaps to work for the employer's competitor. This position is preserved in clause 23(1-3) of the Draft Bill, with the additional possibility that agreement between the patentees may override these provisions. It is submitted, though, that obtaining agreement between patentees may be problematic, leading to the need to seek a direction by the Commissioner.¹⁶⁶ For these reasons, co-ownership is not a desirable way to resolve issues of fairness on employees' inventions. The Banks Committee in the UK considered that joint ownership 'could inhibit the future exploitation of the invention, particularly with regard to licensing, and might well create more difficulties than it solved'.¹⁶⁷ A revised section on employees' inventions should not include the possibility to apportion the patent itself.

The issue of employee inventors is completely ignored in the Draft Bill, which in the light of fairness, patent incentives, and international developments, is not appropriate. To resolve the issue of what should replace section 65, compensation schemes

¹⁶⁶ *Patents Act 1953* s 64; *Patents Draft Bill 2005* cl 25-27.

¹⁶⁷ *Banks Committee Report*, above n 149, [467].

overseas can be studied for their effectiveness.

III STATUTORY COMPENSATION SCHEMES OVERSEAS

What inventors may receive compensation for varies with jurisdiction: some will award compensation from the employer for patented inventions,¹⁶⁸ for inventions that can be kept as trade secrets, or covered by patents or utility models,¹⁶⁹ and in another for patents or patented inventions of outstanding benefit to the employer.¹⁷⁰

A *The United Kingdom*

The compensation provisions introduced with the *Patents Act 1977* (UK) represented a compromise between the interests of employers, in whose opinion the inventor was sufficiently compensated by salary, and of employees, who pointed to the considerable profits made by employers on some inventions, far beyond the level of salary received.¹⁷¹ Where an invention created a ‘bonanza’ for the employer,¹⁷² compensation was seen as only fair.¹⁷³

For compensation to be awarded a patent must have been granted, in the UK or elsewhere.¹⁷⁴

In order to qualify for compensation, there must be an ‘outstanding benefit’¹⁷⁵ to the employer, having regard to the size and nature of the employer’s undertaking, and even where this is present an award of compensation must be ‘just’ in the circumstances.¹⁷⁶

Compensation may also be awarded where the initial ownership of the patent rights

¹⁶⁸ Japan.

¹⁶⁹ Germany, see: Leptien, ‘Incentives for employed inventors: an empirical analysis with special emphasis on the German Law for Employees’ Inventions’ (1995) 25 *R&D Management* 213, 215.

¹⁷⁰ UK.

¹⁷¹ P A Chandler, ‘Employee’s Inventions: Outstanding Compensation’ (1992) [Nov] *Journal of Business Law* 600.

¹⁷² United Kingdom, *Parliamentary Debates*, House of Lords, (24 February 1977) vol 380, 411 (Lord Elwyn-Jones).

¹⁷³ The conclusion of the Working Party on Employed Inventor’s Rights, cited in HL debates, *ibid* 411 (Lord Elwyn-Jones).

¹⁷⁴ *Patents Act 1977 (UK)* s 40(1)(a), (2)(a). “Patent” in the context of ss 39-42 means “a patent or other protection” and “granted” refers to a grant under the law of the UK or any other country, treaty or international invention: s 43(4).

¹⁷⁵ ‘Benefit’ means money or money’s worth: *Patents Act 1977 (UK)* s 43(7).

¹⁷⁶ *Patents Act 1977 (UK)* s 40(1)(c).

vested in the employee,¹⁷⁷ but was assigned, or an exclusive licence was granted, to the employer.¹⁷⁸ If the benefit is inadequate in relation to the benefit derived by the employer from the patent or invention (or both)¹⁷⁹ and it is just that compensation should be paid in addition to the benefit derived under the relevant contract,¹⁸⁰ compensation can be awarded. The benefit to the employer does not have to be outstanding in this case.

It was said by Lord Elwyn-Jones in the House of Lords debates that the compensation provision was aimed at ‘the sort of invention which may revolutionise a company or perhaps even a whole industry’.¹⁸¹ This comment indicates that the Act aims to reward the seminal invention.¹⁸² If this were true it would graft onto the patent scheme a determination of the nature and quality of the invention above the inventive step required to qualify for the patent. Although the returns derived from an invention might well be expected to correlate with the nature of the invention itself in many cases,¹⁸³ this is not necessarily so, and it is submitted that this section, aimed at windfall profits, does not require any assessment of the nature of the invention. The patent system does not discriminate as to the merits of the invention beyond the requirements for novelty and usefulness, and the mental effort required to produce the invention or the size of the inventive step over the prior art is not associated with the resulting rights given in the grant of patent. Although Lord Elwyn-Jones’ opinion has been accepted by a commentator,¹⁸⁴ it is respectfully submitted that it is not a correct interpretation of the UK provision or its purpose, in light of the underlying structure of the patent scheme, which is not concerned with outstanding inventions that deserve merit or accolades.

Although the principles behind the enactment of the compensation provisions were

¹⁷⁷ *Patents Act 1977* (UK) s 40(2)(a).

¹⁷⁸ *Patents Act 1977* (UK) s 40(2)(b).

¹⁷⁹ *Patents Act 1977* (UK) s 40(2)(c).

¹⁸⁰ *Patents Act 1977* (UK) s 40(2)(d).

¹⁸¹ HL debates, above n 180, 411 (Lord Elwyn-Jones).

¹⁸² As defined by Cullis, inventions are seminal or derivative. This classification rests on the magnitude of the inventive step. Seminal inventions are those that represent ‘major stepping stones in the progress of techno-economic evolution’. Seminal inventions will then be followed by a series of derivative inventions as the technology and methods for producing it are refined: Roger Cullis, *Patents, inventions and the dynamics of innovation: a multidisciplinary study* (2007) 66.

¹⁸³ *Ibid* 66.

¹⁸⁴ K R Wotherspoon, ‘Employee Inventions Revisited’ (1993) 22 *Industrial Law Journal* 119, 120.

easy to understand, the statutory form given to them has made them ‘complex and difficult to apply’,¹⁸⁵ and the incentive to invent is arguably lost with the requirement for an outstanding benefit, which is too high.¹⁸⁶ Whether a benefit is ‘outstanding’ will depend on the surrounding facts.¹⁸⁷ It ‘denotes...something more than substantial or good’.¹⁸⁸ The burden of proof is on the employee to show that an outstanding benefit accrued to the employer.¹⁸⁹

The amount of compensation must be a ‘fair share’ of the benefit derived by the employer, or reasonably expected to be derived.¹⁹⁰ In determining this the following are to be considered:¹⁹¹ the nature of the employee’s duties, remuneration and other advantages derived from the invention or the employment;¹⁹² the effort of skill of the inventor¹⁹³ and of other non-inventors in making the invention;¹⁹⁴ and the contribution of the employer to making, developing and working the invention.¹⁹⁵ These factors to determine the fair share have been called ‘peculiarly non-commercial’¹⁹⁶ but as the reward is based on fairness it is submitted that it is sound to consider the input of others in calculating the share in the invention’s commercial success.

The compensation provisions do not apply where a relevant collective agreement¹⁹⁷ already provides for compensation.¹⁹⁸ Other than that, the compensation scheme cannot be contracted out of if the result would be to diminish an employee’s rights in inventions, patents or applications for inventions.¹⁹⁹

¹⁸⁵ Phillips and Firth, above n 134, [9.9].

¹⁸⁶ Ibid.

¹⁸⁷ *Memco-Med Ltd’s Patent* [1992] RPC 403, 413.

¹⁸⁸ Ibid 414 (Aldous J).

¹⁸⁹ *Memco-Med Ltd’s Patent* [1992] RPC 403; *British Steel PLC’s Patent* [1992] RPC 117; *GEC Avionics Ltd’s Patent* [1992] RPC 107.

¹⁹⁰ *Patents Act 1977* (UK) s 41(1).

¹⁹¹ *Patents Act 1977* (UK) s 41(4). Under this section the Courts are not limited to considering only these factors.

¹⁹² *Patents Act 1977* (UK) s 41(4)(a).

¹⁹³ *Patents Act 1977* (UK) s 41(4)(b).

¹⁹⁴ *Patents Act 1977* (UK) s 41(4)(c).

¹⁹⁵ *Patents Act 1977* (UK) s 41(4)(d).

¹⁹⁶ Phillips and Firth, above n 134, [9.9].

¹⁹⁷ Defined in the *Patents Act 1977* (UK) s 40(6).

¹⁹⁸ Where it provides for compensation for inventions of the same description as the relevant invention, and to employees of the same description as the employee involved: *Patents Act 1977* (UK) s 40(3).

¹⁹⁹ *Patents Act 1977* (UK) s 42(2). This includes the inability to diminish the rights of employees set out in ss 39-43 generally, but is not to be construed as derogating from any duty of confidentiality owed to the employer: s 42(3).

So far there have been only 3 reported cases for compensation²⁰⁰ and none of them have been successful. All three cases occurred before the 2004 amendment to the *Patents Act 1977* (UK), while there was still a requirement that the benefit accrue from the patent and not from the invention itself.²⁰¹ The *Patents Act 2004* (UK) introduced the possibility of deriving the benefit from the patent or invention or both,²⁰² as the requirement for an outstanding benefit to be proved to derive solely from the patent was too difficult an evidentiary hurdle for the employee.

1 *Finding the 'outstanding benefit'*

In *GEC Avionics Ltd's Patent*²⁰³ sales of a wide angle display unit used in aircraft cockpits to a single customer, the United States Air Force, were considered. A contract to supply them could not initially be fulfilled because they had to be redesigned, so 2 consecutive contracts for conventional units were concluded in the interim, until the wide-angled units were supplied. As the contracts for conventional units were worth as much as that for the patented wide-angle unit, and having regard to the size of the company, it was held that the benefit to the employer from the patent was not 'outstanding'.²⁰⁴ Where, as in this case, the benefit is being considered against the employer obtaining contracts of a similar size, it is submitted that the 2004 amendment will not help much in overcoming the evidentiary hurdle of proving that the benefit is outstanding.

*British Steel PLC's Patent*²⁰⁵ concerned whether an outstanding benefit was established by internal cost savings by the company and a worldwide licensing agreement, as a result of the employee's outlet valve for conducting molten steel. The hearing officer decided that in considering the size and nature of the employer's undertaking regard should be had to the entire totality of the British Steel operation, even though the invention was only used at the site at which the employee worked.²⁰⁶ Because the undertaking was so massive, the benefit derived amounted to only 0.08%

²⁰⁰ *GEC Avionics Ltd's Patent* [1992] RPC 107; *British Steel PLC's Patent* [1992] RPC 117; *Memco-Med Ltd's Patent* [1992] RPC 403.

²⁰¹ *Patents Act 1977* (UK) s 40(1) prior to its substitution by the *Patents Act 2004* (UK).

²⁰² *Patents Act 1977* (UK) s 40(1) as amended by *Patents Act 2004* (UK).

²⁰³ [1992] RPC 107.

²⁰⁴ *Ibid* 115.

²⁰⁵ [1992] RPC 117.

²⁰⁶ *Ibid* 122.

of profits or 0.01% of turnover, which was not outstanding.²⁰⁷ This highlights how the contextual enquiry into the size of the employer's undertaking will work against a finding of outstanding benefit. The employee alleged additional benefits, but these were not considered by the hearing officer as they were unquantifiable. I agree with Chandler²⁰⁸ that this approach was wrong, and that in the absence of figures, a reasoned estimate of value can and should be made. Otherwise the employee is barred from compensation where the patent is used as a blocking patent, used to the benefit of the employer to prevent the entry of others into the market. Compensation should not depend on the choice of commercial strategy of the employer.

Probably the closest of the three cases to reaching an 'outstanding benefit' was in *Memco-Med Ltd's Patent*.²⁰⁹ An improved door detector for use in lifts was made at the request of the customer, and subsequently supplied. It was estimated that sales during a four year period represented 80% of the employer's turnover. Because under the pre-2004 test the benefit had to be derived from the patent itself, it was held it could not be shown to be of any benefit, as the sales were likely to have resulted from a good business relationship between the parties, or the price and quality of the product.²¹⁰ The history between the two companies indicated that their business relationship would have been the same had the product not been patented.²¹¹ Even with the 2004 amendment that the benefit may be derived from the invention, or patent, or both, it is likely that where a previous good relationship exists between the employer and the third party, or formal tying agreements or informal understandings are in place,²¹² it will be difficult for an employee to prove a causal link between the benefit and the invention and/or patent.

It is submitted that a requirement for an 'outstanding' benefit is so high as to be impractical, and a 'significant' or 'substantial' benefit gained by the employer would be more appropriate in this kind of compensation model.

In addition, the time lag from conception to market, and then from market launch to

²⁰⁷ Ibid 126.

²⁰⁸ Chandler, 'Employee's Inventions: Outstanding Compensation', above n 179, 607.

²⁰⁹ [1992] RPC 403.

²¹⁰ Ibid 417-418.

²¹¹ Ibid 418.

²¹² Wotherspoon, above n 192, 125.

the realisation of an outstanding benefit, means it is very likely that awards for compensation based on the UK model will come at the tail end of a patent's term. Even inventions immediately marketed may take time to supercede the existing technology because of the need to reach the 'economic advantage threshold'²¹³ of profits enjoyed by the current product or process. In some industries the amount of time needed to launch the invention could mean that the outstanding benefit occurred after the expiry of the patent term. In the pharmaceutical industry for example it usually takes at least a decade from conception of a drug to market release, and it is conceivable that an outstanding benefit will take over another 10 years to accrue, putting the benefit required for compensation outside the term of the patent. While the principle of the windfall approach to compensation is fair based on the interests of the parties, because it takes so long for the parties to know if compensation will be required the approach introduces too much uncertainty for the employer, and temporally it is too far removed from the act of invention to qualify as an effective incentive to employees. A royalty scheme that could run from the time of the invention or from the grant of patent would be a better alternative as an incentive, and to overcome the problems associated with the time lag involved in the UK scheme.

2 *Other difficulties with the UK scheme*

The following concerns have been outlined with the UK scheme: that the normal civil onus of proof placed on claimants is too difficult, and that the assessment of benefit in the context of the size and nature of an employer's undertaking makes the finding of an outstanding benefit less likely.²¹⁴

Although procedurally correct, having the initial burden of proof on the employee makes the likelihood of that person proving his or her case next to impossible. Applicants will not easily gain access to company information concerning the financial benefits derived. It would appear that the normal civil standard of proof is not appropriate in these cases as the disadvantage to the employee in proving his or her case is too great. It may be better in a scheme of this kind to give the Court a

²¹³ Cullis, above n 190, 80.

²¹⁴ *Consultation on Proposed Patents Act (Amendment) Bill* reported in Lee and Langley, above n 7, 250.

power to enquire into the benefits itself, in an investigatory function, to overcome this initial hurdle which would otherwise stifle the intent of the section. To place an initial burden on the employer to prove that no outstanding benefit was created is also inappropriate as it requires the employer to do too much initially to defend a claim.

The contextual enquiry into the size and nature of an employer's undertaking has also worked against employee inventors - it would appear that compensation is less likely for inventors working for large companies than those in small ones.²¹⁵ In very large multinational corporations with many different departments it is unlikely that a single invention could ever produce an outstanding benefit for the employer. It would be better not to have this as a compulsory factor in the enquiry.

Due to the burden of proof, the probable difficulties in proving a causal link between the invention and/or patent and the benefit, and the requirement that the benefit be 'outstanding', the UK scheme is heavily weighted in favour employers. Grubb suggests the UK scheme gives the employee inventor a 'lottery ticket'.²¹⁶ In this respect I agree with Chandler that a successful award of compensation under the UK scheme will require 'outstanding skill, judgment and luck'.²¹⁷

B *Germany*

Germany has a statute specifically covering employees' inventions: the *Employees' Inventions Act 1957* (Germany) is intended to bridge the gap between the two legal approaches of patent and employment law, in addition to providing encouragement of invention by economic means.²¹⁸

The complex German scheme draws very different opinions, being called 'the most equitable and satisfactory distribution of ownership rights between employees and employers'²¹⁹ and a 'mindnumbing accounting ziggurat'.²²⁰

²¹⁵ Grubb, above n 3, 393.

²¹⁶ Ibid 394.

²¹⁷ Chandler, 'Employee's Inventions: Outstanding Compensation', above n 179, 609.

²¹⁸ Leptien, above n 177, 216.

²¹⁹ Kamal Puri, 'Ownership of Employee's Inventions: A Comparative Study' 12 *Intellectual Property Journal* 1, 9.

²²⁰ John Tessensohn, 'Re: Lee and Langley: Employees' Inventions' (2006) 28 *European Intellectual*

The *Employees' Inventions Act 1957 (Germany)*²²¹ applies to inventions capable of being protected under patent and utility model law.²²² The Act states that the compensation is to be reasonable, based on the invention's commercial potential, the position of the employee in the company and his or her contractual duties, and the contribution of the employee to the invention. How to calculate what is reasonable is set out in a detailed but non-binding set of Guidelines.²²³

Compensation is required where the employer makes an unrestricted claim for 'service' inventions,²²⁴ which are those that originate from the employee's duties or relate to the employer's activities or experience,²²⁵ and must be agreed within a reasonable time.²²⁶ This will result in more inventions belonging to the employer than happens in the Commonwealth system,²²⁷ which is an advantage to the employer. All other inventions are 'free inventions', belonging to the employee. The employee has a duty to notify the employer in writing when a service invention is made.²²⁸ The notification should outline the problem, the solution, how the invention was arrived at, and the contributions of co-inventors.²²⁹ If the employer does not claim the service invention within four months it becomes 'free'.²³⁰ 'Free' inventions cannot be made subject to pre-invention assignment agreements.²³¹ A non-exclusive right to use the invention must be offered to the employer for a 'free invention' if it falls within the actual or prospective scope of the employer's business.²³²

Property Review 122, 123.

²²¹ (*Gesetz über Arbeitnehmererfindungen vom 25 Juli 1957*), as reported in Leptien, above n 177, fn 5.

²²² Leptien, above n 177, 214.

²²³ Guidelines for the Compensation of Employee's Inventions in Private Enterprises issued by the Federal Minister of Labour and Social Order in 1959 (*Richtlinien für die Vergütung von Arbeitnehmererfindungen im privaten Dienst vom 25 Juli 1959*) as reported in Leptien, above n 177, 214, and fn 7.

²²⁴ *Employees' Inventions Act 1957 (Germany)* art 9(1) as reported in Lo, above n 2, 308. Where an employer makes a limited claim, the employee must be paid only for actual use: art 10(1).

²²⁵ *Employees' Inventions Act 1957 (Germany)* art 4(2) as reported in Lo, *ibid*, 300.

²²⁶ *Employees' Inventions Act 1957 (Germany)* art 12(1) as reported in Lo, *ibid* 308.

²²⁷ Grubb, above n 3, 395.

²²⁸ *Employees' Inventions Act 1957 (Germany)* art 5(1), as reported in Lo, above n 2, 300.

²²⁹ *Employees' Inventions Act 1957 (Germany)* art 5(2) as reported in Lo, *ibid* 300, fn 127.

²³⁰ *Employees' Inventions Act 1957 (Germany)* art 8(1) as reported in Lo, *ibid* 301.

²³¹ Lo, above n 2, 304.

²³² *Employees' Inventions Act 1957 (Germany)* art 19(1) as reported in Lo, *ibid* 301.

1 The compensation calculation

The multiplication of the 'invention value' by the 'participation factor' is used to calculate the compensation owed to the employee.²³³ The calculation for 'invention value' includes what the employer would have had to pay for an exclusive licence, or savings to the company if the invention helps to cut costs.

The 'participation factor' is calculated based on a points system: the more points the higher the participation factor. In determining the points, 3 categories are taken into account:²³⁴

1. The degree of employee involvement in posing the problem: at one end is the situation where the employer posed the problem and indicated the approach to be taken, at the other end the employee posed himself a problem falling outside the normal range of his duties.²³⁵
2. How much the employer contributed: including facilities and assistance - the less help the higher the point rating.²³⁶
3. The position of the employee in the company: a research director making an invention gets 1 point, a research chemist 4 points, and an unskilled worker 8 points.²³⁷

Adding these three and reading their sum off a table gives the participation factor as a percentage. As the participation factor is usually somewhere between 15 and 21%, the resulting compensation is usually 15-21% of a net notional royalty.²³⁸

Employees can choose to be compensated either by:²³⁹

1. Licence analogy, calculated as a percentage of a royalty based on net sales. This method of calculating compensation is the most commonly used.²⁴⁰
2. A percentage of the internal cost savings.
3. One-off payment, based on a valuation of the invention.

If the parties dispute how the rules should be implemented, they can go to arbitration

²³³ Grubb, above n 3, 394.

²³⁴ Ibid.

²³⁵ The scale for this factor goes from 1-6: as reported in Grubb, *ibid.*

²³⁶ Here the scale is also from 1-6: as reported in Grubb, *ibid.*

²³⁷ The scale goes from 1-8: as reported in Grubb, *ibid.* 394.

²³⁸ Grubb, above n 3, 395.

²³⁹ Puri, above n 227, 20.

²⁴⁰ Leptien, above n 177, 215.

at the German Patent Office, and from there to the Court.²⁴¹ In Germany the employee can lay claim to the invention if the employer does not take title to it within four months.²⁴²

It is obvious from the above that the German scheme has high administrative costs, with a large amount of time being spent determining percentage contributions and dealing with the complex law on remuneration in company patent departments.²⁴³ Practical problems that arise with the administration of the German compensation scheme are how to determine the correct share each inventor should receive in a team project, and to identify the proportion a patented invention occupies in a product that makes use of one or more patents.²⁴⁴ The first could be avoided by a scheme that apportions the shares equally, but the second is unfortunately unavoidable in any compensation scheme.

The German scheme takes into account the seniority of the employee in the award of compensation, whereas the UK and Japanese schemes do not. It is submitted that considering the seniority of the employee is not necessary at this stage in a compensation scheme because it is already a factor in the determination of ownership of the invention.

It is submitted that the German scheme would not be appropriate for New Zealand, partly because of the high administrative costs tending to negate the social utility of the scheme, but largely because of the differences in approach to regulation and statutory codification owing to the civil law tradition.

²⁴¹ Ibid 215.

²⁴² *Intellectual Property Rights and Innovation*, Cmnd 9117 (1983).

²⁴³ Leptien, above n 177, 223.

²⁴⁴ Ibid 215.

C Japan

Like the German model, the Japanese law divides inventions into ‘service inventions’ and ‘free inventions’.²⁴⁵ ‘Free inventions’ cannot be pre-assigned before they are made.²⁴⁶ Unlike the German scheme though, the employee retains ownership of the service invention and the employer is only given a non-exclusive license to use it.²⁴⁷ The Japanese statute is quite simple. The invention can be assigned to the employer or an exclusive licence granted, but article 35(3) of the *Patent Law 1959* (Japan) provides that ‘reasonable remuneration’²⁴⁸ must be paid.

The *Olympus Corporation v Shumpei Tanaka*²⁴⁹ decision in the Japanese Supreme Court held that this provision applied even where the parties had reached an agreement²⁵⁰ and that ‘reasonable remuneration’ was needed for legitimate ownership by the employer.²⁵¹ The Courts must respect an agreement reached by the parties unless it is unreasonable or the process by which it was reached was unreasonable.²⁵² Under article 35(4) compensation is to be determined with reference to two factors: the profits the employer will derive from the invention and the degree of contribution of the employer to the invention.²⁵³ If the invention was made by two or more inventors, they will share in the compensation according to their respective shares,²⁵⁴ and the right to receive compensation survives the resignation, retirement, or death of

²⁴⁵ Lo, above n 2, 281.

²⁴⁶ *Patent Law 1959* (Japan) art 35(2) (*Tokkyoho 1959*) as reported in Lo, *ibid* 282.

²⁴⁷ *Patent Law 1959* (Japan) art 35(1) as reported *ibid* 282.

²⁴⁸ As reported in Lee and Langley, above n 7, 250. The translation is also reported in English works as ‘adequate remuneration’: Barraclough, above n 5, 21; and ‘fair compensation’: Grubb, above n 3, 395.

²⁴⁹ Heisei 13 JYU 1256 (Supreme Ct, 22 April 2003) as reported in Grubb, above n 3, 395.

²⁵⁰ As reported in John Tessensohn and Shusaku Yamamoto, ‘Japan: Patents - Inventor/Ownership Disputes Relating to Ex-Employees’ (2004) 26(5) *European Intellectual Property Review* N63, N65. Tanaka was awarded US\$24,000 by the Court in addition to the US\$1,740 he received for his invention relating to optical reading of compact discs in 1977.

²⁵¹ As reported in Philip Grubb, *Patents for Chemicals, Pharmaceuticals and Biotechnology: Fundamentals of Global Law, Practice and Strategy* (4th ed, 2004) 395.

²⁵² This requirement in art 35(4) (as amended) came into force on 1 April 2005 through the *Amendment of Patent and Other Industrial Property Laws for Reducing Patent Pendency (Law No. 79 of 2004)* (Japan) as reported in Yunjoo Lee and Malcolm Langley, ‘Employee’s Inventions: Statutory Compensation Schemes in Japan and the UK’ (2005) 27(7) *European Intellectual Property Review* 250, 251.

²⁵³ *Patent Law 1959* (Japan) art 35(4), (*Tokkyoho 1959*) as reported in Vai Io Lo ‘Employee Inventions and Works for Hire in Japan: A Comparative Study Against the US, Chinese, and German Systems’ (2002) 16 *Temple International and Comparative Law Journal* 279, 282.

²⁵⁴ *Service Invention Regulations* (Japan) art 11 (amended Feb 1, 1973) (*Hatsumei Kyookai Kenkyujo*), as reported in Vai Io Lo ‘Employee Inventions and Works for Hire in Japan: A Comparative Study Against the US, Chinese, and German Systems’ (2002) 16 *Temple International and Comparative Law Journal* 279, 284.

the employee inventor.²⁵⁵

The two factors for determining compensation are similar to those in the German enquiry, but are not fleshed out as they are in the German scheme. Instead, compensation is awarded by judges, or by employers, on a case-by-case basis. The simple Japanese scheme has resulted in a number of awards to employee inventors in recent years. In assessing the percentages required for compensation, the reasoning of the Japanese courts is said to be often unclear,²⁵⁶ and the apparent arbitrariness of compensation may discourage use of litigation by employed inventors.²⁵⁷

The largest award of ‘reasonable remuneration’ occurred in the *Nakamura* case. The District Court defined the value of the patent as the profit that could be gained over the duration of the patent, calculating the employer’s profits at US\$1.13 billion,²⁵⁸ and the contribution of Mr Nakamura to be 50%, calling it ‘a rare occurrence...due to his personal ability and creative ideas despite working under a poor research environment provided by a small company’.²⁵⁹ The employer appealed and the parties settled for 5% instead at the direction of the High Court, which had apparently imposed a settlement cap out of concern for the financial wellbeing of the company.²⁶⁰

1 *The ‘reasonable contract’*

Following the *Tanaka* and *Nakamura* decisions, the Japanese Government responded to industry concerns over uncertainty by introducing an amendment that placed the emphasis back on compensation reached by contractual agreement between the parties.²⁶¹ Under the amended article 35(4), the courts can award compensation only if

²⁵⁵ *Service Invention Regulations* (Japan) art 13(1) (amended Feb 1, 1973), as reported in Vai Io Lo ‘Employee Inventions and Works for Hire in Japan: A Comparative Study Against the US, Chinese, and German Systems’ (2002) 16 *Temple International and Comparative Law Journal* 279, 284.

²⁵⁶ Vai Io Lo ‘Employee Inventions and Works for Hire in Japan: A Comparative Study Against the US, Chinese, and German Systems’ (2002) 16 *Temple International and Comparative Law Journal* 279, 319.

²⁵⁷ *Ibid* 319.

²⁵⁸ Emma Barraclough, ‘The Inventors Strike Back’ (2004) [March] *Managing Intellectual Property* 20, 20.

²⁵⁹ As reported in John Tessensohn and Shusaku Yamamoto, ‘Japan: Patents - Inventor/Ownership Disputes Relating to Ex-Employees’ (2004) 26(5) *European Intellectual Property Review* N63, N63. Nakamura was awarded US\$190 million instead because that was all he had requested.

²⁶⁰ As reported in Healy, above n 4, 405.

²⁶¹ Art 35(4) (as amended) came into force on 1 April 2005 through the *Amendment of Patent and*

the contract, or the process by which it was reached, was unreasonable. Whether this change will make the administration of the law any clearer is doubtful, as it adds the uncertainty of what is ‘unreasonable contract’ is to the uncertainty of what a ‘reasonable compensation’ is in this setting, but it is likely to result in less litigation and fewer awards to employees.

The *Hitachi Ltd v Seiji Yonezawa*²⁶² decision by the Japanese Supreme Court held that the profits to be taken into account include those on foreign patents, justified on the basis that ‘the imbalance between the employee and the company is the same whether in this country or abroad’.²⁶³ Thus all three overseas compensation schemes will take foreign patents into account.²⁶⁴

The *Yonezawa* ruling is not affected by the 2004 amendment since that amendment did not exclude the application of the compensation scheme to foreign patents.²⁶⁵ The Court used cross-licensing of patents as part of its assessment of profits arising from the invention.²⁶⁶

The Japanese statute provides minimum protection of the employee’s interest by ensuring compensation but providing flexibility by leaving the rest to negotiation. The result is that employers are likely to offer their inventors just enough compensation to prevent them taking legal action. It is submitted though, that the imbalance addressed in the *Hitachi* decision is still present where the parties are required to negotiate compensation, and that the 2004 amendment shifts the balance too far in favour of the employer. In addition, the determination of awards appears to involve a large amount

Other Industrial Property Laws for Reducing Patent Pendency (Law No. 79 of 2004) (Japan), as reported in Lee and Langley, above n 7, 251.

²⁶² Unreported, 17 October 2006, as reported in Grubb, above n 3, 395.

²⁶³ As reported in John Tessensohn and Shusaku Yamamoto, ‘Japan: Patents - Inventor Compensation’ (2007) 29(2) *European Intellectual Property Review* N21. Yonezawa was awarded US \$1.4 million by the Supreme Court: *ibid* N21. His invention was a mechanism for reading optical disks: Lee and Langley, above n 7, 250.

²⁶⁴ This may open the way for creative litigation strategies by firms in other countries in infringement proceedings, at least in the US, providing the court could assert jurisdiction to hear the claim: Paul Morico and Thomas Morrow, ‘*Nakamura* Case Presents Opportunities for Novel Litigation Strategies’ (2005) [May/June] *IP Litigator* 23. The authors envisage the situation where an infringer being sued by a Japanese company acquires an assignment of the inventor’s cause of action for compensation, and uses it to set off against the damages awarded for infringement.

²⁶⁵ As reported in John Tessensohn and Shusaku Yamamoto, ‘Japan: Patents - Inventor Compensation’, above n 271, N21.

²⁶⁶ *Ibid*.

of uncertainty stemming from the lack of guidance on how to determine the compensation. A solution to this would be to introduce a statutory minimum for awards, to ensure a base level of compensation is met which the parties could then negotiate on top of if they chose to.

IV A COMPENSATION SCHEME FOR NEW ZEALAND?

The effect of the historical change from single-inventor situations to corporate research in the early 20th century and from employee- to employer-ownership is effectively to deprive the inventor of an expectation of any reward or compensation for their inventions which the patent system intends,²⁶⁷ and has been associated with diminished employee incentives.²⁶⁸

Monetary compensation schemes have at least 2 potential benefits:²⁶⁹ an increased cooperation in the patenting process, resulting in a quantitative increase in the number of inventions disclosed by employees to the employer; and a qualitative increase in the calibre of inventions due to increased employee creativity. In deciding for or against any kind of compensation scheme for employed inventors, ‘fairness and incentive are the core issues’.²⁷⁰

A *Arguments in Support of Compensation Schemes*

1 *Fairness*

The inventor of a successful invention deserves or is entitled to expect some reward for his or her contribution as a matter of fairness,²⁷¹ on the basis of a socially valuable contribution made or as a reward for labour from which a benefit is derived by others.²⁷²

In many cases the effort that goes into creating an invention and the benefit derived by the employer for it may be greater than what can reasonably be expected of an employee, as in the case of Nakamura’s blue LED. Fairness is the dominant rationale behind our current section 65, and in recommending its adoption the Patents

²⁶⁷ Phillips and Hoolahan, above n 67, 45; A H Goldman, above n 10, 74.

²⁶⁸ Catherine Fisk, above n 67.

²⁶⁹ Savitsky, above n 66, 659.

²⁷⁰ Lee and Langley, above n 7, 255.

²⁷¹ L G Boonin, ‘The University, Scientific Research, and the Ownership of Knowledge’ in Vivian Weil and John Snapper (eds) *Owning Scientific and Technical Information: Value and Ethical Issues* (1989) 267.

²⁷² *Ibid* 256. Personhood theory has also been employed in advancing the interests of employee inventors: Cherenky, above n 77.

Commission implied that failure to compensate an employee should be a rare occurrence: ‘The employer...may contend that by virtue of the circumstances he is entitled to the benefit of the invention without giving any additional remuneration to the employee’.²⁷³

Fairness is also the driving force behind the UK scheme of rewarding patents or inventions that are of outstanding benefit, as it applies in the case where an employee gives the employer ‘something above and beyond what is expected’,²⁷⁴ as can be seen in the following principles implicitly incorporated into the provisions on employee inventions in the UK:²⁷⁵

- a) An employee inventor should share in the fruits of the success of the successful exploitation of the invention by his or her employer.
- b) The size of the reward should be calculated with reference to the relative worth of the efforts and expectations of both the employer and the employee.

The House of Lords, in considering the UK Bill, discussed the difficulties involved in determining who the inventor(s) were and the fear that a provision of this kind would lead to decreased interchange of ideas and team work, but ultimately decided that on the basis of fairness and as encouragement to inventors the provision should be included in the Act.²⁷⁶ The Lord Chancellor Elwyn-Jones appealed to the House:

I invite noble Lords to ask themselves, if the difficulties can be surmounted in a given case, and we are dealing with an inventor, a researcher, who has made a remarkable discovery which may bring millions of pounds into the company, is it really to be said, ‘Oh, no, he does not deserve any compensation at all’. I would think that to be a very hard-hearted and tight-fisted attitude.²⁷⁷

Compensation would serve a valuable recognition function for the inventor(s) involved. The Banks Committee identified recognition as one of the interests an employee would have in a statutory reward scheme: ‘[I]t is understandable that an

²⁷³ *Patents Commission* Report, above n 165, [45].

²⁷⁴ Grubb, above n 3, 393.

²⁷⁵ Taken from Phillips and Firth, above n 134, [9.8].

²⁷⁶ HL debates, 406-421.

²⁷⁷ *Ibid* 412 (Lord Elwyn-Jones).

inventor should want special recognition for an activity which is uniquely personal'.²⁷⁸ The use of the patent system for recognition is built into the law – the inventor is entitled to be named on the patent. A patent must be granted to the 'true and first inventor',²⁷⁹ who must sign the application. The patent can be opposed or revoked if someone who should have been recognised an inventor was not, or if someone who is listed as an inventor did not in fact make the requisite inventive contribution. This recognition is important and should extend to the inventor being awarded some remuneration for their vital input into the invention.

(i) *Where the employee's invention results from special services*

Certain situations will demand an increased level of compensation as a matter of fairness. An employee may make an invention unsolicited, on his own time, and bring it to the employer, as was the case in *Electrolux v Hudson*, or the employer may ask for a task to be done using the employee's special skills, such as where a law clerk who also has a computer science degree is asked to write a software program to solve a computer problem in her workplace.²⁸⁰ In such situations there can be no suggestion that the employee has already been rewarded by salary.

In circumstances where the employee provided special services or materials, he may be able to sue for compensation on equitable or quasi-contractual premises.²⁸¹ Phillips and Hoolahan give the rule in *Lampleigh v Braithwait*²⁸² as potentially applicable where an employer promises a sum for extra work done by an employee outside the scope of his employment; and *quantum meruit* as a remedy for special services where no promise of compensation is given or where the employee's unsolicited efforts have produced a substantial advantage for the employer.²⁸³ The authors cite several American cases in which *quantum meruit* has been successfully used. The differing

²⁷⁸ *Banks Committee* Report, above n 149, [464].

²⁷⁹ Or someone deriving title from him or her.

²⁸⁰ Katrina Groshinki, *Employees' inventions: a fairer approach* (LLM thesis, Victoria University of Wellington, 1996) 19.

²⁸¹ Phillips and Hoolahan, above n 67, 22.

²⁸² (1615) Hob 105, explained in Sir Percy Winfield, *The Law of Quasi-Contracts* (1952) 1-2:

Where X renders services on Y's request, expecting remuneration for them, and Y subsequently promises remuneration, that promise may be treated by the courts as evidence of a contract, or as a positive bargain which fixes the amount of remuneration, on the faith of which X rendered services.

²⁸³ Phillips and Hoolahan, above n 67, 22-25.

propensity to use equitable principles in the United States²⁸⁴ means that the remedies proposed are probably of little value in New Zealand. The situation where the invention results from the employee's unsolicited efforts, or from a special request by the employer for an activity outside the employee's normal duties, should therefore be dealt with by special provision within a statutory compensation scheme.

2 *Incentives*

Invention is said to be stimulated by the prospect of gaining the rewards offered by the patent system, encouraging individuals to invest their time and effort in pursuing these rewards.²⁸⁵ Where a person is employed to invent and the resulting patent belongs to the employer, to say the availability of a patent acts as a stimulus for invention is 'like saying that you can spur on a donkey by offering a carrot to his rider'.²⁸⁶ The incentive is absent in the case of employees' inventions,²⁸⁷ but compensation can correct it. Empirical studies show that compensation will function as a motivating factor in the inventive process as an alternative to a proprietary patent right.²⁸⁸

The incentives provided by the patent system are broken down into:²⁸⁹ an incentive to invent, create and innovate; an incentive to disclose ideas; and an incentive to invest. The first of these can be further broken down into an incentive to invent as distinct from an incentive to innovate.²⁹⁰ This is an appropriate distinction to make in the employment context as innovation is more appropriately seen as being concerned with the commercialisation of scientific advancements rather than their creation or

²⁸⁴ Ibid 23.

²⁸⁵ Goldman, above n 10, 73.

²⁸⁶ Phillips and Firth, above n 134, [9.3].

²⁸⁷ Bartow, above n 77, 676; Dratler, above n 77; Merges, above n 74, 38.

²⁸⁸ Savitsky, above n 66; J Rossman, 'The Motives of Inventors' (1931) 45 *Quarterly Journal of Economics* 522; Leptien, above n 177; Lynn Ellis and Sandra Honig-Haftel, 'Reward Strategies for R&D' (1992) 35(2) *Research Technology Management* 16.

²⁸⁹ Birgitte Andersen, 'If 'Intellectual Property Rights' is the answer, what is the question? Revisiting the patent controversies' (2004) in Birgitte Andersen (ed) *Intellectual Property Rights: Innovation, Governance, and the Institutional Environment* (2006) 117; Jeremy Phillips and Alison Firth *Introduction to Intellectual Property Law* (4th ed, 2001) 107-115.

²⁹⁰ Ove Grandstand, 'Intellectual property rights for governance in and of innovation systems', in Birgitte Andersen (ed), *Intellectual Property Rights: Innovation, Governance, and the Institutional Environment* (2006) 319.

conception.²⁹¹ Innovation is the ‘transformation of knowledge into economic value’²⁹² and the acquisition of intellectual property is only of many inputs into the process of innovation.²⁹³

An independent inventor receives all the incentives offered by the patent system. In the employment context, however, the inventor receives none, as their employer will be the one obtaining and holding the patent monopoly rights. The incentives to disclose, invest, and innovate for the development and promotion of the commercial product act on the employer, but the incentive to invent cannot apply to anyone other than the person responsible for the inventive concept of the invention ie the individual inventor(s) themselves.

A salary cannot function as an incentive for an employee inventor, as it will be due regardless of whether an individual applies themselves in the pursuit of invention. Also, a patent incentive cannot be something that all employees receive, such as a salary: ‘the monopoly incentive completely side-steps inventors, who have no incentive to innovate if they can find a better job doing something else’.²⁹⁴

The best incentive to invent is the creation of a personal property right in the invention and the resulting collection of economic rights derived from the patent to exclude others from making, selling or otherwise dealing with the invention. Awarding a share of the patent rights has been suggested as a solution to the missing incentive.²⁹⁵ But joint ownership is problematic, as previously discussed.²⁹⁶

²⁹¹ Surendra Gera, Richard Roy and Thitima Songsakul, ‘The role of benchmarks and targets in Canadian innovation policy’ in Louise Earl and Fred Gault (eds) *National Innovation, Indicators and Policy* (2006) 26. The authors refer to the Organisation for Economic Co-operation and Development, *Oslo Manual: Guidelines for Collecting and Interpreting Innovation Data* for support: “Since the OECD published the first Oslo Manual in 1992, innovation has been defined as the introduction of new or significantly improved products to the market or the introduction of new or significantly improved processes to create products and deliver them to the market.”

²⁹² Ibid 24.

²⁹³ Louise Earl and Fred Gault, ‘An introduction to innovation and policy’ in Louise Earl and Fred Gault (eds) *National Innovation, Indicators and Policy* (2006) 3. Other inputs include research and development, and training.

²⁹⁴ Bartow, above n 77, 676.

²⁹⁵ Dratler, above n 77.

²⁹⁶ See Part II (C)(1).

Inventors may find non-monetary incentives to invent,²⁹⁷ but this is neither here nor there for the purposes of the patent system, whose existence and incentive and reward theory is grounded in shaping behaviour through the award of economic rights. Some writers question whether individual inventors are normally motivated by profit and therefore whether the incentive offered by the patent system makes any difference to inventive activity,²⁹⁸ but studies do not support such a romanticised ideal for the general population of research and development staff.²⁹⁹ These inventors are among good company: ‘Although Edison regarded invention as his *raison d’être*, he did not pursue activities for which he would not expect a commercial return’.³⁰⁰

The incentive to disclose does not act on the inventor when an employer is placed between the patent office and the inventor, as shown in the diagrams of Phillips and Firth³⁰¹ (see figure 3, Appendix). It is submitted, though, that the incentive to disclose is tied to ownership in the property and potential patent rights in the invention, and the disclosure of an idea such as would happen in the case of an employee to his employer is not the ‘disclosure’ that the incentive is aimed at. Since the employer is in a position to disclose the invention or keep it as a trade secret, it is the employer who is the subject of the social contract which is often said to be underlying patent law, and therefore the employer is the rightful subject of the incentive to disclose. Because an employee will usually have no legal right to disclose the invention to the public, it is submitted that correcting for this incentive is not of much importance.

In addition, awarding small fixed payments for each patent granted as in many contractual schemes in the US³⁰² would increase the incentive to disclose inventions to the employer, but because of a strong bias towards conservative patent management, in that it is more economically sound to patent than not to,³⁰³ and because managers will usually take the immediate cost of patenting over the risks to their careers of not

²⁹⁷ Cullis, above n 190, Chapter 8 outlines some other incentives.

²⁹⁸ Goldman, above n 10, 73; Savitsky, above n 66.

²⁹⁹ Leptien, above n 177; Ellis and Honig-Haftel, above n 297.

³⁰⁰ Cullis, above n 190, 127.

³⁰¹ Phillips and Firth, above n 134, [9.7].

³⁰² Savitsky, above n 66, 654. 91% of respondents elected ‘fixed payment per application’ as the situation that best described their company’s special monetary compensation system for employee inventions. 57 total respondents from large firms participated.

³⁰³ Robert Pitkethly, ‘Patent valuation and real options’ in Derek Bosworth and Elizabeth Webster (eds) *The Management of Intellectual Property* (2006) 269. Pitkethly’s economic analysis of the value of patents supports conservative patent management.

patenting,³⁰⁴ granting small awards for each and every patent is only likely to create ‘worthless paper patents’³⁰⁵ which clog up the patent system and are not in the public interest.

Increased recognition³⁰⁶ and large monetary awards³⁰⁷ have been found to be the greatest incentives for employees.³⁰⁸ In contrast, small per-patent or per-application awards were shown to have no motivating effect.³⁰⁹ A clear tendency was shown in one study that respondents working for companies with monetary compensation schemes believed such schemes had a positive effect on creativity.³¹⁰ In a study of research and development staff it was found that financial incentives which were found to have an overall positive impact on motivation,³¹¹ and were highly preferred over non-monetary incentives as a motivating tool.³¹²

B *Arguments Against Compensation Schemes*

Caution has been recommended for those acquiring rights in patents or applications that originate from countries with employed inventor laws as there may be uncertainty associated with the acquisition of patent rights owing to the interests attached.³¹³ Having no such law in New Zealand may be an advantage to those who wish to sell or otherwise deal in their patent rights with overseas investors. This is presumably an option taken by many small New Zealand companies entering into joint ventures with overseas partners to further their commercial venture, and the presence of an employee inventor compensation scheme could mean that such international development partners are more reluctant to deal with New Zealand companies, especially when Australia provides an immediate alternative. By the same token, however, a compensation scheme could increase the likelihood of keeping talent that

³⁰⁴ Ibid 268.

³⁰⁵ Savitsky, above n 66, 679.

³⁰⁶ This did not include accelerated promotion, which was assessed as a potential motivating factor itself and ranked 7th: Ellis and Honig-Haftel, above n 297.

³⁰⁷ Of the order of US\$50,000.

³⁰⁸ Ellis and Honig-Haftel, above n 297.

³⁰⁹ Ibid, 19. Small per-patent awards of US\$100-500 are typical of awards in the US: Savitsky, above n 66, 662.

³¹⁰ Savitsky, above n 66.

³¹¹ Leptien, above n 177, 224.

³¹² Ibid.

³¹³ Matthew Bender, above n 3, 2-29. It has been asserted, though, that the UK provisions on compensation do not apply if the employer sells the business and the employee has no claim against the new owner: Grubb, above n 3, 394.

is vital to the knowledge economy in New Zealand.

1 *Teamwork and behaviour modification*

It is argued that inventor compensation schemes ignore the contribution of other employees involved in turning an invention into a commercial success,³¹⁴ and that in the work needed to commercialise an invention, the actual conception of it may be the step requiring the least effort.³¹⁵ If an inventor is to be compensated, so should those who contributed before and after the invention.³¹⁶ Others ideas that are kept as trade secrets or fall short of patentability³¹⁷ may provide as lucrative for the employer, and the employees involved in conceiving these ideas will not be compensated. It is submitted that in the first case, the importance placed on the inventor in the patent scheme demands the inventor be singled out for reward, and that the inventor is the reason the other employees have anything to commercialise at all. The case of employee's inventions being kept as trade secrets is unfortunate, but is not a reason to exclude the many more employees who would benefit from a statutory scheme. A compensation scheme for employed inventors is not meant to subsume all other kinds of employer-based bonuses. If other employees deserve to be rewarded for their contributions it is hoped that the employer would do so.

Compensation for inventors is also criticised on the basis that 'the commercial success of an invention bears no necessary relationship to its inventive merits'³¹⁸ and that it overlooks the creative contributions that cannot be patented, made by other employees.³¹⁹ These criticisms, though, can be made of the patent system in general, because the scope of the monopoly granted is not related to the inventive merit of the invention (ie the size of the inventive step), and that it does not reward other kinds of creative contributions to society or the economy.

³¹⁴ Lee and Langley, above n 7, 255.

³¹⁵ Grubb, above n 3, 393.

³¹⁶ Richard Witte and Eric Guttag, 'Employee Inventions' (1989) 71 *Journal of the Patent and Trademark Office Society* 467, 473; Lee and Langley, above n 7, 255.

³¹⁷ It has been argued that such minor innovations could and should be protected under utility models, see generally: Uma Suthersanen, Graham Dutfield and Kit Boey Chow (eds) *Innovation Without Patents: Harnessing the Creative Spirit in a Diverse World* (2007).

³¹⁸ Grubb, above n 3, 394; see also Witte and Guttag, above n 325, 475.

³¹⁹ Leptien, above n 177, 223.

A fear in industry reported soon after the enactment of the UK compensation scheme was that employees would be encouraged to take research and development positions that were more likely to lead to patentable inventions.³²⁰ But on an analysis consistent with the purpose of the patent scheme this behaviour is not objectionable - to provide an incentive for people to produce useful inventions is a major object of the patent system. Employers can institute their own incentives for other behaviour if they so wish.

2 *A disincentive for employers?*

The prospect of having to pay compensation could be a disincentive to patent for the employer, who may prefer to keep the invention as a trade secret if at all possible. Practically though, the conservative tendency to patent is unlikely to be undone by the prospect of possible compensation, especially when conservative patent management can be supported on an economic analysis of the value of patents.³²¹ It may mean, though, that it is difficult to simultaneously direct incentives at all the relevant players in the patent game without diminishing these incentives for someone. This begs the question whether the patent system is appropriate at all for the modern context, where inventions are generally team-based and employer-owned, but that question is beyond the scope of this dissertation.

3 *The flexibility of contract*

It is said that contractual agreements are ‘a sounder solution’³²² than statutory compensation systems, as the decision makers within a firm are familiar with the industry, the technology, and maybe the inventors themselves, and are thus in a much better position to adapt the compensation scheme to optimise the incentive³²³ and reward. Employer-based award schemes can be grouped into four kinds:³²⁴ (a) implicit career-path progressions for significant inventions; (b) bonuses for significant inventions; (c) output-based bonus schemes; and (d) more detailed schemes based on

³²⁰ D A Littler and A W Pearson, ‘Rewarding the Employee Inventor and the Patents Act (1977)’ (1979) 10(1) *R&D Management* 29. See also Witte and Guttag, above n 325, 474.

³²¹ Pitkethly, above n 312.

³²² Lee and Langley, above n 7, 255.

³²³ Merges, above n 74, 45.

³²⁴ *Ibid* 38.

individual employee contribution and valuation of the invention. The flexibility of these schemes, as evidenced by the variety of them, is impossible to accommodate in a statutory scheme. The scheme would end up more complicated than the German system, and too costly and difficult to make it worthwhile.

It is true that the employer is in the best position to reward employees who have contributed to the commercial success of an invention, and to reward employees based on their respective contributions. The flexibility offered by contract is attractive. Prior to the introduction of the *Patents Act 1977* (UK), the Banks Committee had recommended that the matter was better dealt with by private contract than statutory impositions, and had recommended that the Department of Employment and Productivity encourage voluntary award schemes for inventions.³²⁵ This was because of the difficulty in finding the balance between the interests of the inventor and the employer.³²⁶ Contractual compensation depends, though, on the generosity of the employer.³²⁷ Workplace compensation arrangements are largely at the employer's discretion as the typical employee has a poor bargaining position relative to his employer.³²⁸ Private sector employers are less likely to share benefits with inventors than are government agencies and universities.³²⁹ At the University of Otago, staff will receive one third of the benefits of any patents arising from their inventions.³³⁰ Many private employers, however, choose not to share the benefits of their inventions with their employees: empirical data is hard to find, but in a US study only 50% of companies surveyed had a monetary compensation scheme that could be described as more than nominal.³³¹ The tendency to have a monetary compensation system showed a strong trend for industry category in the US.³³² Provided that such industry trends are also exhibited in New Zealand, statutory compensation schemes

³²⁵ *Banks Committee Report*, above n 149, [447].

³²⁶ *Ibid* [447].

³²⁷ HL debates, above n 180, 416 (Viscount Eccles).

³²⁸ Savitsky, above n 66, 650.

³²⁹ Derek Bosworth, 'Intellectual property and company performance: company case study evidence' in Derek Bosworth and Elizabeth Webster (eds) *The Management of Intellectual Property* (2006) 184.

³³⁰ After expenses are paid: University of Otago, *Intellectual Property Rights Policy*, para 6: Distribution of income from intellectual property. <<http://oupolicy.otago.ac.nz/policies/FMPro?-db=policies.fm&-format=viewpolicy.html&-lay=viewpolicy&-sortfield=Title&Type=Academic&-max=2147483647&-recid=32773&-find>>.

³³¹ Savitsky, above n 66. The study comprised data from 118 large US firms, mostly multinational companies.

³³² Greater than 80% of companies in the electronics, motor vehicles and parts, computer and aerospace industries had special monetary compensation schemes, whereas in the chemical and pharmaceutical industries only 31% and 19% did, respectively. Only industries with at least 5 participants were included.

would fill a gap left by contract. The existence of a statutory compensation scheme also promotes awareness of the issues of fairness and incentives to employee inventors, and encourages employers to formulate their own schemes so that they could settle with their employees, rather than litigate with their ex-employees.

4 *Difficulties in determining inventors*

The difficulties involved in determining the inventors are often cited against the use of statutory compensation schemes.³³³ This was also noted in the debates³³⁴ prior to the passing of the Patents Act 1977 (UK), and as early as *Worthington Pumping Engine Co. v Moore*.³³⁵ In *IDA Ltd v University of Southampton*³³⁶ Jacob LJ observed that many disputes as to the facts are likely to arise in cases on inventorship, as after a time people's recollections will differ about 'who thought of what and who said what to whom'.³³⁷ It is said that when money is at stake it can only complicate the task of determining the inventors,³³⁸ and a resulting decrease in collegiality may be feared as inventors may tend to be deceptive as to inventorship.³³⁹

But determination of inventorship will be difficult anyway, as credit and career path progression - far more influential for most inventors³⁴⁰ - are already linked to it.³⁴¹ An important function of the patent system is that it provides professional recognition for individual research contributions, in this sense holding patents are treated as professional credentials like publications or awards.³⁴² In the UK there has recently been a 'rash' of inventorship disputes,³⁴³ unassociated with compensation proceedings. A New Zealand example is the nature of the dispute in *Sealed Air*

³³³ See eg Witte and Gutttag, above n 325, 475.

³³⁴ HL debates, above n 180, 416.

³³⁵ (1903) 20 RPC 41, 48 (Byrne J).

³³⁶ [2006] EWCA 2107 [44].

³³⁷ Ibid [44].

³³⁸ Grubb, above n 3, 396.

³³⁹ Witte and Gutttag, above n 325, 475.

³⁴⁰ Ellis and Honig-Haftel, above n 297; Rossman, above n 297.

³⁴¹ Gary Taubes and Jon Cohen, 'The Culture of Credit' (1995) 268 *Science* 1706.

³⁴² Vivian Weil and John Snapper (eds) *Owning Scientific and Technical Information: Value and Ethical Issues* (1989) 14.

³⁴³ *IDA Ltd v University of Southampton* [2006] EWCA 2107 [44] (Jacob LJ). It was speculated that this could be due to an increase in joint ventures, or an increase in the appreciation of the significance of patents. Recent reported examples are *Stanelco Fibre Optics Ltd v Biopress Technology Ltd* [2004] EWHC 2187, *Yeda Research and Development Co Ltd v Rhone-Poulenc Rorer International Holdings Inc.* [2006] EWCA Civ 1094, *GE Healthcare v Perkinelmer Life Sciences (UK) Ltd* [2006] EWHC 214, *Collag Corp v Merck & Co Inc* [2003] FSR 15.

Corporation v Moffitt.³⁴⁴ As the inventorship enquiry must be carried out anyway for the purposes of obtaining a valid patent, and the recognition associated with being an inventor is already so important for inventors, it is submitted that this problem would not be a bar to the effective use of a compensation scheme.

Also, difficulties in complying with the law are not a reason to uphold unfairness or misplaced incentives in that law. The difficulties can be mitigated by effective record-keeping, and by sitting down with the patent attorney and determining who the inventors are at the time of the application. Of course, not all cases will involve a research team and in the case of a single inventor, as in *Empress Abalone*, inventorship will not be an issue.

5 *Bearing the risk*

Opponents of compensation for employed inventors argue that the employer is entitled to the fruits of the invention as he or she bears the risk of unsuccessful inventions,³⁴⁵ and that salaried employees exhibit a preference for low-risk rewards.³⁴⁶ But the amount of effort, energy and thought given by the employee to the invention may be a more substantial investment in the inventive process than the financial risk assumed by the employer.³⁴⁷ Compared to the resources invested by the employer, which alone give no guarantee to ever produce an invention, the inventive employee's brainpower is 'an equal, if not greater, ingredient in the inventive process'.³⁴⁸

It is alleged that additional compensation for successful inventions could lead to reduced salaries for employed inventors, as employers may require these employees to assume some of the risk.³⁴⁹ It is submitted that this is unlikely, that many more inventions are created than can be pursued and that therefore an employer has the

³⁴⁴ Intellectual Property Office of New Zealand, P14/2007, 11 June 2007, Assistant Commissioner Popplewell. An inventor refused to assign his rights in the invention to his employer because he objected to one of his colleagues being named as a co-inventor.

³⁴⁵ Morico and Morrow, above n 272, 26; Merges, above n 74, 31. Merges employs this risk argument in the context of employer ownership of rights in inventions, but supports intra-firm rewards for employees as correcting the decrease in incentive due to employer ownership.

³⁴⁶ Lee and Langley, above n 7, 254.

³⁴⁷ Bartow, above n 77, 675.

³⁴⁸ Marc Hershovitz, 'Unhitching the Trailer Clause: The Rights of Inventive Employees and Their Employers' (1995) 3 *Journal of Intellectual Property Law* 187, 190.

³⁴⁹ Morico and Morrow, above n 272, 26.

choice as to which are developed, and that employers mitigate the risk of not producing an invention anyway, for example by tailoring the direction of research towards likely successful outcomes. It is submitted that the patent rights themselves represent a fair exchange for the assumption of risk, and where it is alleged that the employer requires all the benefit derived as well to cover the risk, the risk is overstated.

Technological innovation plays and will continue to play an increasingly important role in New Zealand's economy, as a major driver of economic growth. The importance of encouraging innovation was seen in the recent tax incentives for research and development recently announced by the government in the 2007 Budget, part of a set of changes designed to develop 'a more innovative and dynamic economy'.³⁵⁰ If investment in technology is important, it is important also to motivate and reward those people who came up with the inventions, to prevent the loss of inventive employees from New Zealand.

It is therefore concluded that the arguments in favour of compensation schemes outweigh those against, and that subject to appropriate empirical research being carried out, statutory provision for employed inventors should be made available in New Zealand.

³⁵⁰ 15% tax credits are available for research and development: New Zealand Government, *Beehive Bulletin*, '18 May 2007 - Budget 2007', available at <<http://www.beehive.govt.nz/ViewNewsletter.aspx?DocumentID=29431>>, (accessed 9/9/07).

V CONCLUSIONS AND RECOMMENDATIONS

Whether compensation for employee inventors should be regulated or left to contract is controversial. One difficulty with any compensation scheme based on the patent system is that largely the scheme itself does not accurately reflect the modern notion of invention. The patent system was originally aimed at the individual inventor who, as a result of personal efforts, was entitled to a property right in his or her invention and the resulting economic rights flowing from the patent for it. In contrast, most invention today involves teamwork and collaboration, and secondly, it involves the resulting property and economic rights being held by the employer.

Attempts at compensation in New Zealand, as in other jurisdictions, will run into the potential problem of determining who the inventors are, and problems in valuation of the patent,³⁵¹ or the lack of compensation to some employees resulting from the employer's decision to use the invention internally for the business or keep it as a trade secret instead of patenting.³⁵² It would not be practical in this last case to distinguish between inventions that had remained a trade secret at the employer's discretion, and those inventions that were not capable of obtaining a patent. This would require a third party, probably the Intellectual Property Office, to basically examine without grant, which would be costly, time consuming, and rather pointless.

The flexibility of contract and the ability of the employer to tailor the rewards to the individual or team make leaving the question of compensation up to the parties an attractive option. The recommendation of the Banks Committee that governmental encouragement of inventor reward systems be adopted, instead of a statutory scheme, is tempting. This, however, would leave compensation to the discretion of the employer, which in some industries or firms may not be forthcoming. In addition, the rise of foreign partnering for start-up companies should be considered. Overseas partners may be in a position to enforce terms on the parties, and are unlikely to be swayed by non-legislative drives to promote inventor compensation awards. The

³⁵¹ For example where the employer is using the patent to block the market entry of others, which may be extremely valuable in commercial terms but whose value is difficult to quantify.

³⁵² This problem of the employer's right to patent cannot be solved simply by awarding compensation for all inventions whether patented or not, as this would include inventions that were not capable of obtaining a patent and would bring the question outside the scope of patent law entirely.

uncertain position of the common law on pre-invention assignment agreements,³⁵³ and their widespread use in the US, could especially leave employee inventors in partnerships with US companies hard done by. One such case has already occurred in the Intellectual Property Office where a pre-invention assignment agreement for the nominal consideration of \$1 was upheld without the Assistant Commissioner batting an eyelid.³⁵⁴

In the context of an employment setting, the factors for a court to weigh in setting an award of compensation may be difficult to ascertain and seem to be innumerable, such as valuing the patents involved, the contributions of the employer, the contributions to the inventive concept by other employees, and the contribution to the success of the invention by other areas of the firm such as marketing or product development, to name a few. The employer is in a much better position than the courts to determine these factors. This is why the UK and German Acts list so many factors for consideration, why the difficulty of determining what is 'reasonable' under the Japanese scheme will always be problematic, and arguably why the Japanese Government recently re-established contract as the primary compensatory method.

Patent law requires the identification of the true and first inventors for a valid patent, and as long as that requirement is an integral part of the scheme, it is unavoidable that any statutory compensation scheme must be based on the identifying a contribution of each true and first inventor to the inventive concept. In practice the inventive concept could be identified by a patent attorney while working with the employer to process the patent application, and the determination of inventorship could be done and documented at the same time. In a study of aggregate compensation strategies,³⁵⁵ team-based incentives and team-based bonus policies were found to have a positive effect on all the reported pay effectiveness measures studied,³⁵⁶ so if the employer is

³⁵³ ie in that the position taken in the *Electrolux v Hudson* decision does not appear to have been considered in New Zealand.

³⁵⁴ *Sealed Air Corporation v Moffitt*, Intellectual Property Office of New Zealand, P14/2007, 11 June 2007, Assistant Commissioner Popplewell.

³⁵⁵ Luis Gomez-Mejia and David Balkin, 'Effectiveness of Individual and Aggregate Compensation Strategies' (1989) 28 *Industrial Relations* 431. 175 R&D employees from the Boston area were surveyed.

³⁵⁶ Pay effectiveness was defined as the extent to which the compensation system is seen as contributing to the achievement of individual, organisational, and R&D goals. Measures were pay satisfaction, withdrawal cognition, and individual and project performance.

concerned about the effect of an inventor compensation scheme on other staff, team based schemes could be used as long as a minimum of compensation for the inventors is met within a statutory scheme.

A *A Statutory Minimum of Compensation*

In these conditions and in light of the various downfalls of the overseas compensation schemes considered in this dissertation, imposing a statutory minimum award for compensation seems to be the best compromise between the advantages of employer-tailored awards and protecting the interests of employee inventors.

A statutory minimum appears to be the best way to deal with the issue on a review of the overseas compensation structures. The German method is too costly and bureaucratic for a New Zealand environment, although it does have the advantage of great certainty, particularly for the employer. The UK scheme has problems for establishing compensation derived from the burden of proof, and the requirement to consider whether the benefit exists in the context of the size of the employer's undertaking. In addition, the requirement of an 'outstanding benefit' is too high to be of any practical value. The Japanese scheme as recently amended leaves open the possibility that the contract may well be reasonable but the resulting compensation may not be. If a minimum of royalties is required for the duration of the patent there is a high certainty of compensation required so therefore less potential for disagreement or for the matter to come back to court some years later after the benefit has been reassessed, as can happen under both the UK and Japanese systems.

It is recommended that a statutory minimum of 7% of the benefits derived from the patent or invention be introduced as compensation for employee inventors in fairness and to correct the missing incentive to invent. In the case of co-inventors the benefits should be divided equally between them, rather than undertake the task of determining percentage contributions, to limit the administration costs. In the case where the invention results from special services by the employee such as using special skills to solve a problem, or making the invention unsolicited or out of work hours, a statutory minimum of 20% of the benefit is recommended. The benefit could be awarded based on a net notional royalty or a percentage of internal cost savings, or

a series of lump sums based on valuations. The Courts could then be given an investigatory function to enquire whether this minimum had been met, to avoid the difficulties in establishing the burden of proof by employees.

If a statutory compensation scheme is not thought to be suitable for the New Zealand environment, at least a statutory provision to simplify the enquiry on ownership and to prevent the use of pre-invention assignment agreements that diminish an employee's rights should be adopted in the Draft Bill. Section 39 of the UK Patents Act should be adopted in New Zealand, but with the proviso that an employee's personal attributes are not part of whether an invention could be 'reasonably expected'. This will allow for the interests of employees, who provide the vital ideas in the knowledge economy, to be satisfactorily addressed in the Draft Bill.

APPENDIX

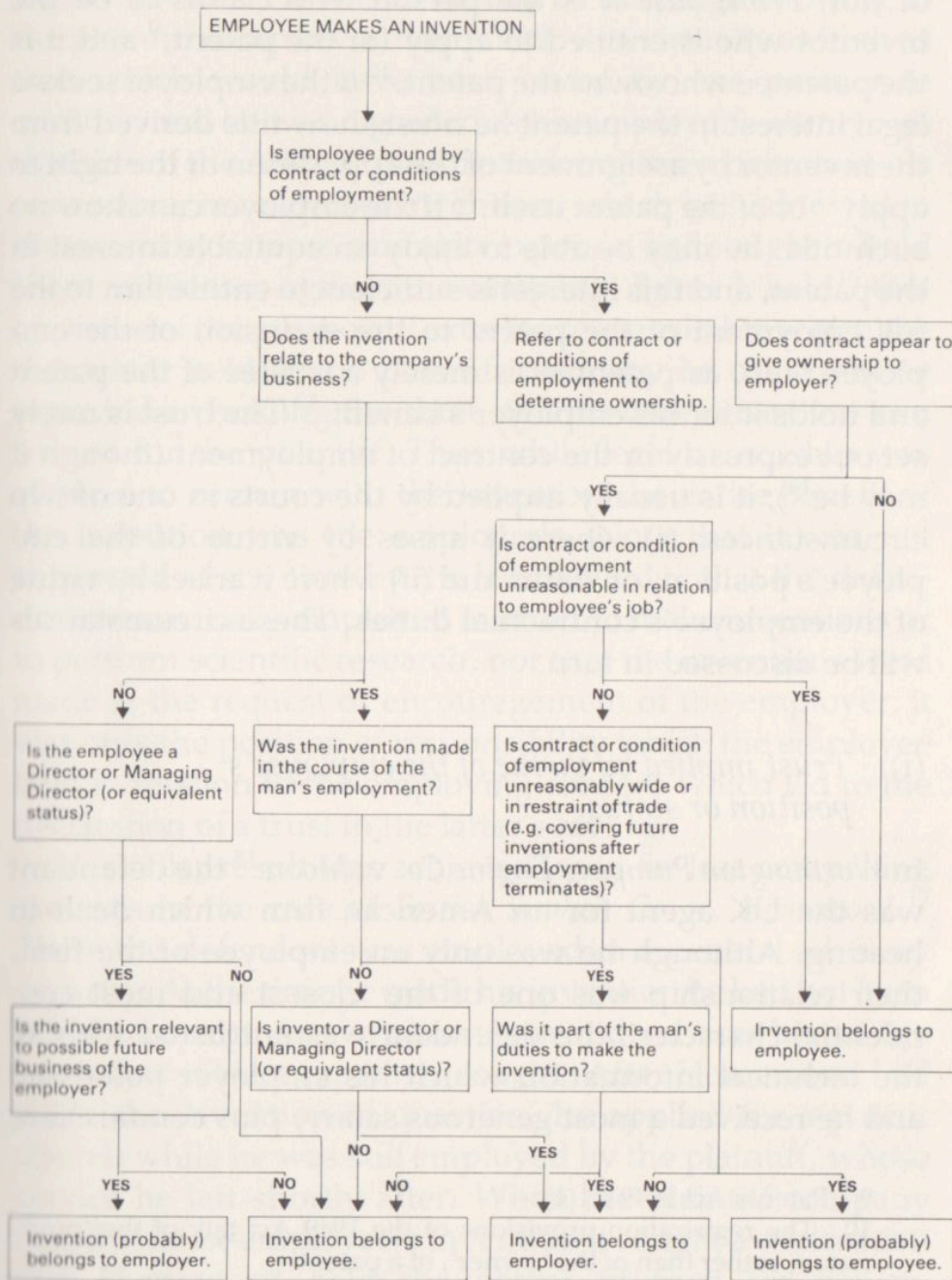
Patents Act 1953 section 65 - Disputes as to inventions made by employees

(1) Where a dispute arises between an employer and a person who is or was at the material time his employee as to the rights of the parties in respect of an invention made by the employee either alone or jointly with other employees or in respect of any patent granted or to be granted in respect thereof, the Commissioner may, upon application made to him in the prescribed manner by either of the parties and after giving to each of them an opportunity to be heard, determine the matter in dispute, and may make such orders for giving effect to his decision as he considers expedient: Provided that if it appears to the Commissioner upon any application under this section that the matter in dispute involves questions which would more properly be determined by the Court, he may decline to deal therewith.

(2) In proceedings before the Court between an employer and a person who is or was at the material time his employee, or upon application made to the Commissioner under subsection (1) of this section, the Court or Commissioner may, unless satisfied that one or other of the parties is entitled, to the exclusion of the other, to the benefit of an invention made by the employee, by order provide for the apportionment between them of the benefit of the invention, and of any patent granted or to be granted in respect thereof, in such manner as the Court or Commissioner considers just.

(3) A decision of the Commissioner under this section shall have the same effect as between the parties and persons claiming under them as a decision of the Court.

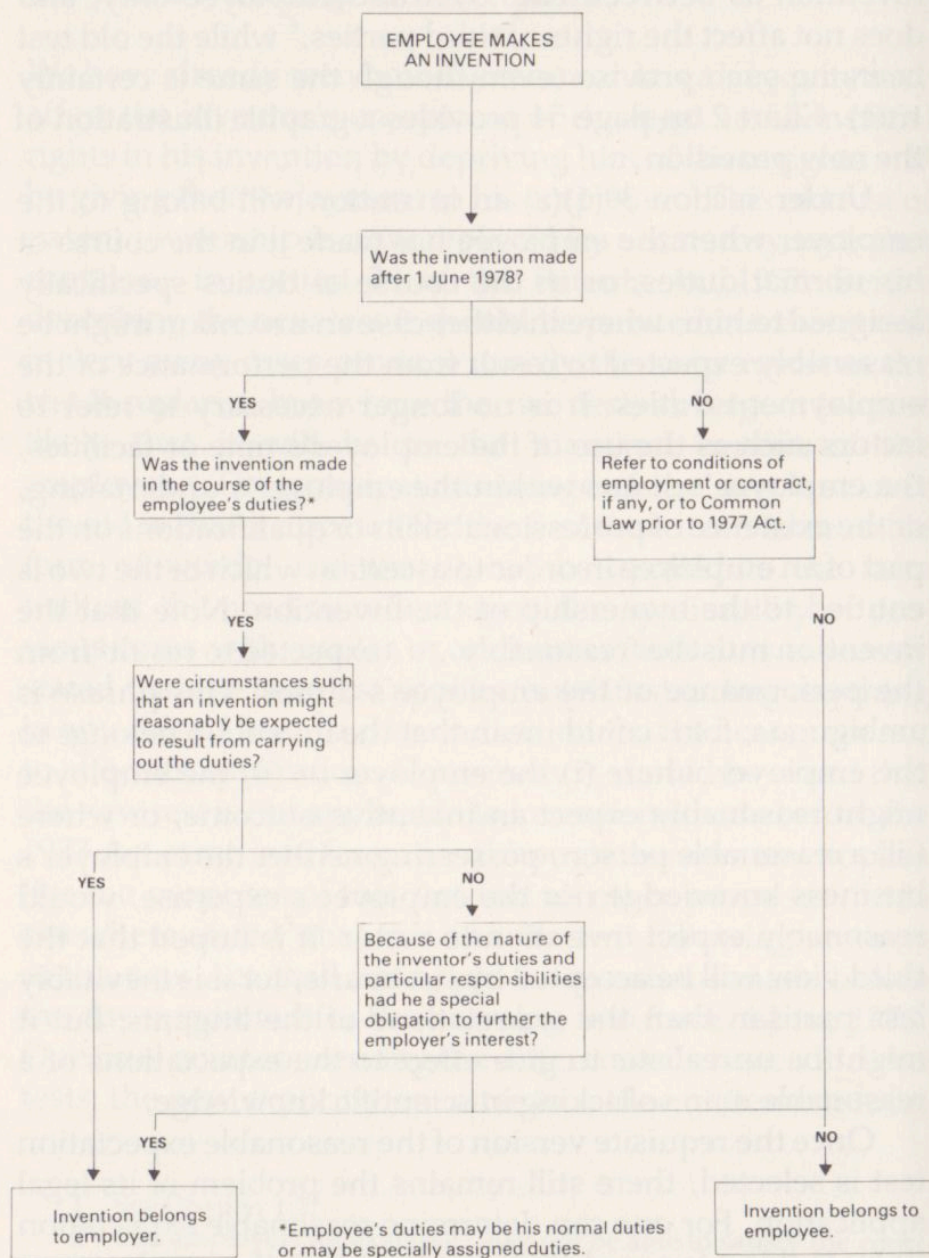
(4) An appeal to the Court shall lie from any decision of the Commissioner under this section.



Determination of Ownership of Inventions made by Employees under the Law Prior to 1st June 1978

Figure 1. The judicial enquiry as to ownership of an employee’s invention at common law.

Diagram taken from: Jeremy Phillips and Michael Hoolahan, *Employees’ Inventions in the United Kingdom* (1982) 15.



Determination of Ownership of Inventions made by Employees under Patents Act 1977

Figure 2. The simplified enquiry under the *Patents Act 1977 (UK)*.

Diagram taken from: Jeremy Phillips and Michael Hoolahan, *Employees' Inventions in the United Kingdom* (1982) 54.

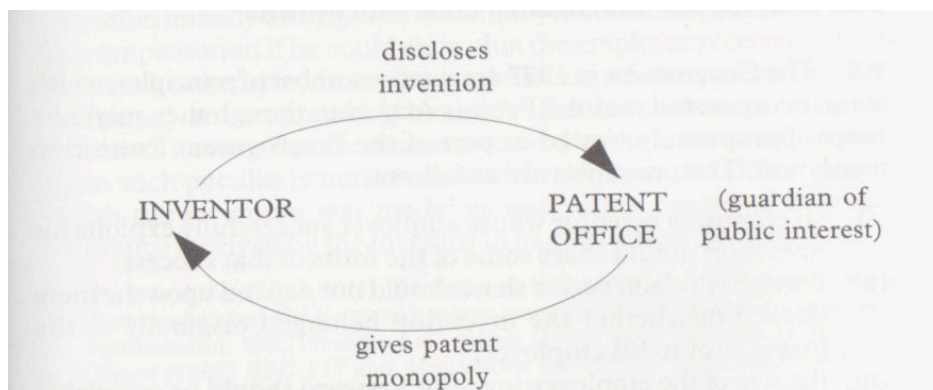


fig. 3

In the vast majority of cases this model is inappropriate because, as has been indicated above, the employer should be interposed in the manner suggested by figure 4.

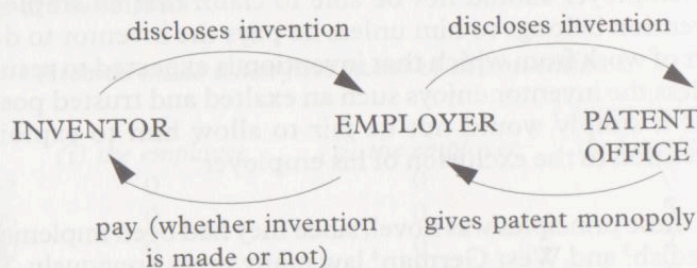


fig. 4

It does not require a profound analysis of figure 4 to recognise that, while the reward of a patent monopoly may provide an excellent incentive to the employer to disclose the invention in return for it, the patent does not impinge upon the inventor at all. As a hired hand, as it were, he will almost certainly enjoy his wages and experience the same vicissitudes of employment whether he invents or not, and whether – if he invents – he discloses his invention to his employer. The ‘employees’ inventions’ code of the Patents Act 1977, sections 39-43, recognises that the patent system *per se* has little incentive impact upon the inventor; it therefore seeks to provide further incentives. Let us briefly examine it.

1. See para 4.6 above.
2. On the concept of ‘consideration’ see G Treitel *The Law of Contract* (10th edn 1999) Ch 3.

Figure 3. The way the incentive to disclose an invention functions in the context of employees’ inventions.

Diagram taken from: Jeremy Phillips and Alison Firth, *Introduction to Intellectual Property Law* (4th ed, 2001) 109-110.

SELECTED BIBLIOGRAPHY

1. Legislation

1.1 New Zealand

Patents Act 1953.

Patents Draft Bill 2005.

1.2 United Kingdom

Patents Act 1949.

Patents Act 1977.

Introductory Explanatory Note to the Patents Bill 1977.

2. Cases

2.1 New Zealand

A2 Corporation Limited v New Zealand Dairy Board and JP Hill, Intellectual

Property Office of New Zealand, 2005/15, 4 July 2005, Assistant

Commissioner Popplewell.

Ancare New Zealand Ltd v Cyanamid of NZ Ltd [2000] 3 NZLR 299.

Empress Abalone Ltd v Langdon [2000] 1 ERNZ 147.

Empress Abalone Ltd v Langdon [2000] 2 ERNZ 53 (CA).

Empress Abalone Ltd v Langdon [2000] 2 ERNZ 481.

Fleming v Fletcher Concrete & Infrastructure Ltd (Unreported, HC Auckland, Wild J,

1 December 2006).

Hi-Per Wash Ltd v Schwass, Intellectual Property Office of New Zealand, P7/2004,

26 February 2004, Assistant Commissioner Hazlewood.

King v Norgate, New Zealand Patent Office, 22 December 1992, Commissioner

Burton.

L Church Holdings (Australia) Pty Ltd v Marine Propulsion Limited, Patent Office

New Zealand, 13 April 1992, Assistant Commissioner Poplewell.

Martin and Lynch v George Patent Office New Zealand, 12 October 2000, Assistant

Commissioner Hazlewood.

Sealed Air Corporation v Moffitt, Intellectual Property Office of New Zealand,

P14/2007, 11 June 2007, Assistant Commissioner Poplewell.

Sherman v Merck & Co. Inc (Unreported, HC Wellington, AP184-00, McGechan J,

11 April 2001).

Smith Kline & French Laboratories Ltd v Attorney-General [1991] 2 NZLR 560.

Stuart's Application (1892) 9 RPC 452.

Wade's Application, New Zealand Patent Office, 1981/01, 9 January 1981, Assistant

Commissioner Burton.

Wellcome Foundation Ltd v Commissioner of Patents [1983] NZLR 385.

Wyeth Holdings Corp v Harvey, Intellectual Property Office of New Zealand,

P15/2004, 14 June 2004, Assistant Commissioner Hazlewood.

Yang Xuming v Colin Graeme Gower, Intellectual Property Office of New Zealand,

P9/2001, 18 April 2001, Assistant Commissioner Poplewell.

2.2 United Kingdom

Adamson v Kenworthy (1932) 49 RPC 57.

Barnett Instruments Ltd v Overton (1949) 66 RPC 315.

British Steel PLC's Patent [1992] RPC 117.

British Syphon Co. v Homewood [1956] RPC 225.

Collag Corp v Merck & Co Inc [2003] FSR 15.

Edisonia Ld v Forse (1908) 25 RPC 546.

Electrolux v Hudson [1977] FSR 312 (Ch D).

Fine Industrial Commodities Limited v Powling (1954) 53 RPC 253.

GEC Avionics Ltd's Patent [1992] RPC 107.

GE Healthcare Ltd v Perkinelmer Life Sciences (UK) Ltd [2006] EWHC 214.

Greater Glasgow Health Board's Application [1996] RPC 207.

Harris' Patent [1985] RPC 19.

Heald's Patents (1891) 8 RPC 429.

Henry Brothers (Magherafelt) Ltd v Ministry of Defence [1997] RPC 693.

Henry Brothers (Magherafelt) Ltd v Ministry of Defence [1999] RPC 442 (CA).

Hivac Ltd v Park Royal Scientific Instruments Ltd [1946] 1 Ch 169.

IDA Ltd v University of Southampton [2006] EWCA Civ 145.

Lampleigh v Braithwait (1615) Hob 105.

Liffe Administration & Management v Pinkava [2007] EWCA Civ 217.

Markem Corporation v Zipher Ltd [2005] EWCA (Civ) 267.

Memco-Med Ltd's Patent [1992] RPC 403.

Patchett v Sterling Engineering Co. Limited (1953) 71 RPC 61.

Re Selz Ltd's Application (1953) 71 RPC 158.

Robb v Green [1895] 2 QB 315.

Standard Motor Co's Patent [1957] RPC 326.

Stanelco Fibre Optics v Bioprogress [2004] EWHC 2187.

Sterling Engineering Co. Limited v Patchett [1955] AC 534.

Triplex Safety Glass Co v Scorah [1937] 4 All ER 693.

Yeda Research and Development Co Ltd v Rhone-Poulenc Rorer International Holdings Inc [2006] EWCA Civ 1094.

Worthington Pumping Engine Co. v Moore (1903) 20 RPC 41.

1.3 Canada

Apotex Inc v Wellcome Foundation Ltd (2002) 21 CPR (4th) 499.

4. Parliamentary Debates

New Zealand, *Parliamentary Debates*, House of Representatives, (12 November 1953) vol 301, 2247-2250.

United Kingdom, *Parliamentary Debates*, House of Lords, (24 February 1977) vol 380, 389-448.

5. Journal Articles

Barracrough, Emma, 'The Inventors Strike Back' (2004) [March] *Managing Intellectual Property* 20.

Bartow, Ann, 'Inventors of the World, Unite! A Call for Collective Action by Employee-Inventors' (1997) 37 *Santa Clara Law Review* 673.

Chandler, P A, 'Employees' Inventions: Inventorship and Ownership' (1997) 19 *European Intellectual Property Review* 262.

Chandler, P A, 'Employee's Inventions: Outstanding Compensation' (1992) [Nov] *Journal of Business Law* 600.

Cherensky, Steven, 'A Penny for Their Thoughts: Employee-Inventors, Preinvention Assignment Agreements, Property, and Personhood' (1993) 81 *California Law Review* 597.

Cooper, Rosanna, 'Employee IT Inventors: Sharing in the Profits' (2003) 14(2) *Computers and Law* 26.

Cornish, William, 'Rights in Employees' Inventions: The United Kingdom Position' (1990) 21 *International Review of Industrial Property and Copyright Law*

298.

Dratler, Jay, 'Incentives for People: The Forgotten Purpose of the Patent System'

(1979) 16 *Harvard Journal on Legislation* 129.

Ellis, Lynn and Honig-Haftel, Sandra, 'Reward Strategies for R&D' (1992) 35(2)

Research Technology Management 16.

Fisk, Catherine, 'Removing the 'Fuel of Interest' from the 'Fire of Genius': Law and

the Employee-Inventor, 1830-1930' (1998) 65 *University of Chicago Law*

Review 1127.

Gomez-Mejia, Luis and Balkin, David, 'Effectiveness of Individual and Aggregate

Compensation Strategies' (1989) 28 *Industrial Relations* 431.

Healy, Jean, 'The Application of Japanese Article 35 Regarding "Reasonable"

Compensation for Patents by Employed Inventors in *Syuji Nakamura v Nichia*

Corporation' (2005) 17 *Pace International Law Review* 387.

Hershovitz, Marc, 'Unhitching the Trailer Clause: The Rights of Inventive Employees

and Their Employers' (1995) 3 *Journal of Intellectual Property Law* 187.

Hodkinson, Keith, 'Employee Inventions and Designs: Part 1 - Ownership Claims and

Compensation' (1986) 7 *Company Lawyer* 146.

Hodkinson, Keith, 'Employee Inventions and Designs: Part 2 - Managing Employee

Inventions' (1986) 7 *Company Lawyer* 183.

Jacob, Robin, 'The Stephen Stewart Memorial Lecture: Industrial Property -

Industry's Enemy' (1997) 1 *Intellectual Property Quarterly* 3.

Kontelj, Srechko, 'Employer/employee rights in employee inventions' (2004) 78(9)

Law Institute Journal 46.

Leptien, Christopher, 'Incentives for employed inventors: an empirical analysis with

special emphasis on the German Law for Employees' Inventions' (1995) 25

- R&D Management* 213.
- Lee, Yunjoo, and Langley, Malcolm, 'Employee's Inventions: Statutory Compensation Schemes in Japan and the UK' (2005) 27(7) *European Intellectual Property Review* 250.
- Littler, D A and Pearson, A W, 'Rewarding the Employee Inventor and the Patents Act (1977)' (1979) 10(1) *R&D Management* 29.
- Lo, Vai Io 'Employee Inventions and Works for Hire in Japan: A Comparative Study Against the US, Chinese, and German Systems' (2002) 16 *Temple International and Comparative Law Journal* 279.
- Merges, Robert, 'The Law and Economics of Employee Inventions' (1999) 13 *Harvard Journal of Law and Technology* 1.
- Morico, Paul and Morrow, Thomas, 'Nakamura Case Presents Opportunities for Novel Litigation Strategies' (2005) [May/June] *IP Litigator* 23.
- Morgan, Owen, 'Product innovation – employees and intellectual property' (1994) [April] *New Zealand Law Journal* 152.
- Phillips, Jeremy, 'The 'rule of eight' and software-based inventions' (1990) 6 *Computer Law and Practice* 84.
- Puri, Kamal, 'Ownership of Employee's Inventions: A Comparative Study' 12 *Intellectual Property Journal* 1.
- Rossmann, J, 'The Motives of Inventors' (1931) 45 *Quarterly Journal of Economics* 522.
- Savitsky, Thomas, 'Compensation for Employee Inventions' (1991) 73 *Journal of the Patent and Trademark Office Society* 645.
- Taylor, Selina and Batteson, Alex, 'A change in the IP landscape' (2004) 154 *New Law Journal* 1366.

- Tessensohn, John, 'Re: Lee and Langley: Employees' Inventions' (2006) 28
European Intellectual Property Review 122.
- Tessensohn, John and Yamamoto, Shusaku, 'Japan: Patents - Inventor Compensation'
(2007) 29(2) *European Intellectual Property Review* N21.
- Tessensohn, John and Yamamoto, Shusaku, "Japan: Patents - Inventor/Ownership
Disputes Relating to Ex-Employees" (2004) 26(5) *European Intellectual
Property Review* N63.
- Witte, Richard and Gutttag, Eric, 'Employee Inventions' (1989) 71 *Journal of the
Patent and Trademark Office Society* 467.
- Wotherspoon, K R, 'Employee Inventions Revisited' (1993) 22 *Industrial Law
Journal* 119.

5. Books

- Andersen, Birgitte (ed) *Intellectual Property Rights: Innovation, Governance, and the
Institutional Environment* (2006).
- Blanco White, T A, *Patents for Inventions and the Protection of Industrial Designs*
(4th ed, 1974).
- Bosworth, Derek and Webster, Elizabeth (eds) *The Management of Intellectual
Property* (2006).
- Cornish, William, *Intellectual Property: Patents, Copyright, Trade Marks and Allied
Rights* (4th ed, 1999).
- Cornish, William and Llewelyn, David, *Intellectual Property: Patents, Copyright,
Trade Marks and Allied Rights* (5th ed, 2003).
- Cullis, Roger, *Patents, inventions and the dynamics of Innovation: A multidisciplinary
study* (2007).

Dawson, John and Peart, Nicola (eds), *The Law of Research: A Guide* (2003).

Earl, Louise and Gault, Fred (eds) *National Innovation, Indicators and Policy* (2006).

Frankel, Susy and McLay, Geoff, *Intellectual Property in New Zealand* (2002).

Grubb, Philip, *Patents for Chemicals, Pharmaceuticals and Biotechnology: Fundamentals of Global Law, Practice and Strategy* (4th ed, 2004).

Phillips, Jeremy (ed), *Patents In Perspective* (1985).

Phillips, Jeremy and Firth, Alison *Introduction to Intellectual Property Law* (4th ed, 2001).

Phillips, Jeremy and Hoolahan, Michael, *Employees' Inventions in the United Kingdom* (1982).

McKeough, Jill, Stewart, Andrew and Griffith, Philip, *Intellectual Property in Australia* (3rd ed, 2004).

Matthew Bender, *World Patent Law and Practice*, vol 2 (at rel 96-10/97) 2.03[4].

Suthersanen, Uma, Dutfield, Graham and Chow, Kit Boey (eds) *Innovation Without Patents: Harnessing the Creative Spirit in a Diverse World* (2007).

Terrell, Thomas and Thorley, Simon, *Terrell on the Law of Patents* (16th ed, 2006).

Terrell, Thomas and Thorley, Simon, *Terrell on the Law of Patents* (15th ed, 2000).

van Caenegem, William, *Intellectual Property Law and Innovation* (2007).

Weil, Vivian and Snapper, John (eds) *Owning Scientific and Technical Information: Value and Ethical Issues* (1989).

5. Reports

Intellectual Property Rights and Innovation, Cmnd 9117 (1983).

Patents and Designs Act Final Report of the Departmental Committee, Chairman K R Swan, Cmnd 7206 (1947).

Patents and Designs Act First Interim Report of the Departmental Committee,

Chairman K R Swan, Cmnd 6618 (1945).

Patents and Designs Act Second Interim Report of the Departmental Committee,

Chairman K R Swan, Cmnd 6789 (1946).

Report of the Committee to Examine the Patent System and Patent Law, Chairman M

A L Banks, Cmnd 4407 (1970).

Report of the Commission to Inquire into and Report Upon the Law of Patents,

Designs, and Trade-Marks, Chairman H E Evans, Vol 3, H-10A (1950).

World Intellectual Property Organisation, *Patent Report*, (2007 Edition), available at:

<http://www.wipo.int/ipstats/en/statistics/patents/patent_report_2007.html#P270_17708>, (accessed 31/8/07).

6. Theses

Katrina Groshinki, *Employees' inventions: a fairer approach* (LLM thesis, Victoria University of Wellington, 1996).

Cecilia Tarrant, *A Comparison of the Patents Act 1977 (United Kingdom) and the Patents Act 1953 (New Zealand)* (LLB dissertation, University of Auckland, 1984).

6. Magazines

Friedel, R, 'The Accidental Inventor' (1996) [Oct] *Discover* 58.

Normile, Dennis, 'Inventor Knocks Japan's System After Settlement' (2005) 307 *Science* 337.

Taubes, Gary and Cohen, Jon, 'The Culture of Credit' (1995) 268 *Science* 1706.

7. Media Releases

New Zealand Government, *Beehive Bulletin*, '18 May 2007 - Budget 2007', available at <<http://www.beehive.govt.nz/ViewNewsletter.aspx?DocumentID=29431>>, (accessed 9/9/07).

8. Extraneous Internet Resources

Harhoff, Dietmar and Hoisl, Karin, 'Institutionalized Incentives for Ingenuity - Patent Value and the German Employees' Inventions Act' (Discussion Paper 2006-12, Munich School of Management, University of Munich, 2006) <<http://epub.ub.uni-muenchen.de/archive/00001262/>>, (accessed 9 September 2007).