Breaches of intellectual property rights usually result in loss of business and/or loss of profit margin (through competition from the infringer) for the holders of those rights. Accordingly, damages claimed for such breaches are usually based on financial and accounting data and the amounts involved can be significant. The accepted methods for calculating damages are based on measures of lost profits. The need for expertise in the selection and use of these measures often leads to the involvement of forensic accountants in such claims.

This article examines the various approaches to calculating monetary damages in intellectual property disputes. Given the complexity of the area, we do not address all aspects of infringement remedies and damages. Rather, the purpose of the article is to lay the groundwork on the subject, introduce the prevailing theories of legal redress and provide readers with an appreciation of the complexity of the analysis that typically characterises these calculations.

**Infringement of intellectual property rights**

There are four main forms of intellectual property rights – patents, copyrights, trademarks and trade secrets. Remedies for interference with rights relating to unregistered trademarks and trade secrets are determined under common law. Remedies available in connection with infringement of patents, copyrights and registered trademarks are determined by statute.

**Patent infringement**

The rights of a patent holder to pursue a civil remedy where a patent is infringed are set out in section 47 of the Patents Act 1992. This section allows a plaintiff to claim damages in respect of the alleged infringement of his patent, or to claim for an account of the profits derived by the defendant from the alleged infringement. However, the court is permitted to award only one of these reliefs to a successful plaintiff. The full text of Section 47 is:

“(1) Civil proceedings for infringement of a patent may be brought in the Court by the proprietor of the patent in respect of any act of infringement which he alleges he is entitled under sections 40 to 43 and section 45 to prevent and (without prejudice to any other jurisdiction of the Court) in those proceedings a claim may be made—

(a) for an injunction restraining the defendant from any apprehended act of such infringement;
(b) for an order requiring the defendant to deliver up or destroy any product covered by the patent in relation to which the patent is alleged to have been infringed or any article in which the product is inextricably comprised;
(c) for damages in respect of the alleged infringement;
(d) for an account of the profits derived by the defendant from the alleged infringement;

1 Intellectual property law is considered comprehensively in Clark, R. and Smyth, S. *Intellectual Property Law in Ireland* (Butterworths, Dublin, 1997).
(e) for a declaration that the patent is valid and has been infringed by the defendant.

(2) The Court shall not, in respect of the same infringement, both award the proprietor of a patent damages and order that he shall be given an account of the profits.”

Section 49 of the Act provides an important relief against proceedings for patent infringement in favour of a party who was unaware of the existence of the patent. The relevant subsection states:

“...In proceedings for the infringement of a patent damages shall not be awarded, and no order shall be made for an account of profits, against a defendant who proves that at the date of the infringement he was not aware, and had no reasonable grounds for supposing, that that patent existed, and a person shall not be deemed to have been so aware or to have had reasonable grounds for so supposing by reason only of the application to a product of the word “patent” or “patented” or any word or words expressing or implying that a patent has been obtained for the product, unless the number of the relevant patent accompanied the word or words in question.”

Patent infringement may be direct or contributory. Direct infringement refers to the unauthorised use of the patented product. Contributory infringement results when one party facilitates the infringement by others. The plaintiff may bring an action against both the direct infringer and the party facilitating the infringement. Defences to allegations of patent infringement include claims of non-infringement and that the patent is not valid.

Copyright infringement

Section 17 of the Copyright and Related Rights Act, 2000 (the ‘2000 Act’), most of the provisions of which came into force on 1 January 2001, recognises that copyright is a property right

“...whereby, subject to this Act, the owner of the copyright in any work may undertake or authorise other persons in relation to that work to undertake certain acts in the State, being acts which are designated by this Act as acts restricted by copyright in a work of that description.”

Copyright infringement can therefore take many forms. Section 37 of the 2000 Act defines, subject to certain exceptions, the acts restricted by copyright in terms of the copyright owner’s exclusive right to undertake or authorise others to undertake all or any of the specified acts in relation to the work in question. The specified acts are:

"(a) to copy the work;

(b) to make available to the public the work;

(c) to make an adaptation of the work or to undertake either of the acts referred to in paragraph (a) or (b) in relation to an adaptation"

The exceptions to the exclusive right include the right to play a sound recording in public (provided the appropriate payments are made to the relevant licensing body). They also include exemptions for:
• fair dealing for the purposes of research or private study, or for criticism or review accompanied by sufficient acknowledgment,
• incidental inclusion in another work
• copying in preparation for instruction, in the course of instruction or for examination
• inclusion of a short passage in an anthology for educational purposes, with sufficient acknowledgment
• certain other educational purposes, including lending
• anything done for purposes of parliamentary or judicial proceedings or statutory inquiries or under statutory authority
• backup copies of computer programs
• anonymous works where it is reasonable to assume that the copyright has expired
• abstracts of scientific or technical articles
• advertisements of artistic works

Section 37 of the 2000 Act goes on to state that the copyright in a work is infringed by a person who without the licence of the copyright owner undertakes, or authorises another to undertake, any of the acts restricted by copyright.

As well as direct infringement through an unlawful breach of the exclusive right referred to above, copyright can be infringed by adaptation of a work and by secondary infringement through the making and use of an infringing copy.

An infringement of a copyright in a work is actionable by the copyright owner.

Section 127 of the 2000 Act and section 18 of the Trade Marks Act 1996 expressly state that all relief by way of damages, injunction, account of profits or otherwise as are available in respect of the infringement of any other property right is available for infringement of copyright or of a registered trade mark. Section 128 of the 2000 Act deals with the award of damages in an action for infringement of copyright. It states:

“(1) The court may, in an action for infringement of copyright award such damages as, having regard to all the circumstances of the case, it considers just.

“(2) Without prejudice to any other remedy, where, in an action for infringement of the copyright in a work, it is shown that at the time of the infringement the defendant did not know and had no reason to believe that copyright subsisted in the work to which the action relates, the plaintiff is not entitled to damages against the defendant.

(3) In exercising its powers under subsection (1) in addition to or as an alternative to compensating the plaintiff for financial loss, the court may award aggravated or exemplary damages or both aggravated and exemplary damages.”

Section 140 of the 2000 Act also creates offences for infringement of copyright and these offences carry penalties of up to IR£100,000 in fines and up to 5 years imprisonment for conviction on indictment.
Trade mark infringement

Section 13 of the Trade Marks Act 1996 bestows on the proprietor of a registered trade mark exclusive rights in the trade mark. Section 14 sets out the circumstances in which a trade mark will be deemed to be infringed. These include use of the trade mark by someone other than its proprietor and use of a similar or identical mark for identical or similar goods or services in a manner likely to cause confusion among the public. Infringement of a trade mark is actionable in the same way as any other property right. Section 18 of the Act states:

“(1) Where a registered trade mark is infringed, the infringement shall be actionable by the proprietor of the trade mark.

(2) In an action for infringement of a registered trade mark all such relief by way of damages, injunctions, accounts or otherwise shall be available to the proprietor as is available in respect of the infringement of any other property right.”

In trade mark infringement cases, the courts examine factors such as the similarity of marks, the similarity of products or services, the geographic area involved, the manner of concurrent use, the strength of the defendant’s allegedly infringing mark, the likelihood of confusion in the market place and the defendant’s intention.

Fraudulent use of a trade mark is also a criminal offence, carrying fines of up to IR£100,000 and imprisonment for up to five years for conviction on indictment. Falsely representing a trade mark as registered is also a criminal offence.

Passing off

It should be noted that the tort of ‘passing off’ gives protection under the common law where someone attempts to deceive the public into believing that his products or services are those of another whose products or services have acquired a reputation or goodwill. Thus, where what is in effect a trade mark has not been registered, it is open to the offended party to institute proceedings in passing off. A recent judgment that considers this cause of action is that of Kinlen J. in the High Court case of An Post v. Irish Permanent plc in which the plaintiffs sought and obtained an injunction preventing the defendant from using the name ‘Savings Certificates’ for a new product.

Successful passing off actions almost invariably result in the award of an injunction in favour of the plaintiff restraining the defendant from continuing the behaviour that led to the confusion between the products or services of the parties. Although it is well established that an injunction will not normally be granted by a court unless damages would be an inadequate remedy in the circumstances, the courts have accepted that damages are extremely unlikely to be adequate to compensate a plaintiff in a passing off action. This is mainly because the extent of the damage caused, which normally comprises loss of customers and appropriation of the reputation and goodwill of the

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2 It should be noted that an intention to deceive is not a necessary ingredient of the tort of passing off, although the Courts have recognised that proof of such an intention is a clear indication of passing off.
injured party, is virtually impossible to measure. For this reason damages are rarely awarded in passing off actions.

**Remedies for infringement of intellectual property rights**

Broadly speaking, there are three forms of remedy for patent infringement: Injunction, Damages and Account of Profits. In addition to these remedies, the successful party will normally be awarded costs against the other party. Like many other types of dispute, breaches of intellectual property rights are often initially dealt with by the plaintiff applying for an injunction to stop the breach. If an intellectual property case proceeds to hearing, litigation generally involves two phases:

- Establishment of liability; and
- Calculation of quantum of damages.

Forensic accountants will mainly participate in the second phase. Intellectual property disputes typically involve accountants where damages have to be quantified.

If the purpose of litigation is to obtain damages for infringement, the plaintiff must prove its loss. Damages are normally intended to be compensatory, not punitive. There are three approaches to compensating plaintiffs. The most common remedy sought is damages for lost profits, but alternative methods of calculating damages include ‘an account of profits’ and ‘reasonable royalty’.

These remedies can be claimed at the option of the holder of the intellectual property rights and the election does not have to be made until the question of liability is determined. Forensic accountants can advise plaintiffs on whether to elect for an enquiry for damages for an account of profits. In addition, courts have discretion in deciding the appropriate basis for the calculation of damages to be awarded.

The amount of damages is essentially a question of fact and damages cannot be completely speculative, but need not be proven with absolute precision. Proper quantification of infringement damages requires detailed quantitative analysis supported by sound finance, investment and valuation theory, including qualitative analysis.

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4 See e.g. *Polycell Products Limited v O’Carroll and others* [1959] Ir Jur Rep 34.
6 See for instance the judgment of Lord Wilberforce in *General Tire & Rubber Co. v Firestone Tyre & Rubber Co. Ltd* [1976] R.P.C. 197
**Damages**

Damages are awarded on the basis of compensation for the loss suffered as a result of infringement. Proof of lost profits must include two elements:

1. Only damages that can be shown as having been caused by the infringement can be recovered, *e.g.* loss of profit on sales, loss of licence income and losses arising from product reputational damage;
2. Evidence supporting the computation of the loss of profits must be provided.

In most commercial cases, damages are the difference between the profits the property owner would have earned but for the actions of the defendant, and the profits/losses he actually earned. The principle underlying damages for patent infringement is that the patent holder or holder of some other intellectual property right is entitled to be placed, as far as money can do it, in the position which he would have been in if his patent had not been infringed. Damages for breach of intellectual property rights are intended to compensate the owner for the fair value of the loss resulting from the infringement.

Damages are usually assessed as a percentage of sales of the infringing goods, on the basis of the usual commercial practice of voluntarily licencing the intellectual property rights in exchange for royalty on sales. Damages calculations can take account of:

- Decline in the overall market value of the work;
- Reduced sales arising from price depression – due to the increased competition arising from the infringement, the patent holder may have reduced prices;
- Lost profits from operations;
- Effects on cost structure such as loss of economies of scale;
- Increase in costs such as advertising due to the presence in the market of the infringer;
- Lost royalties where the intellectual property is licenced to others.

The courts have examined the issue of how much damage should be compensated when awarding damages for patent infringement: i.e. whether to include indirect loss of profits on goods or services other than those resulting from direct infringement. Courts may also allow damages based not only on profit from the patented product but also on non-patented parts of the business. This is referred to as the “Entire Market Value Rule”. Following this principle, several supplemental damages theories exist which are designed to compensate the plaintiff for the total harm done as a result of the infringement (subject to the claim not being speculative). In order to compensate for losses arising from infringement, supplemental damages may include price erosion, convoyed sales and accelerated market entry damages. In addition to core damages in respect of loss of profits arising from lost sales, in the U.K.

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infringement case Gerber Technology Inc v. Lectra Systems Ltd\(^9\) the judge in the patent court awarded four additional heads of damages\(^{10}\):

- **Parasitic damages** – damages in respect of lost profits on sales of products other than the infringed products (accessory products – sometimes called convoyed sales) which would have been made but for the infringement;
- **Springboard damages** – beneficial effect of infringement on start-up or launch of new product by the infringer (called “springboard” or “accelerated market entry” effect) adversely impacting on the victim company’s business, resulting in further depressed sales for the wronged company;
- **Reasonable royalty** – royalties which would have been paid to the victim company but for the depressed sales arising from the infringement;
- **Price depression** – price cuts in response to the increased competition from the infringer.

**Damages and calculation of lost profits**

Lost profits can be calculated in a number of different ways. The most basic computation is incremental lost profits. One method of calculating loss of incremental profits is shown in Table 1. Incremental lost profits comprise lost sales less direct costs of those lost sales, less any other variable costs in relation to those lost sales. Alternatively, lost profits can be calculated as units sold by the infringer multiplied by the patentee’s incremental profit margin. The norm in such calculations is to assume that the infringer’s sales would have been the patentee’s. In both calculations, the ability to distinguish between fixed costs (those that do not vary with production levels) and variable costs (those that vary with production) is essential – as only variable costs are deductible in calculating incremental lost profit. In practice, this distinction can be difficult and the subject of dispute between forensic accountants as costs may not be perfectly fixed or variable but display both fixed and variable behavioural properties.

<table>
<thead>
<tr>
<th>Table 1: Loss of incremental profits</th>
</tr>
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<tbody>
<tr>
<td><strong>£000</strong></td>
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<tr>
<td>Lost sales</td>
</tr>
<tr>
<td>XXX</td>
</tr>
<tr>
<td>Direct cost of lost sales</td>
</tr>
<tr>
<td>Raw materials</td>
</tr>
<tr>
<td>XXX</td>
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<tr>
<td>Direct labour</td>
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<td>XXX</td>
</tr>
<tr>
<td>Manufacturing overhead</td>
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<tr>
<td>XXX</td>
</tr>
<tr>
<td>Other manufacturing costs</td>
</tr>
<tr>
<td>XXX (XXX)</td>
</tr>
<tr>
<td>Gross profit</td>
</tr>
<tr>
<td>XXX</td>
</tr>
<tr>
<td>Variable costs in relation to lost sales</td>
</tr>
<tr>
<td>(XXX)</td>
</tr>
<tr>
<td>Lost contribution (≡lost profits)</td>
</tr>
<tr>
<td>XXX</td>
</tr>
</tbody>
</table>

In addition to being deprived of profits on sales made by the infringer, the profits of the patentee from its remaining business may also be adversely affected by the infringer’s actions. When the infringer enters the market, the price may be affected by

the increased competition generated by the new market entrant. This can lead to lower prices received by the patent owner. It can be difficult to measure the price effect in these situations. The increased competition and patent infringement will lead to lower volumes of output and sales for the injured company, which in turn may also have adverse affects on the cost structure of the business and, in particular, on the ability of the company to benefit from economies of scale. Again measuring these damages may be difficult.

*Alternative – ‘Account of profits’ approach*

The measurement of the infringer’s profits may play an important role when it is difficult to measure the patentee’s lost profits. As an alternative to damages based on lost profits which the plaintiff would have earned but for the infringement, the plaintiff can elect to require the infringer to account for the profits made on the infringing activities. As a result of this option, discovery has particular importance in infringement cases. Plaintiffs are normally awarded discovery of the infringer’s documents related to the quantum of profits, sufficient to assist in making the election between lost profits and an account of profits. In *Hoechst Celanese Corporation v. BP Chemicals and Purolite International Ltd*¹¹ (see below), these documents were held to include the management accounts of the relevant division of the defendant.

In an account of profits the infringer cannot be required to pay more than the profits it actually made. An account of profit may yield a larger sum for the plaintiff and should be estimated in advance as a backup to the damages calculation. The rationale behind the ‘account of profits’ approach is to ensure that the infringer does not profit from his wrongful act. Accordingly, where an account of profits is likely to yield a higher amount than a damages calculation (in other words where the ill-gotten gains of the infringer exceed the losses to the property-holder flowing directly from the infringer’s wrong) then an account of profits should be claimed. Such a situation can arise where the infringer makes sales to customers who are not customers of the property owner and/or at higher prices.

Assessment of the profits made as a result of the infringement, as distinct from ordinary business profits, is often a difficult and complex matter. Forensic accountants can assist in the calculation of the profits for which the infringer may be required to account. The input of forensic accountants in calculating profits can involve the complete construction of a profit and loss account for the infringer’s unlawful activities for the relevant period, or can be limited to certain elements of the profit and loss account where undisputed information is available. The tasks of the forensic accountant may include:

- Estimation of volume of sales for the relevant period based on available records of the infringer (usually available by way of discovery) and, where appropriate, information available within the industry and elsewhere from third parties;
- Calculation of sales revenues based on actual or assumed selling prices;
- Estimation of direct costs associated with the sales (note: indirect, or fixed, costs would ordinarily be excluded from the calculation of profits on the basis that they would be incurred in any event by the infringer even if he had not infringed);

• Estimation of other costs (e.g. interest, taxation) and revenues (e.g. income ancillary to the sale of the product such as service or repair revenues, interest income) attributable to the sales;
• Provision of any other relevant advice in relation to the profits earned by the infringer and the damage suffered by the plaintiff.

The records of the infringing entity, even if obtained by way of discovery, may well be incomplete. As a result, forensic accountants may need to reconstruct records based on available information such as cash receipts and payments, machine usage, etc.

Until recently, there has been little guidance from the courts on how an account of profit should be prepared, and on the detailed accounting principles to be applied in preparing such an account. The judgement in *Hoechst Celanese Corporation v. BP Chemicals and Purolite International Ltd* clarified issues surrounding the calculation of profits by a patent infringer, arising from the election by Hoechst for an account of profits rather than a claim for damages:

- Profits were to be based on a fair apportionment of the total actual profit made by the infringer, based on what proportion of the total profit was attributable to the infringing activities;
- The onus is on the defendant to show that the apportionment is appropriate and the defendant is responsible for providing the appropriate information to ensure a fair apportionment;
- The fair allocation of profit should start with “base allocated profit” calculated as an even spread of profit across the different activities (infringing and otherwise) in the production process. A weighting (increase or decrease) may then be applied to “base allocated profit” to take into account the relative importance of the infringing process. This was called “differential” profit. Thus, the total account of profit comprised the base allocated profit and the differential profit;
- Infringing revenues were based on arm’s length prices, rather than actual prices between connected group companies;
- Costs unrelated to the infringing process were ignored;
- Costs relating directly to production and sale of the infringing product were allowed fully;
- Costs common to the infringing and non-infringing activities were allocated between the products on an appropriate basis – usually by reference to ordinary accounting principles or the practices normally adopted by the defendant;
- Finance charges incurred in relation to plant were included in the account;
- The profit paid over by the infringer should be net of tax, including any tax refund subsequently recovered by the infringer arising from the payment of profits to the plaintiff.

*Reasonable royalty approach*

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12 For further details of this case, see Mainz, A., Price, R. and Tarcyzycki, T. “Called to account”, Forensic Accounting Ltd 2001. Available at www.forensicaccounts.demon.co.uk/Resources/Articles/Hoechst_Article/ hoechst_article.html
14 There were 15 factors considered in attempting to estimate the reasonable royalty in the U.S case *Georgia-Pacific Corp v. United States Plywood Corp* [1965] 243 F. Supp. 500, 521. 146 U.S.P.Q. (BNA) 228, 246 (S.D.N.Y.)
When actual damages cannot be proved, or are not sought for reasons of difficulty of proof, trial strategy or otherwise, damages in the form of reasonable royalty may be sought. Intellectual property may be licenced to others in exchange for a royalty. Usually a reasonable royalty is defined as that which a willing licensor and a willing licensee would have negotiated at the beginning of the infringement period. There are two types of royalty: running royalties and lump sum royalties. Running royalties are variable costs expressed either as a percentage of revenue, gross profits, net profits or as a per-unit cost. Lump sum royalties are a fixed sum in return for rights to use the intellectual property in a manner that is not related to usage volume.

A patent holder is entitled to lost profits but these should never be less than a reasonable royalty. The purpose of the royalty alternative is not to direct the form of compensation, but to set a floor below which an award of damages might otherwise run the risk of falling unjustly short of the wrong committed by the infringer. The objective is to compute a reasonable royalty high enough to compensate the plaintiff for the loss suffered as a result of the infringer’s actions. Thus, in calculating damages, the royalty rate and the sales to which the royalty rate is to be applied must be identified.

In practice this often means that courts award a reasonable royalty as a consolation prize for intellectual property owners who cannot prove their lost profits. For products that are produced in competitive industries with constant returns to scale and no significant sunk costs, there should be little or no difference between the two standards (i.e. between the calculation of damages and the calculation of a reasonable royalty) when appropriately measured. In such conditions, owners will realise the full incremental benefit of their intellectual property regardless of whether they produce the product themselves or whether they licence the intellectual property for others to produce the product. Although the U.S. courts have stated that reasonable royalties should be a floor for damage measurements, they may compromise in cases where reasonable royalty damages exceed lost profits and where evidence shows that the owner would not have licenced the infringer at normal third party rates. In such cases, the courts may award an amount equal to lost profits (even if less than reasonable third party royalties), but no less than what a reasonable royalty payment from the infringer alone would have been. This exception prevents the infringer from profiting from the infringement.

Royalty fees can be used as a basis for damages, even where the patent is not actually used to generate revenue in that way. In such cases a hypothetical royalties may be used, based for example on royalty rates for similar products in the market.

There are a variety of methods for calculating reasonable royalties including:

- Established royalty;
- Hypothetical or notional royalty;

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15 See for instance the judgment of Lord Shaw in Watson, Laidlaw & Co. Ltd v Potts, Cassels and Williamson [1914] 31 R.P.C. 104
• Analytical approach – excess of anticipated profits on infringing sales over “normal” profit, which excess is taken to represent the royalty rate on infringing sales;
• Rule of thumb – such rules of thumb are used on occasion in the U.S., e.g.:
  • 25 Percent Rule: 25% of pre-tax gross profit of the business owning the intellectual property;
  • Five percent of sales method.

Other factors to be considered in establishing a reasonable royalty include:
• Projected profitability to the infringer of the patented product at the beginning of the infringement period;
• Actual royalties received by the patent holder for licensing the patent in question;
• Royalties paid by licensees for “comparable” patents;
• Patent holder’s established licensing policies;
• Relationship between licensor and licensee (e.g. are they competitors);
• Duration of patent and term of license;
• Value of the licensed item in generating sales of non-patent items.

Patent holders are also entitled to recover a reasonable royalty on the sales made by the infringer which the patent holder would not have made. This is on the principle that even in respect of those sales the patent holder is entitled to compensation for the use of his property by payment of a reasonable hire charge or royalty. A reasonable royalty in this context is one which would have been agreed between a willing licensor and a willing licensee.

Conclusions

In summary, the lost profits approach is generally preferred – they generally exceed reasonable royalty damages. However, it is advisable to consider both calculations in preparation for the case. Reasonable royalty is generally used when lost profits cannot be established with sufficient accuracy and provides a floor for damages.

This article has only touched on the calculations, and factors influencing these. Courts may require qualified expert testimony as an aid to calculating damages or reasonable royalty in different circumstances. Forensic accountants can assess damages due to infringement of rights associated with intellectual property, and in the calculation of profits earned on foot of the infringement, where an account of profits is claimed. Forensic accountants can advise on amounts due in respect of royalties from patent and copyright infringements. In addition, in some circumstances, trademarks, copyright, and patents may themselves need to be valued in connection with litigation and forensic accountants with appropriate valuation expertise can provide valuable assistance in such cases.

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* John Hennessy is a practising barrister and a former partner of Arthur Andersen, chartered accountants.
Niamh Brennan and John Hennessy are the authors of *Forensic Accounting* which will be published shortly by Round Hall Sweet and Maxwell.