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The US and Ireland Approach to Sentencing in Cartel Cases: the Citroen Case

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Abstract: Developing a coherent evidence based methodology for determining sanctions in cartel cases is vitally important for robust cartel enforcement in Ireland. This methodology should take into account aggravating/mitigating factors for individuals as well as culpability indicators for firms, while at the same time taking cognisance of the economic damage caused by cartels to consumers. Irish Courts, despite presiding over 33 convictions on indictment for cartel offences stretching back over six years have, as yet, to develop such a methodology. While the Duffy judgment, the only reported judgment on sentencing of a cartel member, the Court provides some guidance on sentencing. It states, for example, that cartels are bad and pernicious and that jail sentences are to be expected in future cartel cases. This is not a coherent sentencing methodology. The Sentencing Guidelines, developed by the US Sentencing Commission, provide such a methodology, while at the same allowing for judicial discretion. Applying that methodology to the facts of the Citroen cartel case in Ireland, in which 14 individuals and firms were convicted on indictment, suggests that the current approach to sentencing in Ireland by the Courts results in fines and jail sentences that are too low. This encourages rather than discourages cartel activity which raises prices for consumers and thus damages consumer welfare.

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The US and Ireland Approach to Sentencing in Cartel Cases: the Citroen Case

1. Introduction

In the only reported Irish judgment concerning sentencing in a hard core criminal cartel case,^{1,2} the Duffy judgment,^{3,4} reliance is placed on an English judgment, *R v Whittle, Alison and Brammar*,⁵ for guidance as to the correct approach to sentencing. At first glance this seems a sensible approach. Under UK competition law, cartels are criminal offences for which an individual can be sentenced up to five years with an unlimited fine,⁶ which, at the time of the Duffy judgment, was similar to Ireland except that the fines for an individual were capped at the higher of 10 per cent of turnover or €3.81 million, while the maximum jail sentence was two years.⁷ However, on closer inspection it is not obvious that *R v Whittle* can be relied upon for guidance.

For a start *R v Whittle* itself states that it is *not* to be taken as providing a set of guidelines for sentencing. Whittle and his co-defendants had already entered into plea agreements with the US antitrust authorities that required minimum prison sentences to be served. The issue was whether or not the English Court would impose higher prison sentences.⁸ As the

¹ Hard core refers to cartels that fix price, allocate markets, and/or limit production or capacity. Such agreements are inherently anti-competitive. In the US they are per se offences; in Europe they are by objective offences. See Whish (2009, pp. 116-122) for a discussion of agreements that by object restrict competition. Unless otherwise indicated, hard core criminal cartel cases will be abbreviated to cartel cases.

² See Massey and Cooke (2011) for a discussion of the background on criminalising cartels in Ireland.

³ *The DPP vs. Patrick Duffy and Duffy Motors (Newbridge) Limited*, [2009] IHEC 208. This will be referred to as the *DPP v Duffy* or the Duffy judgment, delivered by Mr Justice McKechnie. It may be accessed at www.courts.ie.

⁴ It could be argued that this is somewhat misleading on two counts. First, the Competition Authority quoted from two unreported judgements concerning cartel sentencing: *DPP v James Bursey and Bursey Peppard Limited* delivered on 3 April 2009 by Mr Justice McKechnie (Competition Authority, 2010, p. 17) and *DPP v Denis Manning* delivered on 9 February 2007 also by Mr Justice McKechnie (Competition Authority, 2008, pp. 8-9). However, neither of these judgments is publicly available, while the excerpts quoted by the Competition Authority consist of only a small number of paragraphs. Second, the Competition Authority arranged for the transcript of the sentencing hearing in *DPP v Pat Hegarty* held on 3 May 2012 in front of Judge Groarke to be made publicly available. It will be discussed further in Section 2. The transcript can be found at: <http://www.tca.ie/images/uploaded/documents/Hegarty%20sentencing.pdf>. Accessed 13 September 2012.

⁵ *R v Whittle, Allison and Brammar* [2008] EWCA Crim 2560. This will be referred to as *R v Whittle*. It may be found at: http://www.oft.gov.uk/shared_of/prosecutions/judgment.pdf. Accessed 13 September 2012.

⁶ *R v Whittle*, paragraph 8. These sentences refer to conviction on indictment.

⁷ These were the maximum sentences that could be imposed on indictment with respect to an individual for a cartel offence under the Competition (Amendment) Act 1996, which was the relevant legislation in *DPP v Duffy*, paragraph 21. It should be noted that Mr Duffy and Duffy Motors (Newbridge) Ltd were charged on six counts, four under the Competition (Amendment) Act 1996 and two under the Competition Act 2002. They pleaded guilty to the four counts under the Competition (Amendment) Act 1996. On these pleas being entered the DPP entered a *nolle prosequi* (i.e. withdrew the charges) on the other two counts. Because the accused had been charged on indictment under the Competition Act 2002 as well as the Competition (Amendment) Act 1996, the case took place in the Central Criminal Court. In contrast, the cartel charges against Mr Doran and Mr Durrigan, two other Citroen dealers discussed in Section 2, were solely under the Competition (Amendment) Act 1996 and took place in the (lower) Circuit Court.

⁸ If the English court sentenced the defendants to less than the agreed sentence then the defendants would return to the US to serve the balance. See *R v Whittle* for details.

judgment states, “we do not intend to lay down any guidance in this case for the disposal of other cases because of the way we felt obliged to deal with the case.”⁹ Nevertheless, six “plainly relevant” general factors, which are not exhaustive, are listed.¹⁰ It is these that are cited in the Duffy judgment.¹¹ There is no methodology presented in *R v Whittle* (not surprisingly) as to how these factors should be taken into account or weighed in order to determine the appropriate sentence. Since, at the time of the Duffy judgment, *R v Whittle* was the only criminal cartel prosecution taken under the Enterprise Act 2002, which first criminalised cartel activity for individuals in the UK, the Irish Court had no other cases under that Act on which to draw for guidance.

Nevertheless, the Irish Court in the Duffy judgment could have drawn upon US guidance in determining the appropriate sentence. US cartel law is much more similar to Irish than either that of the UK or the European Union (EU), to which reference was also made in the Duffy judgment.¹² In the US, as in Ireland, cartel offences are criminal for both the individual and the firm. By contrast in the UK cartel offences with respect to individuals are criminal, but civil for firms, while for the EU cartel offences are civil for firms, but with no sanctions for individuals. The differing standard of proof (i.e. civil v criminal) and coverage (i.e. individuals and/or firms) limit the applicability of UK and EU sentencing guidance to criminal cartel cases in Ireland.

US sentencing guidance in cartel cases are set out in the *Federal Sentencing Guidelines Manual* (the Sentencing Guidelines).¹³ These are evidence based and incorporate the factors mentioned in *R v Whittle* as being relevant to sentencing. The application of the Sentencing Guidelines provides a methodology that determines, given the facts of the case, a *range* of fines and/or imprisonment. In other words, sentencing is not reduced to a process whereby the judgment says all the relevant factors have been weighed, no doubt carefully, and the answer is a fine €x and/or z years imprisonment, but with possibly very little connection between the facts of the case, the relevant factors and €x or z years. However, at the same time the Sentencing Guidelines do not remove judicial discretion, since the Court can go outside the range suggested by the Sentencing Guidelines, provided that the reasons are carefully set out by the Court. As such it is inappropriate to characterise these Guidelines as “rigid” (O’Malley, 2006, p. ix).

It may be the case that the systematic evidence based approach of the Sentencing Guidelines yields similar results to the careful consideration of the factors outlined in *R v Whittle* and cited as the basis for sentencing in the Duffy judgment. In other words, the outcome of the explicit approach of the Guidelines and the implicit approach of considering each factor separately may be, in fact, quite similar. This is, of course, an empirical question. Ideally to test whether the two approaches yield the same result, the actual outcomes of

⁹ *R v Whittle*, paragraph 33.

¹⁰ *R v Whittle*, paragraph 34. The factors are taken from Hammond and Penrose (2001). They are reproduced in Section 2 below.

¹¹ *DPP v Duffy*, paragraph 33.

¹² *DPP v Duffy*, paragraphs 28-32, 34. However, the Court takes the view that the EU approach has limited applicability to Ireland because of the quite different regime of sanctions that applies there as compared with the UK and Ireland.

¹³ The Sentencing Guidelines are discussed further in Section 3 below.

Irish cartel cases should be compared to the predicted outcome from the application of the Sentencing Guidelines. In this paper we undertake this exercise for the Citroen Dealers Association Cartel (the Citroen case), the subject of the Duffy judgment. There is more information available for this case than the other major Irish cartel prosecution, the heating oil case. In the Irish Ford Dealers Association case (the Ford case), the only other successful cartel case, prosecution was confined to the cartel organiser.¹⁴

The paper is divided into six sections. Section 2 sets out the Irish approach to sentencing in cartel cases drawing on the Duffy judgment. In Section 3 a similar exercise is undertaken with respect to the US, paying particular attention to the Sentencing Guidelines. The facts of the Citroen cartel are the subject of Section 4. The Sentencing Guidelines are applied to the Citroen case in Section 5 and compared to the actual sentences imposed by the Irish Courts. Appendices A and B set out the detailed working and estimation procedures used to apply the Sentencing Guidelines to the Citroen case. Section 6 concludes.

2. Sentencing in Cartel Cases: The Irish Approach

The sentences imposed in Irish cartel cases as in any jurisdiction are framed against the background of the maximum fines and jail terms as set out in competition law. These are summarised in Table 1 for cartel cases on indictment, since in this paper interest centres on serious cartel cases, as opposed to less serious summary prosecutions. As is apparent the legislative penalties for individuals and firms have increased over time. For an individual the maximum prison sentence has increased from two years in 1996 to 10 years in 2012, while the fine in nominal terms has increased from €3.81 million to €5 million. In the case of firms a similar pattern emerges. However, firms with a turnover of greater than €50 million are unlikely to be affected by the rise in the maximum nominal fine to €5.0 million. The Citroen case was brought almost exclusively under the 1996 legislation.¹⁵

¹⁴ For details see Competition Authority (2008, pp. 7-9). The cartel organiser or fixer was Denis Manning, to whom reference will be made in Section 2 below.

¹⁵ Subject to the qualification in footnote 6 concerning the original charges in the Duffy case.

Table 1: Maximum Sentences, Cartel Cases, On Indictment, Ireland, 1996 -2012^a

Legislation	Individuals	Undertakings^b
Competition (Amendment) Act 1996	A fine not exceeding the greater of 10 per cent of turnover of the individual ^c in the 12 months prior to conviction or €3.81 million and/or a prison sentence of 2 years or less.	A fine not exceeding the greater of 10 per cent of turnover of the undertaking in the 12 months prior to conviction or €3.81 million
Competition Act 2002	A fine not exceeding the greater of 10 per cent of turnover of the individual in the 12 months prior to conviction or €4.0 million and/or a prison sentence of 5 years or less.	A fine not exceeding the greater of 10 per cent of turnover of the undertaking in the 12 months prior to conviction or €4.0 million
Competition (Amendment) Act 2012	A fine not exceeding the greater of 10 per cent of turnover of the individual in the 12 months prior to conviction or €5.0 million and/or a prison sentence of 10 years or less.	A fine not exceeding the greater of 10 per cent of turnover of the undertaking in the 12 months prior to conviction or €5.0 million

- a. Cartel offences refer to hard core offences such as price fixing, allocating markets, and limiting production or capacity.
- b. Undertaking is the legislative terms used for firm.
- c. The turnover of the individual is not defined. One definition might be the gross income of the individual from all sources.

Source: Competition (Amendment) Act 1996, Competition Act 2002, and Competition (Amendment) Act 2012.

These maxima provide a wide range of discretion to Courts in sentencing individuals and firms in cartel cases, since the legislation provides no guidance as to the factors that might be considered in sentencing while there are no minimum tariffs. The discretion of the Courts is strengthened in two further ways. In contrast to jurisdictions such as the US, plea bargaining concerning sentencing is not permitted in Ireland. As McFadden (2007, p. 216) states, “plea discussions between prosecutor and defence counsel will not include discussions of the level of fines to be imposed by the Court or the appropriate amount of jail time to be served in consideration for the guilty plea.” Furthermore the prosecutor in Ireland does not suggest to the Court any sentence. Indeed, the Prosecutor’s Guidelines explicitly state that the “prosecutor must not seek to persuade the court to impose ... a sentence of a particular magnitude.” (*ibid*, p, 217). The prosecutor may, however, draw to the attention of the Court any “relevant precedent” and “factual matters that may affect the choice of sentence to be imposed” (*ibid*, p. 217). The only exception is where the Court specifically asks the Director of Public Prosecutions (DPP) for his/her views on “whether he considers a custodial sentence is required” (*op cit*, p. 217).¹⁶ Given this state of affairs, it may seem somewhat inconsistent that under the Criminal Justice Act 1993 that the DPP can appeal “unduly lenient” sentences.¹⁷ However, this is not necessarily the case, since the DPP

¹⁶ It appears that in the Duffy case that the judge asked “for written submissions ... about how he should sentence” Competition Press (2009). Reference is made by the Court to submissions received from the DPP and the defendants (*DPP v Duffy*, paragraph 4), but the content and the arguments are not explicitly linked to the submissions except possibly with the arguments put forward by the defence in mitigation.

¹⁷ The DPP’s website states: “The DPP can ask the Court of Criminal Appeal to review a sentence which she thinks is ‘unduly lenient’. The Appeal Court will not increase a sentence just because it thinks the sentence is on the light side. They will only increase the sentence if they think the trial judge was wrong in law in giving

can (and does) argue that a sentence is too light because of various factors which ought to have given rise to a more severe sentence, but does not suggest what the sentence should be.

Defence counsel will, “as a matter of course, always address the trial judge ... on the sentence that the judge will hand down to the defendant” (*op cit*, p. 217) paying particular attention to factors that might mitigate the sentence. As we shall see in the discussion of the Duffy judgment, there was extensive reference by the Court to the arguments put forward in mitigation by the defence.

In the transcript of the sentencing hearing held on 3 May 2012 in the *DPP v Pat Hegarty*, we can see these principles in operation. Pat Hegarty, who was found guilty by a jury after pleading not guilty, was a member of the heating oil cartel. He was the last member of the cartel to be sentenced.¹⁸ In determining the sentence the Court was taken through the facts of the case and the level of the fines and jail, albeit suspended, sentences imposed on the other members of the cartel. Defence counsel offered a number of grounds for mitigation such as Mr Hegarty is a good citizen, and has no previous convictions.

It is clear that the Court jealously guarded its right to set the sentence. At the end of presenting the evidence on the fines on other heating cartel members, the following exchange took place between a witness for the DPP and the judge:

DPP witness: “Just in relation to the matters in relation to fines, there was a kind of a – you applied I suppose in some respects a scale. There was a lot of minnows, a lot of small companies in this case. Of course, they all pleaded but there were two large companies --- “

Judge: “I’m not comfortable with a commentary from the witness on the sentencing policy of the Court.”

DPP Witness: “Sorry. Apologies. Judge. Apologies.”

What the witness was alluding to was a comment by the judge in sentencing an earlier heating oil cartel member where the Court made reference to the fact that there were ‘minnows’ and ‘sharks’ (Gorecki and McFadden, 2006, p. 640). In any event Pat Hegarty received the highest fine (€30,000) and highest jail sentence (2 years in jail, suspended) of any of the members of the heating oil cartel.¹⁹ Indeed, since the offence occurred under the 1996 legislation the jail sentence was the maximum permitted, albeit suspended.

Given the unfettered nature of the Court’s discretion in sentencing in cartel cases, insights into how sentences are determined must of necessity rely on Court judgments. However, despite the fact that there have been 18 convictions of individuals and firms in the heating

such a light sentence.” (<http://www.dppireland.ie/brief-guide-to-the-criminal-justice-system/category/6/>. Accessed 1 October 2012). For further discussion see O’Malley (2006, pp. 640-655).

¹⁸ This reflected the fact that the defendant appealed certain issues to the Supreme Court. For details see Competition Authority (2012, p. 22).

¹⁹ A full listing of the sentences for heating oil cartel members, both individuals and firms may be found at: <http://www.tca.ie/EN/Enforcing-Competition-Law/Criminal-Court-Cases/Home-Heating-Oil.aspx>. Accessed 14 September 2012.

oil cartel, 14 in the Citroen cartel case and one in the Ford cartel case, what is striking is the dearth of reported judgments.²⁰ Indeed, there is only one reported judgment, in the Citroen case, which refers to an individual, Mr Duffy, and a firm, Duffy Motors (Newbridge) Limited t/a P G Duffy & Sons (Duffy Motors), and the transcript referred to above in the sentencing of Pat Hegarty in the heating oil cartel case. As we shall see later in this section, this lack of judgments in itself can lead to problems in sentencing. No unreported judgments are available.²¹ Hence in analysing how Irish Courts determine sentences in cartel cases attention will be confined largely to one judgment.

In *DPP v Duffy*, as noted above, the Court states that in sentencing it will follow the approach set out in *R v Whittle*. In the latter judgment a list of factors were set out as relevant to any sentence. In the Duffy judgment, the factors are summarised as follows:

44. In applying the above to this case, I must be conscious of: the gravity of the offences: the circumstances in which these offences were carried out; the nature of the offences and the continuing duration of their commission; the part played by Mr Duffy in them, his personal circumstances and the corporate circumstances of the company; and any aggravating and mitigating factor; and, finally, where appropriate apply the principles of proportionality and totality.

The Court then proceeds to examine a series of mitigating factors submitted by the defence,²² before deciding on Mr Duffy's sentence, largely by reference to earlier convictions in the Citroen case, of 15 months jail, suspended for five years, and a fine of €50,000.²³ The Court felt that it would be inappropriate, on the basis of equality/equity, to impose a much higher sentence on Mr Duffy than two of his fellow cartel members, Mr Durrigan and Mr Doran, who had already been sentenced.²⁴

A number of observations can be made concerning the Duffy judgment. *First*, it is clear that the Court regards cartels as serious breaches of the law. The Court states, for example,

22. ... As with this association [Citroen Dealers Association or CDA], they remove price choice from the consumer, deter customer interest in product purchase and discourage variety. They reduce incentives to compete and hamper invention. They cause a transfer of consumer's money to themselves. They are offensive and abhorrent, not simply because they are *malum prohibitum*, but also because they are *malum in se*. They are in every sense anti-social. Cartels are conspiracies and carteliers are conspirators.

37. ... Competition crimes are particularly pernicious.

²⁰ For details of the heating oil cartel see previous footnote; for the Citroen case see Competition Authority (2010, Table 2, p. 15), for the Ford case see Competition Authority (2008, pp. 7-9).

²¹ In the case of the Ford case, for example, the relevant judgment is *DPP v Denis Manning*. While Curtis and McNally (2007) have written a paper on the judgment, they did not have a copy of the judgment, basing their paper on notes taken when the judge delivered his decision in Court. (Personal communications with J. McNally June 2012). In *DPP v Duffy* extensive references are made to the *DPP v Denis Manning* judgment, both judgments having been delivered by the same judge. An unsuccessful request was made to the judge for a copy of the latter judgment in September 2012.

²² *DPP v Duffy*, paragraphs 45-58.

²³ *DPP v Duffy*, paragraphs 71-73. Note that there was also a fine of €50,000 imposed on Duffy Motors.

²⁴ *DPP v Duffy*, paragraphs 64-70.

As a result breaches of competition law “have to attract serious punishment.”²⁵

Second, the Court did not go through the factors set out in *R v Whittle* one by one in a systematic manner. As noted above, the Court in the Duffy judgment set out the factors that should be taken into account in sentencing following *R v Whittle*. These are as follows:²⁶

- The gravity and nature of the offences:
- The duration of the offences:
- The degree of culpability of the defendant in implementing the cartel agreement:
- The degree of culpability of the defendant in enforcing the cartel agreement:
- Whether the defendants conduct was contrary to guidelines laid down in a Company Compliance Manual, and
- Mitigating factors, for example, any co-operation the defendant may have provided in respect of the inquiry: whether or not the defendant was compelled to participate in the cartel under duress: whether the offence was a first offence: and any personal circumstances of the defendant which the courts may regard as a factor suggesting leniency.

However, while it is clear that the Court considers the offence to be serious, the only systematic analysis of these factors relates to the mitigating factors argued by Mr Duffy’s counsel, which the Court deals with extensively before dismissing.²⁷ In other words, the Court sets up a methodology for determining the appropriate sentence but fails to apply it explicitly.

Third, Courts differ, other things being equal, as to the appropriate sentences in cartel cases. The Central Criminal Court in the Duffy case would have imposed a much more severe punishment on Mr Durrigan and Mr Doran than was actually imposed in these two cases by the Circuit Court. The Court in *DPP v Duffy* stated:

68. If I had been dealing with the cases of Mr. Durrigan and Mr. Doran, the results for both their companies would not necessarily have been as they were. In saying that, I should immediately acknowledge on the facts the learned judge of the Circuit Court was entitled to take the particular view which he did. For my part, however, fines, unless severe and severely impacting, are not a sufficient deterrent; as experience tells us so.

71. As I have said, solely on that basis [equality/equity], fortunate from Mr. Duffy’s point of view, of keeping some alignment with Mr. Durrigan and Mr. Doran, I propose to impose ...

²⁵ *DPP v Duffy*, paragraph 43. It is clear from the previous paragraph in the judgment that serious punishment refers to a custodial sentence.

²⁶ *DPP v Duffy*, paragraph 33.

²⁷ *DPP v Duffy*, paragraphs 45 to 58.

There is no written judgment concerning the sentencing of Mr. Durrigan and Mr. Doran so it is not possible to come to any conclusions as to why on two sets of “virtually indistinguishable” facts two judges would have imposed different sentences.²⁸

Fourth, the Court considered that separate sentences against a corporate entity and a director of that entity are appropriate. Charges were preferred by the DPP against both Duffy Motors and Mr Duffy. The Court considered whether it is appropriate to punish both the corporate entity and the director, given the same facts were used to convict in both cases. The Court is unequivocal on this question:

38. ... Therefore, both entities can be guilty of offences arising out of the same prohibited conduct. This makes perfect sense as otherwise miscreant manoeuvres could set the sanction provisions at naught. It cannot, therefore, be argued that a penalty imposed on both, constitutes some form of double punishment. Each is being punished for what it, as a separate legal *persona*, did. It matters not what the size or corporate structure of the company is or that its directors are also sued. Both can commit offences even if the underlying circumstances are identical.

We now turn to the way the sentences were determined.

Fifth, the Court is strongly of the view that a custodial sentence is appropriate in a cartel case. The Court after setting out the maximum fines for a firm under the Competition (Amendment) Act 1996 and commenting that these can “at least in some cases, ... seriously impact on an undertaking’s business”²⁹ continues:³⁰

42. Notwithstanding this level of fine however, the availability of a custodial sentence is critical. On this complementary form of penalty, I had the following to say in *Manning*:-

“In my view, there are good reasons as to why a court should consider the imposition of a custodial sentence in such cases. Firstly, such a sentence can operate as an effective deterrent in particular where if fines were to have the same effect they would have to be pitched at an impossibly high figure. Secondly, fines on companies might not always guarantee an adequate incentive for individuals within those firms to act responsibly. This particular point may not, in some circumstances have the same force where individuals are concerned. Thirdly, knowledge within undertakings that courts will regularly make use of a custodial sentence may act as an incentive to people to offer greater cooperation in cartel investigations against, and quite frequently against their employers. Fourthly, prison, in

²⁸ *DPP v Duffy*, paragraph 66. This was based on the evidence of a witness for the DPP cited in the judgment. All three individuals, for example, held important positions in the Citroen Dealers Association: Mr Duffy as treasurer (*DPP v Duffy*, paragraph 55); Mr Durrigan and Mr Doran as past presidents (McNally, 2010, p. 137). Furthermore, the sentencing of Mr Durrigan, 8 May 2008, and Mr Doran, 28 October 2008, was within a year of the sentencing of Mr Duffy, 23 March 2009 (Competition Authority, 2010, Table 2, p. 15). All of these persons were also convicted under the Competition (Amendment) Act 1996.

²⁹ *DPP v Duffy*, paragraph 41.

³⁰ In the passage cited reference is made to what the judge said in *Manning*. This judgment, which is not available, concerned the sentencing of the organiser in the Ford case.

particular for those with unblemished pasts, for those who are respected within the community, and for those who are unlikely to re-offend can be a very powerful deterrent and finally, the imposition of the sentence for the type or category of persons above described can carry a uniquely strong moral message. Accordingly, they are in my view some very powerful reason to custodise an individual who has been found guilty under the Competition Acts.”

43. I would like to re-assert these views and to further state, as I also did in *Manning*, that I see no room for any lengthy lead in period before use is commonly made of this supporting form of sanction. If previously our society did not frown upon this type of conduct, as it did in respect of the more conventional crime, that forbearance or tolerance has eroded swiftly, as the benefits of competition have become clearer. Every purchaser of goods or services now has a strong and definite appreciation of what competition can do for him or her. Therefore it must be realised that serious breaches of the code have to attract serious punishment.

The Court is undoubtedly correct that there are strong grounds for custodial sentences in cartel cases. It is the directors and leading decision makers that are responsible for entering into and implementing a cartel. However, the Court does not set out a methodology for determining the length of jail sentence.

Sixth, as noted above the Court felt that fines “unless severe and severely impacting, are not a sufficient deterrent” and may seriously impact on an undertaking’s business. Fines sufficient to remove the cartel gains may bankrupt a firm, thus making consumers worse off if the degree of competition is reduced. However, that possibility does not mean that serious fines cannot be imposed on individuals and firms, only that some attention needs to be taken of the implications of such fines on the viability of the business and the impact of its possible demise on competition and consumers.

But what level of fines is appropriate and what methodology should be applied? In the *Duffy* judgment no consideration is given to these questions, although the Court is clearly aware of the legislative maximum.³¹ At a minimum such fines should surely equal the gains made by the participant in the cartel activity.³² This removes the illegal gains from the beneficiaries. However, it is often argued that cognisance should be taken of the probability of the cartel being detected by the competition authorities and the probability of conviction. This will almost certainly increase the optimum fine. For example, if the probability of detection is a half and that of conviction 0.66, then the minimum fine should be raised by a factor of 3. In other words, if the cartel increased prices by €10 million the fine should be €30 million.

In considering the issue of fines it is almost as though the Court is arguing that jail is the main tool to be employed in combating cartels and that fines designed to make cartel

³¹ *DPP v Duffy*, paragraphs 21, 41.

³² These issues are discussed by, for example, Hviid and Stephan (2009). There is, of course, the issue of estimating the gains that the cartel made from its activity. As shown in Section 3 below, the Sentencing Guidelines resolve these issues by making an assumption based on the literature concerning the price enhancing impact of cartels.

activity unprofitable are unlikely to succeed without adversely affecting the cartelists' business. However, this line of thought is not subject to any analysis, such as the level of fines that could be imposed without adversely affecting the cartelists' business. Furthermore competition authorities routinely impose large fines even in the recession. At the EU they can run into several hundred million euros.³³

In sum, cartel sentencing policy in Ireland has not developed a systematic clear policy for determining sentences in cartel cases. To be sure in the Duffy judgment the Court provides some guidance on sentencing. It states, for example, that cartels are bad and pernicious and that jail sentences are to be expected in future cartel cases. However, in determining sentences reference is made by the Court to a list of relevant factors not all of which are considered in any systematic manner. Furthermore, there is no obvious relationship between this, albeit partial, analysis and the sentence. The lack of common understanding as to the appropriate sentencing policy in cartel cases is illustrated by the fact that on virtually the same facts members of the Citroen cartel would have been given varying sentences by different judges, but for the necessity to ensure equity/equality. We now turn a methodology that resolves these dilemmas.

3. Sentencing in Cartel Cases: the US Experience

The Eighth Circuit Court of Appeals, in *United States v. Roberson*, 517 F.3d 990, 993 (8th Cir. 2008) sets out a three step methodology which is followed when determining cartel sentences:

- (1) Determine the proper guideline range, drawing on the Sentencing Guidelines,
- (2) Consider whether a departure or a variance is appropriate,
- (3) Apply the factors in 18 U.S.C. §3553(a), which dictate that the Court imposes a sentence that is "sufficient, but not greater than necessary."

The Sentencing Guidelines thus play an important role in framing the discussion of the appropriate sentence.

In considering the role of the Sentencing Guidelines, attention is first devoted to the maximum statutory sentences that can be imposed by a Court for a cartel conviction, both for an individual and a firm. These are comparable to those presented in Table 1 for Ireland. The rationale and methodology employed by the Sentencing Guidelines is then discussed, before attention turns to the status of the Sentencing Guidelines in the Court's determination of the appropriate fine/prison sentence. Finally, attention turns to how the Sentencing Guidelines are applied by the Courts. At several points actual instances of the application of the Sentencing Guidelines are used to illustrate the way that they work in practice. Comparisons will also be made with the sentencing approach adopted in Ireland.

³³ For details see EC (2102). It is, of course, the case that the EU cannot impose sanctions on individuals. However, this does not take away from the point that seemingly large fines can and are imposed on firms.

Maximum Statutory Penalties

The Sherman Antitrust Act 1890 (most recently amended by the Antitrust Criminal Penalty Enhancement and Reform Act, 2004) sets out the statutory maximum penalties for cartel activity. The 2004 Act substantially increased the maximum fines and jail terms. Prior to this reform, the maximum fine for a firm was a \$10 million, while for an individual the corresponding fine was \$350,000 and a one year prison sentence.

The maximum statutory penalties available when the defendant is an *individual* is a prison sentence of ten years and a fine to a value of the greatest of:

- \$1 million.
- Twice the gross pecuniary gain the conspirators derived from the crime.
- Twice the gross pecuniary loss caused to the victims of the crime by the conspirators.

If a prison sentence is applied, a period of supervised release must follow, which is to last for three years following the term of imprisonment, regardless of length, (18 U.S.C. § 3559(a)(3); 18 U.S.C. § 3583(b)(2)). If the defendant violates any condition of the supervised release, the defendant could be imprisoned for up to two years (18 U.S.C. § 3583(e)(3)).

The maximum statutory sentence for a *firm* is a fine to a value of the greatest of:

- \$100 million.
- Twice the gross pecuniary gain the conspirators derived from the crime.
- Twice the gross pecuniary loss caused to the victims of the crime by the conspirators.

The latter two options listed for the maximum fines for an individual or a firm, relating to the pecuniary gain and loss, involve the application of 18 U.S.C. § 3571(d). This is the “alternative fines statute,” which permits prosecutors to seek fines in excess of \$1 million or \$100 million, respectively, for an individual and firm. It is important to note that when this alternative fines statute is invoked, fines must be calculated on the basis of the Sentencing Guidelines, but they are no longer bound by the upper statutory limit.³⁴

It is difficult to compare these maxima with those in the Irish legislation. Nevertheless, a few points can be made. First, the maximum prison sentence for an individual is the same in both the US and Ireland, with the passage of the Competition (Amendment) Act 2012. However, at the time of the Citroen case the prison sentence maximum was lower in Ireland – two years. Second, the basis of the maximum fines in the US is set in relation to the gain to the cartellists/loss to the victims of the cartel, whereas the maximum fine in Ireland is related to the firm’s turnover in relation to its entire business operation. The US basis relates directly to where the impact of the cartel is felt, whereas the approach used in Ireland which refers to the entire turnover of the firm has no necessary relationship to the

³⁴ It appears that this is very effective in plea bargaining since it enables the antitrust authorities to seek much larger fines than the statutory maximum.

impact of the cartel. There is no obvious relationship between the gain to the cartelists/loss of victims and the total turnover of the firm.

*Sentencing Guidelines: Background*³⁵

The Sentencing Guidelines are devised by the US Sentencing Commission (the Sentencing Commission), which is “a bipartisan, independent agency in the judicial branch of government” (Tetzlaff, 2005, p. 1). It was established in 1984. The Commission’s purpose is to establish “sentencing policies and practices for the federal criminal justice system that will assure the ends of justice by promulgating detailed guidelines prescribing the appropriate sentences for offenders convicted of federal crimes” (Sentencing Commission, 2011, p. 1). Such guidelines will increase transparency, reduce the widespread disparity in sentencing for similar offences and ensure proportionality (*ibid*, p. 2).

The Sentencing Guidelines, which runs to several hundred pages, covers sentences related to all aspects of the criminal justice system, including murder, identity theft and tax evasion, and thus is not limited to cartel cases. The Sentencing Commission has emphasized that it views the Sentencing Guidelines as evolutionary. It has the authority to submit Sentencing Guideline amendments each year to Congress. Such amendments automatically take effect 180 days after submission unless a law is enacted to the contrary.

The Sentencing Commission was established because of concerns raised about transparency, proportionality and disparity in sentencing. There is evidence that similar concerns exist in Ireland. Elected representatives were apprehensive, for example, about the proportionality of the sentence imposed in October 2012 on an individual for a violent sexual attack on a teenager: €15,000 payable to the victim and a four year suspended sentence.³⁶ On 29 July 2011, the Court of Criminal Appeal released two judgments concerning drug offences, for which there is a presumption of 10 years minimum sentence save in exceptional circumstances, for two young men in very similar circumstances. In one case the Court upheld the suspension of a six year jail sentence while in the other the Court reduced the sentence from 10 years to seven with the last two suspended.³⁷ On a more systematic level, victims groups in Ireland are concerned about the “lack of sentencing consistency”³⁸ while

³⁵ For further discussion see: Harrison & Bell (2006), Tetzlaff (2005), Sentencing Commission (2011, pp. 1-6) and the US Sentencing Commission’s website (http://www.ussc.gov/About_the_Commission/index.cfm, accessed 2 October 2012).

³⁶ For details see McClean (2012) and McLean & McMahon (2012). The elected representatives’ comments may be found in the debates for the Seanad, the upper house or chamber, for 18 October 2012. (See: <http://oireachtasdebates.oireachtas.ie/debates%20authoring/debateswebpack.nsf/takes/seanad2012101800006?opendocument>). It should be noted that in August 2012 another individual was convicted of using “violence of a frightening kind,” according to the judge, in a sexual assault case, but was required to pay €75,000 to the victim (who made it known that she did not want any compensation if the sentence was reduced) and was sentenced to six years, with five and a half years suspended. This is being appealed as unduly lenient by the DPP. (For details see Lally, 2012; Irish Times, 2012, and Byrne, 2012). Reliance has to be placed on press reports of the sentencing since the judgments of the Dublin Circuit Court are not published on the Court’s website: www.courts.ie.

³⁷ Both young men were aged 26 years of age, admitted guilty at an early stage, possessed similar amount of heroin, (446 vs 723 grammes) and had no serious prior convictions. The judgments are *DPP v Brian Wall* [2011] IECCA 45 and *DPP v Brian Ormonde* [2011] IECCA 46. These may be accessed at www.courts.ie. See also Coulter (2011).

³⁸ Department of Justice and Equality (2011a, p. 19).

there is a more general concern about the “lack of parity of treatment between white collar criminals and other criminals.”³⁹ Research on sentencing practice “has also highlighted the issue of inconsistency in Irish sentencing practices” (Maguire, 2010, p. 15). Notwithstanding the “dearth of hard information on sentencing practice,”⁴⁰ there does appear to be prima facie grounds for being concerned about sentencing in Irish Courts.

Status of the Guidelines before the Court

The Sentencing Guidelines are advisory rather than mandatory following the Supreme Court 2005 judgment in the *US v Booker*.⁴¹ Since then Courts have been free to select a fine and/or jail sentence outside the Sentencing Guidelines range, as long as the statutory maximum as laid down by the Sherman Act is not exceeded. Nevertheless, the Sentencing Guidelines still retain a significant influence on the sentencing process. The Supreme Court in *US v Booker* stated that the Courts are still required “to calculate and consider Guideline ranges, although they retain the ability to tailor the sentence in light of other statutory concerns as well.”⁴² (The US Sentencing Commission, 2005, p. 7). The Court must still consider the Sentencing Guidelines, along with other factors set forth in 18 U.S.C. § 3553(a), when determining the sentence. Furthermore, while sentencing is required to be reasonably based upon consideration of the factors set forth in § 3553(a), the Court must clearly justify any departure from the Sentencing Guidelines.

Basis for Fines: the Volume of Commerce

While the Sherman Act, as amended, sets out the maximum penalties as described above, actual sentences for cartel offences are established in line with the three-step methodology set out above which includes reference to the Sentencing Guidelines. Broadly speaking, the Sentencing Guidelines penalties are usually reached by a series of calculations which produce a range of penalty values, with the Courts typically imposing a penalty within this range. The exact calculation process is described in detail below, but an important concept central to the calculation of Sentencing Guideline sentences is the volume of commerce. Section 2R1.1(b)(2) of the Sentencing Guidelines sets out the definition:

The Volume of Commerce attributable to an individual participant in a conspiracy is the volume of commerce done by him or his principal in goods or services that were affected by the violation. When multiple counts or conspiracies are involved, the volume of commerce should be treated cumulatively to determine a single, combined offense level (Sentencing Commission, 2011. p. 311).

³⁹ Department of Justice and Equality (2011b, p. 6).

⁴⁰ O’Malley (2006, p. 65). The Irish Sentencing Information System provides limited information on some Circuit Court cases relating to 2007-2009. For details see Conroy and Gunning (2009) and www.irishsentencing.ie.

⁴¹ 125 S. Ct. 738 (2005). For a discussion of the impact of *Booker* on antitrust enforcement, see Hammond (2005) and Jacobovitz and Neff (2006).

⁴² As cited in Tetzlaff (2005, pp. 7-8).

Furthermore, in the case of *United States v. SKW Metals and Alloys*, 195 F.3d 83, 90 (2d Cir. 1999) the meaning of “affected by” was specified as follows: “[W]hile a price-fixing conspiracy is operating and has *any* influence on sales, it is reasonable to assume that all sales made by defendants during the period are ‘affected’ by the conspiracy,” (emphasis in original).

This is a much better benchmark on which to set fines than that used in Ireland based on the turnover of a firm in the year prior to conviction. The volume of commerce captures both the duration of the offense and the magnitude of the commerce affected. Turnover in the year prior to conviction pays no attention to either of these important characteristics that are likely to be related to the damage caused by the cartel in terms of charging higher prices to consumers. The firm’s entire turnover also has the disadvantage that it refers to all of the firm’s operations, only some of which may be the subject of the cartel conviction.

Sentencing Guidelines for an Individual

The Sentencing Guideline *fine* for an individual is given by a range, which is *from one to five percent of the volume of commerce*, but not less than \$20,000. In terms of determining what fine to impose within this range, the Commentary attached to Section 2R1.1 of the Sentencing Guidelines specifies a number of factors which should be taken into account: the extent of the defendant’s participation in the offence, the defendant’s role, and the degree to which the defendant personally profited from the offence (including salary, bonuses and career enhancements). A definitive methodology for how to apply these factors is not supplied, but rather it is up to the Court to use its discretion. In contrast to the sentencing of individuals in Ireland for cartel offences, the Sentencing Guidelines set minimum fines for individuals - \$20,000 or 1 per cent of the volume of commerce.

The Sentencing Guideline *prison sentence* for an individual consists of a careful weighing of several factors resulting in a range of possible sentences. The Offence Level of the defendant is first calculated. The base Offence Level for cartels is 12, which is consistent with the presumption or premise that there will be a jail term imposed. From here specific offence characteristics are taken into account so as to make adjustments up or down to the Offence Level.

- If the conduct involved participation in an agreement to submit non-competitive bids, the Offence Level is increased by 1 point (U.S.C 18 §2R1.1(b)(1))
- If the Volume of Commerce attributable to the defendant was more than \$1 million, the adjustments are made (§2R1.1(b)(2)) are set out in Table 2.

Table 2: Volume of Commerce Adjustments, US Sentencing Guidelines, Individuals, Prison Sentences, Cartel Cases

Volume of Commerce (Apply the Greatest)	Adjustment to Offense Level
(A) More than \$1 million	Add 2
(B) More than \$10 million	Add 4
(C) More than \$40 million	Add 6
(D) More than \$100 million	Add 8
(E) More than \$250 million	Add 10
(F) More than \$500 million	Add 12
(G) More than \$ 1 billion	Add 14
(H) More than \$1.5 billion	Add 16

Source: Sentencing Commission (2011, Section 2R1.1 (b)(2), p. 311).

- Next a series of adjustments are made, with reference to the following categories: aggravating role (§3B1.1), mitigating role (§3B1.2), any abuse of position of trust or use of a special skill (§3B1.3), any obstruction or impediment of the administration of justice (§3C1.1), and/or acceptance of responsibility (§3E1.1). In each category, certain criteria are described which, if applicable; render either an increase or a decrease to the Offence Level. Table 3 outlines the steps involved in greater detail, together with precise numerical adjustments to the base Offence Level.

After these adjustments are made, the resulting offence level is used in combination with the Criminal History Category (calculated in U.S.C 18 §4A1.1) in order to determine the guideline months of imprisonment, using the Sentencing Table, reproduced as Table 4. The Criminal History Category ranks defendants on the basis of their prior criminal history, taking factors such as the length and seriousness of any prior prison sentences into account and producing a Criminal History Category level. Higher Category levels correspond to more serious criminal histories. However, it is usual in cartel cases, as with most white collar crime, that the defendant has no prior criminal convictions, and thus would fall into Criminal History Category I in Table 4.

Table 3: Aggravating and Mitigating Factors, US Sentencing Guidelines, Maximum Sentences, Individuals, Prison Sentences, Cartel Cases.

Category	Criteria – Change to Offence Level
Aggravating role ^a	(a) If the defendant was an organiser or leader of a criminal activity that involved five or more participants – add 4 levels (b) If the defendant was a manager or supervisor (but not an organiser or leader) and the criminal activity involved five or more participants or was otherwise extensive – add 3 levels (c) If the defendant was an organiser, leader, manager, or supervisor in any criminal activity other than that described in (a) or (b) – add 2 levels
Mitigating role ^b	(a) If the defendant was a minimal participant in any criminal activity – subtract 4 levels (b) If the defendant was a minor participant in any criminal activity – subtract 2 levels (c) In cases falling between (a) and (b) – subtract 3 levels
Abuse of a position of trust or use of a specialist skill ^c	If the defendant abused a position of public or private trust, or used a special skill, in a manner that significantly facilitated the commission or concealment of the offence – add 2 levels
Obstruction or impediment of the administration of justice ^d	If the defendant wilfully obstructed or impeded, or attempted to obstruct or impede, the administration of justice, and the obstructive conduct related to the defendant’s offence of conviction and any relevant conduct, or closely related offense – add 2 levels
Acceptance of responsibility ^e	(a) If the defendant clearly demonstrates acceptance of responsibility for his offence – subtract 2 levels (b) If the defendant qualifies for (a), the offence level is determined prior to the operation of (a) is level 16 or greater, and upon motion of the government stating that the defendant has assisted authorities in the investigation or prosecution of his misconduct by timely notifying authorities of his intention to enter a plea of guilty – subtract 1 level

- a. Section 3B1.1 (a) to (c) of the Sentencing Guidelines.
- b. Section 3B2. 2(a) to (b).
- c. Section 3B1.3
- d. Section 3C1.1
- e. Section 3E1.1

Source: Sentencing Guidelines (2011, Sections 3B1.1-3B1.3, 3C1.1, 3E1.1, pp. 350-379).

Table 4: Sentencing Table, Sentencing Guidelines, Individuals

SENTENCING TABLE (in months of imprisonment)							
Offense Level	Criminal History Category (Criminal History Points)						
	I (0 or 1)	II (2 or 3)	III (4, 5, 6)	IV (7, 8, 9)	V (10, 11, 12)	VI (13 or more)	
1	0-6	0-6	0-6	0-6	0-6	0-6	
2	0-6	0-6	0-6	0-6	0-6	1-7	
3	0-6	0-6	0-6	0-6	2-8	3-9	
Zone A	4	0-6	0-6	2-8	4-10	6-12	
	5	0-6	0-6	1-7	4-10	6-12	
	6	0-6	1-7	2-8	6-12	9-15	
7	0-6	2-8	4-10	8-14	12-18	15-21	
Zone B	8	0-6	4-10	6-12	10-16	15-21	
	9	4-10	6-12	8-14	12-18	18-24	21-27
Zone C	10	6-12	8-14	10-16	15-21	21-27	24-30
	11	8-14	10-16	12-18	18-24	24-30	27-33
Zone C	12	10-16	12-18	15-21	21-27	27-33	30-37
	13	12-18	15-21	18-24	24-30	30-37	33-41
14	15-21	18-24	21-27	27-33	33-41	37-46	
15	18-24	21-27	24-30	30-37	37-46	41-51	
16	21-27	24-30	27-33	33-41	41-51	46-57	
17	24-30	27-33	30-37	37-46	46-57	51-63	
18	27-33	30-37	33-41	41-51	51-63	57-71	
19	30-37	33-41	37-46	46-57	57-71	63-78	
20	33-41	37-46	41-51	51-63	63-78	70-87	
21	37-46	41-51	46-57	57-71	70-87	77-96	
22	41-51	46-57	51-63	63-78	77-96	84-105	
23	46-57	51-63	57-71	70-87	84-105	92-115	
24	51-63	57-71	63-78	77-96	92-115	100-125	
25	57-71	63-78	70-87	84-105	100-125	110-137	
26	63-78	70-87	78-97	92-115	110-137	120-150	
Zone D	27	70-87	78-97	87-108	100-125	120-150	130-162
	28	78-97	87-108	97-121	110-137	130-162	140-175
29	87-108	97-121	108-135	121-151	140-175	151-188	
30	97-121	108-135	121-151	135-168	151-188	168-210	
31	108-135	121-151	135-168	151-188	168-210	188-235	
32	121-151	135-168	151-188	168-210	188-235	210-262	
33	135-168	151-188	168-210	188-235	210-262	235-293	
34	151-188	168-210	188-235	210-262	235-293	262-327	
35	168-210	188-235	210-262	235-293	262-327	292-365	
36	188-235	210-262	235-293	262-327	292-365	324-405	
37	210-262	235-293	262-327	292-365	324-405	360-life	
38	235-293	262-327	292-365	324-405	360-life	360-life	
39	262-327	292-365	324-405	360-life	360-life	360-life	
40	292-365	324-405	360-life	360-life	360-life	360-life	
41	324-405	360-life	360-life	360-life	360-life	360-life	
42	360-life	360-life	360-life	360-life	360-life	360-life	
43	life	life	life	life	life	life	

Source: Sentencing Commission (2011, Chapter 5 Part A, p. 407).

To illustrate the application of the Sentencing Guidelines we use the case of Christian Caleca a French citizen who in 2007 was sentenced for his part in a cartel among marine hose manufacturers and sellers in his capacity as President of the Industrial Fluid Systems business unit of Trelleborg Industrie, S.A.S, a Swedish firm. We first note that the volume of

affected commerce in Mr Caleca’s case was \$10 million. Thus the Sentencing Guideline fine range is between \$100,000 (1 per cent) and \$500,000 (5 per cent).

To determine Mr Caleca’s Sentencing Guideline prison sentence range, we first obtain his offence level, using the same calculations and making the same adjustments as would have been made by the Courts. This, as set out in Table 5, is 17. The table draws on the plea agreement between the defendant and the federal prosecuting authorities which set out the way in which the Sentencing Guidelines would be applied. Christian Caleca’s Criminal History Category is I, so, given the offence level of 17, we can read from Table 4 that his Sentencing Guidelines prison sentence range is between 24 and 30 months.

Table 5: US Sentencing Guidelines, Prison Sentence, Marine Hose Cartel, Christian Caleca

Base Offence Level	12
Special Offense Characteristics	
Participation in agreement to submit non-competing bids	+1
Volume of commerce (>\$10 million but < \$40 million)	+4
Adjustments	
Aggravating Role	+3
Mitigating Role	-3
Abuse of a position of trust or use of a specialist skill	-
Obstruction or impediment of the administration of justice	-
Acceptance of responsibility	-
Offence Level	17

Source: United States of America v Christian Caleca, Plea Agreement, United States District Court, Southern District of Florida, Case N 07-60269-CR-KAM 15 U.S.C, § 1, 15 November 2007.

In Christian Caleca’s plea agreement defence and the prosecution jointly recommended the sentence of 14 months imprisonment and a fine of \$75,000. This was accepted by the Courts and was the sentence imposed on Christian Caleca. Plea agreements usually embody a compromise between the defence counsel and the prosecution, with the defendant providing a guarantee to plead guilty and to comply with the investigation, in exchange for a reduced sentence being recommended to the Court. The fact that this recommended sentence is below that suggested by the Sentencing Guidelines is not atypical of a plea agreement.

In most cases, the cartel participant is someone who is connected to a company involved in the price fixing activity (usually the Director or Sales Manager). Sometimes, however, it occurs that the cartel engages the services of an outsider to run and organise the cartel. Often in such a case the organiser is paid a wage by the cartel members. Under the Sentencing Guidelines, a person who aids and abets a cartel in this way can be punished as a principal, and thus is subject to the penalty of the underlying offence (18 U.S.C. §2). An example of this occurred in the *US v. Peter Whittle*, where Mr Whittle was the sole proprietor of a consultancy group who ran the marine hose cartel already referred to in this section. Mr Whittle’s guideline sentence reflected his organisational role in the cartel by attributing to him a volume of commerce equal to the sum of the volume of commerce of the other participants.

Guidelines for a Firm

When calculating the guideline fine for a firm, a base fine is first calculated, which is then adjusted for culpability. U.S.C. 18 §8C2.4 (a) sets out the general base fine instructions for all firm criminal offences. It states that the base fine is the greatest of:

- The amount from a table given which links offence levels (calculated in §8C2.3) to base fine amounts; or
- The pecuniary gain to the organisation from the offense; or
- The pecuniary loss from the offence caused by the organisation, to the extent the loss was caused intentionally, knowingly, or recklessly.

Cartels raise prices. Attaining an exact measure of this price effect is difficult; it involves estimating what the price would have been absent the cartel. Thus measuring the effect of a cartel, in each case, whether in terms of gain to the participants or loss to the consumers, is likely to be costly in terms of money and time. In acknowledging this, the Sentencing Guidelines provide instructions specific to cartels, contained in Section 2R1.1, that a 20 per cent 'harm proxy' may be used instead to calculate the base fine amount.⁴³ The base fine thus is 20 per cent of the volume of commerce.

The magnitude of the harm proxy is based on evidence concerning how much a typical cartel is able to raise price. The Sentencing Guidelines selected the 20 per cent harm proxy in 1991 (Antitrust Modernization Commission, 2007, p. 300). The Sentencing Commission (2011, p. 312) sets out its rationale as follows:

In selecting a fine for an organization within the guideline fine range, the court should consider both the gain to the organization from the offense and the loss caused by the organization. It is estimated that the average gain from price-fixing is 10 percent of the selling price. The loss from price-fixing exceeds the gain because, among other things, injury is inflicted upon consumers who are unable or for other reasons do not buy the product at the higher prices. Because the loss from price-fixing exceeds the gain ... [the Sentencing Guidelines] provides that 20 per cent of the volume of affected commerce is to be used in lieu of the pecuniary loss ... The purpose of specifying a percent of the volume of commerce is to avoid the time and expense that would be required for the court to determine the actual gain or loss. In cases in which the actual monopoly overcharge appears to be either substantially more or substantially less than 10 per cent, this factor should be considered in setting the fine.

More recent attempts to ascertain the increase in price due to a cartel have estimated a higher value than 10 per cent of the selling price (Conor & Bolotova, 2006; Werden, 2009). However, Boyer & Kotchoui (2012) in reviewing this literature suggest lower estimates – but still above 10 per cent – are appropriate.

⁴³ Sentencing Commission (2011, p. 311).

Once the base fine is obtained, it is adjusted for culpability.⁴⁴ There are four factors which can increase an organisation's culpability score:

- Involvement in or tolerance of criminal activity – add between 1 to 5 points depending in part on the employment in the organization;
- Prior history – add 1 or 2 points;
- Violation of an order – add 1 or 2 points; and,
- Obstructing justice – add 3 points.

There are two factors which can lower the culpability score:

- Effective compliance scheme & ethics programme – subtract 3 points; and,
- Self-reporting, cooperation & acceptance of responsibility – subtract 1 to 5 points.

There is a base culpability score of 5 points. The facts of the case determine the culpability score.

The next stage is to map the culpability score into minimum and maximum multipliers which are then applied to the base fine. The higher the culpability score the greater the multipliers. The Sentencing Guideline contains a table in which each culpability score corresponds to a minimum and a maximum multiplier.⁴⁵ For example, if the culpability score were 5 then the minimum would be 1 and the maximum 2. In the case of cartel offences the range cannot go below 0.75 nor above 4. The lower bound was “selected to provide an effective deterrent to antitrust offenses” and it will also “exceed the average monopoly overcharge.”⁴⁶

The setting of a fine for an organization under the Sentencing Guidelines is illustrated with respect to Trelleborg Industrie, S.A.S., which as with Christain Caleca, participated in the marine hose cartel.⁴⁷ The results, presented in Table 6, was a fine between \$2.8 million and \$5.6 million. Only two of the six factors that vary the base culpability score of 5 were relevant in this case. As in the case of the *US v. Christian Caleca*, a plea agreement was reached. Under this agreement the fine was set at \$3.5 million, which was toward the lower end of the range resulting from the application of the Sentencing Guidelines. This agreed fine was upheld by the Court.

⁴⁴ These are set out in Sentencing Commission (2011, §8C2.5, pp. 524-530).

⁴⁵ Sentencing Commission (2011, §8C2.6, pp. 530-1).

⁴⁶ Sentencing Commission (2011, §2R1.1, p. 314).

⁴⁷ Christain Caleca was an officer of a unit of Trelleborg Industrie, S.A.S.

Table 6: US Sentencing Guidelines, Fine, Cartel Case, Marine Hose Cartel, Trelleborg Industrie, S.A.S.

Base Fine (20 per cent of volume of commerce, \$10 million)	2 million
Culpability Estimation	
Base Score	5 points
Involvement in or tolerance of criminal activity	+ 3 points
Prior history	-
Violation of an order	-
Obstructing justice	-
Effective compliance scheme & ethics programme	-
Self-reporting, cooperation & acceptance of responsibility	-1 point
Culpability Score	7
Minimum & Maximum Multipliers	
Minimum multiplier	1.4
Maximum multiplier	2.8
Sentencing Guideline Fine Range (\$2million x 1.4), (\$2 million x 2.8)	\$2.8 million - \$5.6 million

Source: United States of American v Trellebourg Industrie S..A.S, Plea Agreement, United States District Court Southern District of Florida, Case N 09-CR-60103-Cohn U.S.C, § 1, 15 May 2009.

How does the Court apply the Guidelines?

We can now turn our attention to the third and final step in determining cartel sentences; the application of the factors contained in Section 3553(a). This section sets out a “parsimony provision,” which directs the Court to impose a sentence that is “sufficient, but not greater than necessary” to accomplish the goals of sentencing. The factors which are to be taken into account are:

- “The nature and circumstances of the offence and the history and characteristics of the defendant,” 18 U.S.C. §3553(a)(1),
- “The need for the sentence imposed,” §3553(a)(2),
- ...including the need for the sentence “to reflect the seriousness of the offence, to promote respect for the law, and to provide just punishment for the offence,” §3553(a)(2)(A),
- “To afford adequate deterrence to criminal conduct,” §3553(a)(2)(B),
- “To protect the public from further crimes of the defendant,” §3553(a)(2)(C),
- “To provide the defendant with needed educational or vocational training,” or other care or treatment, §3553(a)(2)(D),
- “The kinds of sentencing available,” §3553(a)(3),
- “The kinds of sentence and the sentencing range established,” for similar offences, §3553(a)(4),
- “Any pertinent policy statement,” §3553(a)(5),
- “The need to avoid unwarranted sentence disparities among defendants with similar records who have been found guilty of similar conduct,” §3553(a)(6),
- “The need to provide restitution to any victims of the offence,” §3553(a)(7).

There is no prescribed methodology which outlines how to apply these factors, rather it is left to the sentencing authority to use their discretion.

Although these factors would appear to bestow considerable discretion on the Courts in terms of sentencing, the evidence suggests that it is not been exercised extensively. In the first ten months following the *US v Booker* judgment, 61.9 percent of the sentences issued were within the Sentencing Guideline range. When the outside-the-guideline range sentences requested or supported by prosecutors is added, the Sentencing Guideline compliance rate increases to over 85 percent (Tetzlaff, 2005, p. 9). It should, of course, be recalled that any deviation from Sentencing Guideline sentences must be explained and justified by the Court. In other words, the Sentencing Guidelines are the default option.

The prosecution plays a role in the sentencing process in that they interpret the Sentencing Guidelines in cases where the prosecution and the defence enter into a plea agreement. Often the agreement specifies a range of penalty values with the Court left to decide where within this range to impose the fine and/or jail sentence. Alternatively, the Court is in theory able to reject the Sentencing Guidelines and plea agreement terms completely, provided, of course, that the Court stays within the statutory limits.⁴⁸ The two examples above relating to the marine hose cartel show the influence of plea agreements in suggesting a sentence toward the lower end of the range suggested by the Sentencing Guidelines (or sometimes below the range itself) so as to encourage a guilty plea.

A recent case relevant to this issue is that of the *US v. Vandebroke*. The cartel at the centre of this case was a small one made up of ready mix concrete suppliers in Northern Iowa, illustrative of the fact that the Sentencing Guidelines come into play for hard core cartel activity in the US of any size, and is not restricted to large headline-grabbing international cases. In this case the Court rejected the plea agreement and found that a sentence “significantly higher than a guideline sentence but well below the statutory maximum”⁴⁹ to be appropriate. The Court increased the fine to a level which exceeded the maximum *recommended* fine, given the applicable volume of commerce, but which was below the maximum statutory amount. The absolute value of this departure was decided with reference to the 3553(a) factors. Typically, however, judges stay within the range suggested by the Sentencing Guidelines.

In sum, the Sentencing Guidelines are an evidenced based set of guidelines with a sound rationale for imposing sentences on individuals and firms convicted of cartel offences. They do not provide a straight jacket which unduly fetters the discretion of the Court. This enables Courts to attain a level of consistency among similar cases, while also being able to tailor sentences to the individual circumstances. Furthermore, it should be noted that evidence of

⁴⁸ In most cases if a plea agreement is rejected then the defence has the right to withdraw its plea.

⁴⁹ *US v S. K. Vandebroke and K. R. Stewart*, in the US District Court for the Northern District of Iowa Western Division, Memorandum opinion and Order Regarding Sentencing, 8 February 2011, p. 68.

the application of the Sentencing Guidelines in the form of judgments or plea agreements etc., is readily available from the US Department of Justice⁵⁰ website.

4. The Citroen Case: the Facts

The Citroen cartel has all the hallmarks of a classic cartel: there is clear well specified agreement on prices and pricing structures; monitoring mechanisms are deployed to detect breaches or non-compliance; and, punishments are imposed for breaching or deviating from the agreement. In this section we describe these salient characteristics in greater detail and how the cartel broke down.⁵¹

The cartel was organised through the Citroen Dealers Association or CDA, which was divided into three regions: Dublin/Leinster; the South; and the North/West. The members of the CDA were authorised dealers for Citroen motor vehicles. The CDA held its first meeting in April 1995 and lasted up until at least February 2004. Like other trade associations the CDA had officials such as a Treasurer, Secretary and President. Detailed minutes of meeting were taken which recorded the agreement on prices and the pricing structure.

The Citroen cartel that was the subject of the criminal prosecution related to the Leinster region, which included Dublin. The product was Citroen motor vehicles. Citroen accounted for a relatively small share of the motor vehicle market in Ireland. In 2000, for example, it accounted for 2.08 per cent of new car registrations and 9.1 per cent of new light commercial vehicle registrations.⁵² The leading car brands were Toyota (11.2 per cent), Ford (11 per cent), Nissan (10.5 per cent) and VW (9.9 per cent); for light commercial vehicles Ford (17 per cent), Toyota (11.9 per cent), and VW (11.2 per cent).

The CDA agreed on the following aspects of the pricing of Citroen motor vehicles:

- (i) The setting of maximum discounts from the retail dealers recommended price list for new Citroen motor vehicles;
- (ii) The setting of delivery charges in respect of such vehicles;
- (iii) The setting of accessory prices;
- (iv) The setting of prices for metallic paint;
- (v) The setting of prices for trade-ins and for used stock; and,
- (vi) The setting of export prices and parts.⁵³

At CDA meetings these prices were agreed and recorded. Pricing information was circulated to members. The Secretary drew up a pocket card with the information concerning the

⁵⁰ For details see www.justice.gov.

⁵¹ This discussion is based on the Duffy judgment.

⁵² These market shares were taken from the SIMI website based on Revenue Commissioner data. For details see <http://www.simi.ie/Statistics/National+Vehicle+Statistics.html>. Accessed 10 October 2012.

⁵³ *DPP v Duffy*, paragraph 7.

pricing structure for ease of reference by members. In other words, the CDA had a very comprehensive agreement concerning prices that attempted to limit the discretion of members in lowering prices by offering, for example, a higher than necessary trade in price as a way of effectively discounting the price of a new vehicle.

In order to ensure that CDA members were adhering to the agreed pricing structure two independent companies were hired to conduct ‘mystery shopping surveys.’ Quotes were obtained to determine if the CDA member was conforming to the agreement with the results reported to the Secretary. Detection of a breach of the agreement resulted in a fine which was originally set at £500 (or €635) and subsequently increased to £1,000 (or €1,270).

The CDA broke down because a member refused to pay a fine for breaching the agreement and went to the Competition Authority, where a number of documents were provided and statements were made. It was this that triggered the investigation and subsequent prosecution.

The Citroen cartel should not be seen in isolation in the motor vehicle market. As noted above there is evidence that a cartel existed with respect to the pricing of Ford cars. This cartel was organised on very similar lines to the Citroen cartel, with mystery shopping and fines for cartel members that broke the cartel rules.⁵⁴ The director of Gowan Motors (Parkgate) Ltd, another of the convicted Citroen cartelists, approached “a dealer of a different make of car and asking them to keep their prices in line with the CDA” (Breaking News, 2009). Finally, the Competition Authority lead investigator in the Ford cars cartel opined in Court that he believed that cartels were “endemic” in the industry (Competition Press, 2007c, p. 49).⁵⁵

5. Applying US Sentencing Guidelines to the Citroen Case

In order to be able to apply the Sentencing Guidelines to the Citroen case information is required on the volume of commerce for the individual and firm, aggravating/mitigating factors for individuals and culpability indicators for the firm. In the case of the volume of commerce a number of proxies had to be used in order to generate these data based on the accounts that the Citroen cartel firms filed with the Companies Registration Office (CRO) combined with sales of Citroen motor vehicles. The precise estimation procedures are set out in Appendix A. With regard to the aggravating/mitigating factors and the culpability indicators we draw on the Court judgments, press reports, Competition Authority *Annual Reports*, Competition Press reports and a limited number of articles. Together with the information on the volume of commerce, the Sentencing Guidelines can then be applied to each of the convicted individuals and firms in the Citroen case. While the detailed application is explained and set out in Appendix B, the results are presented in this section.

⁵⁴ or a discussion of the Ford cars cartel see Competition Press (2007a, 2007b, 2007c) and Curtis and McNally (2007).

⁵⁵ Curtis and McNally (2007, p. 43-44) makes a similar observation. It should be noted that Mariuzzo *et al* (2009) argue that it would be profitable to cartelise the car market in Ireland.

In view of the proxies and assumptions that have been used the results should be viewed as illustrative rather than definitive.

The results are presented first for individuals, before attention turns to firms. In each case we compare the sentence derived from the Sentencing Guidelines with the actual sentence imposed by the Courts in Ireland. An important consideration in each case is whether or not the Sentencing Guideline sentence could have been imposed on the Citroen cartel members by the Irish Courts. In other words, were the Sentencing Guidelines sentences below the maximum sentences under Irish competition law, which are set out in Table 1. In view of the approximations that were needed to be made in order to derive the volume of commerce for each Citroen cartel member we typically confine our attention to the lower bound of the range of possible fines or jail sentences generated by the application of the Sentencing Guidelines to the Citroen case. In part this reflects the fact that the Citroen cartel member that became an immunity witness is not taken into account and hence application of the Sentencing Guidelines results in fines and jail sentences which are likely to be biased upward. However, as shown in Appendix B, under a range of assumptions concerning the market share of the immunity witness, the application of the Sentencing Guidelines still results in substantial fines and jail terms for the Citroen cartel members that were convicted of breaching competition law.

Sentencing Individuals: Fines

The fine level of the eight individual defendants in the Citroen case is presented in Table 7. These defendants can be divided into two categories: individual Citroen dealers that are members of the CDA; and, John McGlynn, who was the cartel facilitator/enforcer. In contrast to the other seven defendants who were charged with entering into and/or implementing an agreement which had as its object the prevention, restriction or distorting of competition, John McGlynn was charged with aiding and abetting the CDA to commit offences of entering into an agreement which had as its object the prevention, restriction or distortion of competition. Under the Sentencing Guidelines the volume of commerce for such individuals refers to the cumulative volume of commerce of all members of the cartel.⁵⁶ Hence the Sentencing Guideline fine for John McGlynn is much larger than for any of the other defendants.

⁵⁶ This approach was taken in relation to Mr Whittle the organiser of the marine hose cartel, to which reference was made in Section 3 above.

Table 7: Fines in the Citroen Case: Sentencing Guidelines and Irish Courts, by Individual Defendant

Defendant	Sentencing Guideline Range	Irish Court Sentence	Difference
	€	€	€
James Durrigan	315,036 – 1,575,178	0	315,036
Jack Doran	226,800 – 1,133,999	0	226,800
Patrick Duffy	350,851 - 1,754,254	50,000	300,851
James Bursey	486,202 - 2,431,011	80,000	406,202
Bernard Byrne	130,886 - 654,431	2,000	128,886
Michael Patrick Gibbs	325,128 - 1,625,640	30,000	295,128
Brian Smyth	279,041 - 1,395,207	30,000	249,041
John McGlynn	1,834,902 – 9,174,512	30,000	1,804,902

Source: Appendix A and B.

If the Sentencing Guidelines had been used to assess the fines in the Citroen cartel case then the fines imposed on individuals would have been substantially larger than those actually imposed by the Irish Courts. This conclusion holds irrespective of whether the minimum or maximum range yielded by application of the Sentencing Guidelines is used. In the case of Patrick Duffy, for example, instead of the fine of €50,000 imposed by the Central Criminal Court, the Sentencing Guidelines would have substituted a fine ranging between a minimum of €350,851 and a maximum of €1,754,254. The Irish Courts could have imposed the higher sentences suggested by the Sentencing Guidelines, given that the maximum fine on an individual was €3.81 million, then the Courts could have done so. Indeed, the fines imposed by the Irish Courts in the Citroen case varied between 0.05 per cent and 2.10 per cent of the maximum nominal amount set by the legislature.

Sentencing Individuals: Jail

Jail sentences that would have been imposed on the Citroen defendants, together with the actual sentence imposed by the Irish Courts, are presented in Table 8. As with the analysis of fines, John McGlynn would have had a much harsher punishment than the other members of the cartel. This reflects the fact that the Sentencing Guidelines heavily penalise the persons who plays the role of cartel facilitator/enforcer.

Table 8: Imprisonment in the Citroen Case: Sentencing Guidelines and Irish Courts, by Individual Defendant

Defendant	Sentencing Guideline Range	Irish Court Sentence
James Durrigan	12-18 months	3 months - suspended for 2 years
Jack Doran	12-18 months	3 months - suspended for 5 years
Patrick Duffy	12-18 months	6 months and 9 months - suspended for 5 years
James Bursey	12-18 months	6 months and 9 months - suspended for 5 years 28 days (imposed for non-payment of fine)
Bernard Byrne	12-18 months	9 months - suspended for 1 year
Michael Patrick Gibbs	12-18 months	6 months - suspended for 3 years
Brian Smyth	12-18 months	6 months - suspended for 3 years
John McGlynn	37-46 months	6 months and 9 months - suspended for 5 years

Source: Appendix A and B.

The Sentencing Guidelines would have sent all of the eight defendants to jail, with most of these individuals incurring a sentence of between 12 and 18 months. However, none of the eight defendants spent a day in jail. Instead all received suspended sentences, except Mr Bursey who refused to pay the fine imposed on him and was sentenced to 28 days in jail. Even these suspended sentences were in all cases below even the *minimum* of the range produced by application of the Sentencing Guidelines.⁵⁷ Furthermore, the Irish Courts could have, had they so wished, imposed penalties up to 24 months (Table 1). This exceeds the *maximum* sentence of the Sentencing Guidelines for all the defendants except John McGlynn. The Central Criminal Court in the Duffy judgment indicated that in future unsuspended jail sentences are likely to be imposed on defendants, moving Ireland at least a step closer to the Sentencing Guidelines. Under the Competition (Amendment) Act 2012 the maximum jail sentences in the US and Ireland will be 10 years.

Sentencing Firms: Fines

The final set of comparisons are between the fines imposed by the Irish Courts on the undertakings or firms in the Citroen cartels as compared to those that would have been levied had the Sentencing Guidelines been used. Since John McGlynn was not an undertaking and two individuals were from Gowan (Parkgate) Motors Ltd, there are only six undertakings as defendants. The results are presented in Table 9.

⁵⁷ This assumes that the cases where the defendant receiver two prison sentences that they would be served concurrently.

Table 9: Fines in the Citroen Case: Sentencing Guidelines and Irish Courts, by Undertaking Defendant

Undertaking	Sentencing Guideline Range	Irish Court Sentence	Difference
	€	€	€
James Durrigan and Sons Ltd.	5,040,569 – 10,081,138	12,000	5,028,569
Ravenslodge Trading Ltd. t/a Jack Doran Motors	3, 628,795 – 7,257,591	20,000	3,608,795
Duffy Motors (Newbridge) Ltd.	5,613,613 - 11,227,227	50,000	5,563,613
Bursey Peppard Ltd.	7,779,234 - 15,558,468	80,000	7,699,234
Finglas Motors (M50) Ltd.	2,094,178 - 4,188,355	35,000	2,059,178
Gowan Motors (Parkgate) Ltd.	5,202,049 - 10,404,099	30,000	5,172,049

Source: Appendix A and B and Competition Authority (2012).

Once again the sentence actually imposed by the Irish Courts on the Citroen cartel members falls without exception far short not only of the minimum level suggested by application of the Sentencing Guidelines, but also the maximum nominal amount of €3.81 million in the Competition (Amendment) Act 1996. The difference in the fine level is much more dramatic than the corresponding table for fines for the individual. In other words, Irish Courts do not seem to draw much of a distinction in sentencing firms and individuals in setting fines, whereas the Sentencing Guidelines fine firms much more than individuals. This no doubt reflects in part the fact that the individual is subject to a fine and a jail sentence whereas for the firm only the former is available as an option.

6. Conclusion

The Sentencing Guidelines, developed by the US Sentencing Commission, provide an evidenced based consistent methodology for determining sanctions in cartel cases that takes into account aggravating/mitigating factors for individuals as well as culpability indicators for firms, while at the same time taking cognisance of the economic damage caused by cartels to consumers. The Sentencing Guidelines are not a rigid set of rules that place a straightjacket on judicial discretion. Rather the Sentencing Guidelines result in a *range* of sentences. Indeed, US Courts can, if they wish, go outside of these ranges, provided that justification is provided.

While the legislature has given the Courts in Ireland the tools, in terms of discretion and maximum fines and imprisonment for individuals and fines for undertakings, to develop a coherent sentencing methodology in cartel cases, the Courts have not delivered.⁵⁸ To be sure in the Duffy judgment, the only reported judgment of the sentencing of a cartel member, the Court provides some guidance on sentencing. It states, for example, that cartels are bad and pernicious and that jail sentences are to be expected in future cartel cases. However, that is not a coherent methodology for sentencing individuals and firms in

⁵⁸ This applies across the entire range of criminal law in Ireland; cartels are not an exception.

cartel cases. Had the judge in the Duffy case drawn on the Sentencing Guidelines rather than the much less relevant and applicable English case, *R v Whittle*, Ireland might be on the cusp of establishing a sound methodology for sentencing in cartel cases.

Applying Sentencing Guidelines to the facts of the Citroen case, in which 14 individuals and firms were convicted on indictment, suggests that the current approach to sentencing in Ireland by the Courts results in fines on individuals and firms as well as jail sentences on individuals that are too low. Furthermore, virtually without exception, Irish Courts could have imposed the sentences suggested by application of the Sentencing Guidelines. This disparity encourages rather than discourages cartel activity which raises prices for consumers and thus damages consumer welfare.

This raises the question of whether something similar to the Sentencing Guidelines could or should be introduced in Ireland. This can be further subdivided into two issues: is this approach desirable and, if so, what practical problems are likely to be encountered in its implementation. As to desirability the Sentencing Guidelines, as noted above, take into account aggravating/mitigating factors for individuals as well as culpability indicators for firms, while at the same time taking cognisance of the economic damage caused by cartels to consumers. These considerations go to the heart of sentencing in Ireland. The Sentencing Guidelines are, for example, consistent with the Irish Supreme Court's view that "[T]he entire aim and object of competition law is consumer welfare."⁵⁹ Furthermore the Sentencing Guidelines are consistent with the view of O'Malley (2006, p. ix) that any sentencing guiding principles should "achieve a viable mix of consistency and individualisation." This is reflected in the range of sanctions that the Sentencing Guidelines generate that allow judicial discretion, combined with the fact that the Sentencing Guidelines are advisory.

In terms of practicality and implementation a number of changes could be introduced that would nudge sentencing policy towards the Sentencing Guideline approach. At the present time competition legislation in Ireland is in the process of being revised. As part of that reform the minimum and maximum fines for individuals and firms could be revised to reflect the concept of volume of commerce, rather than be based on the firm's turnover in the year prior to conviction. This would provide a supportive legislative framework. The Law Reform Commission (2011) has consistently backed the idea of guidelines for sentencing in criminal law developed by the proposed Judicial Council.⁶⁰ In advance of the creation of such a body, the DPP and the Competition Authority could undertake a consultation process to modify or adapt the Sentencing Guidelines concerning cartel offences to determine if the same weights are appropriate for Ireland. The outcome of this process could then be used by the DPP in Court to recommend appropriate sentences for cartel offenders.⁶¹ An essential

⁵⁹ Competition Authority v O'Regan & Ors. [2007] IESC 22, paragraph 106.

⁶⁰ The Law Reform Commission (2011, p. 189) stated: "The Commission supports the recommendations it made in 2000, and reiterated in 2011, that the proposed Judicial Council be empowered to develop and publish suitable guidance or guidelines on sentencing which would reflect the general aims of criminal sanctions and the principles of sentencing ... " (p. 189).

⁶¹ This would, of course, require the DPP to change its policy in this respect as well as the Court to accept such pleadings.

corollary of the Sentencing Guidelines is plea bargaining with respect to sentence. As noted above this is not currently the practice in Ireland. However, it is not at all clear why this could not be changed. After all at the moment there is plea bargaining with respect to the charges, with the defendant sometimes pleading guilty to certain counts with the DPP, in return, agreeing to drop the remaining counts.⁶² The success of these measures would of course require a consultation with the judiciary, but the burden of this paper is that the Sentencing Guidelines provide a much better way of getting proportionate, consistent and transparent sentences that serve to deter cartelists and benefit consumers than the current approach.

⁶² See footnote 6 above with respect to the charges in the Duffy case as an illustrative example.

Appendix A

Estimating the Volume of Commerce

1. Introduction

The purpose of this appendix is to outline the methodology used to estimate the volume of commerce for each of the undertakings convicted in the Citroen case. The volume of commerce is defined in the Sentencing Guidelines (Section 2R1.1(b)(2), p. 311) as:

The Volume of Commerce attributable to an individual participant in a conspiracy is the volume of commerce done by him or his principle in goods or services that were affected by the violation. When multiple counts or conspiracies are involved, the volume of commerce should be treated cumulatively to determine a single, combined offense level.

The volume of commerce provides the starting point for calculating the sentence for both an individual and a company under the Sentencing Guidelines. At first glance the calculation of the volume of commerce appears to be the relatively simple task of obtaining the sales data for each of the companies involved for the periods for which they were convicted of cartel activity. In the case of John McGlynn, the organiser and enforcer of the cartel, his volume of commerce is the summed amount of the group sales. However, this proved not to be the case.

Table A.1: Citroen Cartel Members, Undertakings and Individuals, Periods Convicted of Breach of Competition Law

Undertaking/Individual	Dates of Convicted Criminal Conduct
James Durrigan & Sons Limited James Durrigan	24/06/1997 - 15/02/2002
Ravenslodge Trading Limited T/A Jack Doran Motors Jack Doran	09/06/1999 - 18/05/2002
Duffy Motors (Newbridge) Limited Patrick Duffy	24/06/1997 - 18/06/2002
Bursey Peppard Limited James Bursey	08/07/1996 - 13/09/2003
Finglas Motors (M50) Limited Bernard Byrne	16/09/2000 - 01/05/2002
Gowan Motors (Parkgate) Limited Michael Patrick Gibbs Brian Smith	08/07/1996 - 01/05/2002 08/07/1996 - 01/05/2002 24/06/1997 – 26/03/2002
John McGlynn ^a	01/07/1998 – 25/11/2003

John McGlynn was the fixer or cartel organizer.

Source: Automotive Management (2009), Competition Authority (2010, p. 14), Competition Press (2007d, 2008a, 2008b, 2008c), *DPP v Duffy*, Enniscorthy Guardian (2008), Irish Examiner (2009) and information supplied by A. Whittaker.

The relevant dates for each defendant in terms of the period for which they were convicted of participating in the cartel was not uniform across all defendants. Furthermore, finding these dates often proved difficult, with reliance placed not only on the Duffy judgment in one instance, but also newspaper reports and other sources. The results (excluding John McGlynn) are outlined in Table A.1.

Ordinarily, sales data is readily available from the Companies Registration Office (CRO) website, as in general each private company operating in Ireland is required to file their annual Financial Statements to the CRO, which in turn makes these accounts available to the public for a small fee per each account. A company's turnover for the past financial year is contained in the Profit and Loss account, which makes up part of the Financial Statement.

In the Citroen case, however, obtaining sales data in this manner was not possible, as none of the companies involved were legally obliged to file a full set of Financial Statements. For the period of interest, the cartel members (with the exception of Gowan Motors (Parkgate) Ltd.) were classified as small or medium companies and so were eligible for a filing exemption under Sections 10-12 of the Companies (Amendment) Act, 1986. Gowan Motors (Parkgate) Ltd. was also eligible for a filing exception as it was part of a holding company, Convest Limited. Under Section 17(1) of the same act, a holding company is able to guarantee the liabilities of its subsidiary companies, and thus negate the responsibility of the subsidiaries to publish the full set of Financial Statements. As a result of these exemptions, the statutory obligations of the Citroen cartel companies were limited to filing an Abridged Balance Sheet and some reports by the auditors. The Balance Sheet (and consequently the Abridged Balance Sheet) does not contain the turnover figure of the company. As a result, the sales figures had to be estimated.

Broadly speaking, the estimation process employed was as follows: a proxy was chosen to represent the market share of each of the companies for the years being examined. For each year, the estimated market share was then multiplied by (an estimate of) Leinster Citroen sales. This yielded sales estimates for each company for each year.

This appendix contains five sections, including the Introduction. Section 2 describes proxies that could be used to estimate the market share of the sales of the Citroen cartel members. Section 3 presents the methodology for the estimation of the value of Citroen car sales in Leinster, since that is geographic region covered by the cartel in the indictments confined to Leinster. Armed with the output of the previous two section, Section 4 presents the methodology for selecting which proxy should be used to approximate the volume of commerce. The final section concludes.

2. Market Share Proxy

Although the Abridged Balance Sheet did not provide sales figures, it did provide six proxies that could be used to estimate the market share of sales in Leinster for each of the undertakings. In other words, if an undertaking accounted for (say) 10 per cent of the total net assets of the cartel members then it was assumed that it would also account for 10 per cent of the sales of the cartel members. Each of the six proxies is defined before attention moves to deciding the best proxy.

Total Net Assets

The first proxy considered was the Total Net Asset position of the company. For a given year, each company's Total Net Asset position was added to give the group Total Net Asset position of the members of the Citroen cartel.

Tangible Assets

The second proxy considered was the Tangible Asset position of each company, calculated in the same manner as the Total Net Asset proxy. This was a refinement of the first proxy, as movements in Tangible Assets are arguably more likely to reflect the variance in sales than movements in Total Net Assets. This is because Tangible Assets account for assets that have a physical form, such as land and inventory. Fluctuations or differences in such assets are likely to be more responsive to sales variance than non-physical assets such as patents and copyrights, which are included in Total Net Assets.

Stock

The third and fourth proxies reflect the stock positions of the companies. These are refinement of the asset proxies as stock movements were assumed to be more likely to reflect sales movements. The higher the sales of a CDA member the more stock is likely to be required. In contrast, the Total Net Assets or Tangible Net Assets are likely to be less sensitive to variations in sales.

The *first* of the two stock proxies was calculated in the same manner as the asset proxies, using the information in the Abridged Balance Sheet: for a given year each company's stock position was summed to give a group or market stock position, which was then employed to calculate the market share.

The *second* stock proxy utilised the Annual Enterprise Statistics on Distribution and Services (NACE Rev 2), compiled by the Central Statistical Office (CSO). This gave the turnover and stock figures for the motor trade industry in Ireland for the years 2008, 2009 and 2010. The ratio of stock to turnover was attained for each year. It was assumed that the national relationship between stock and sales could be applied to the Citroen market in Leinster. Two specifications of this proxy were estimated: first, the average ratio of sales to stock (i.e. the average of the annual averages); and, second, the year 2008 only was used. The reason for this latter selection was to test whether more accurate results would be attained by applying the average of the three later years or by selecting 2008, the closest year for which data was available on actual sales for a small number of Citroen dealers, i.e.: the year 2008. However, for reasons discussed in the next section, the Stock proxies were not selected, thus eliminating the need to decide which specification is the most appropriate.

Profit and Loss Account

The fifth proxy considered was the Profit and Loss Account (henceforth the "P&L Account"). This should not be confused with the account which makes up part of the Financial Statements. The P&L Account in this context refers to the cumulative fund reported in the

Balance Sheet, which sums the profit or loss made by a company for the year added to the total profit or loss made to date since the company began trading. The rationale behind this proxy was that the larger a company's P&L Account, the larger its sales are likely to have been. As with the asset based measures each company's P&L Account was summed, producing a market value, on which market share of an individual Citroen cartel member was based.

Profit

The final proxy considered was the profit (or loss) made by the companies. While profit is not directly reported in the Balance Sheet (or Abridged Balance Sheet), it can be calculated by subtracting last year's P&L Account from this year's, giving the change in this accumulated fund, i.e.: the profit or loss made throughout the course of the year. This was a refinement of the P&L Account proxy, as variance in sales during a trading period is more likely to be reflected in the actual profit (or loss) figure, which unlike the P&L Account, does not include past gains or losses.

Issues

A number of issues are likely to limit the reliability and usefulness of some of the proxies. However, in a number of instances we were able to adjust the data to resolve the problem.

The first issue affects the proxies Net Asset Position, P&L Account and Profit. For each of these, some of the companies reported a negative value in some years. This was undesirable as it suggests a negative market share and a negative sales figure when the proxy is applied. In order to overcome this, in the case of these three proxies, a constant positive value was added to each of the Net Asset positions, P&L Accounts or Profit figures for every company for every year. In this way, the negative values were in effect 'normalised' and the remaining positive values are increased by the same amount so as to ensure that the distortion of the relationship between market shares is minimized. The positive constant employed to fulfill this purpose was the smallest possible positive value (in multiples of 100,000) required to remove all the negative values. Although as stated this distorts the relative market shares of companies somewhat, it was deemed the best possible solution. Keeping it to the smallest possible positive number required minimised the distortion and also the ordinal values of the market shares remained the same. That is, it is a more reasonable assumption that a company which is reporting a loss or a negative Net Asset position has a lower relative market share, rather than a negative market share.

The second issue concerns the financial year for which companies filed their Financial Statements. In many cases, companies file their accounts for the year ended 31st December. However, this is not statutorily required and companies are free to file their accounts related to a year-end of their choice. For the companies dealt with here, there was a mixture of filing dates. Thus, if not taken into account, this would mean that we would be in effect comparing company positions at different points within the year. In the case of Total Net Assets and Tangible Assets, this was not problematic, as there is generally only a small change in these values from one year to the next. However, in the case of Stock, P&L

Account and Profit, these values do change considerably on an annual basis. Consequently, a more accurate estimate of relative market share would be achieved if we comparing company positions at the same point in time.

This issue was easily overcome for the proxies P&L Account and Profit. We have already described how the profit earned in a filing period can be deduced by subtracting last year's P&L Account from this year's. As these are cumulative figures, we were able to calculate the average profit (or loss) made per month by noting the number of months between this year's filing period and the last and dividing the annual figure by the appropriate number of months. Next the appropriate amount of months added or taken away so as to attain a value for each company as at the 31st December.

The issue of filing dates could not be resolved for the stock proxies. Unlike the P&L Account, the reported stock figure in the Abridged Balance Sheet is not an accumulated fund. Rather the stock is a description of the stock position at a moment in time, and as we do not know the breakdown of additions to and depletions of stock, we cannot get the monthly change in net stock by simply taking the difference in the stock figure from one filing period to the next and dividing this by the appropriate number of months. However, the next issue to be discussed rendered the Stock proxies unsuitable and so further steps to resolve the filing date issues were not pursued.

The third issue affected the Tangible Assets and Stock proxies. For some of the years of interest, Gowan Motors (Parkgate) Ltd. and Finglas Motors (M50) Ltd. reported a zero Tangible Asset position and/or zero Stock. Following the logic employed by this proxy, this would suggest a zero market share and consequently zero sales. This is an unrealistic assumption and highlights the limits of Tangible Assets and Stock as a proxy and the proxy estimation process in general. It was partly as a result of this issue that profit based proxies were pursued.

A fourth further issue relates to the fact that the above methodology assumes that the Citroen cartel members were engaged solely in the sale of Citroen motor vehicles. It assumes that the sole source of turnover is Citroen vehicle sales. In reality, it is quite likely that there were alternative sources of revenue, such as the sale of motor vehicle accessories or paint work. Another possible revenue source is from dealerships other than Citroen. For example, in *DPP v Duffy* (paragraph 13) we learn that the company acquired a Mazda dealership in 1998. However, we were not able to take these factors into account. It would only become an issue to the extent that Citroen dealers experience differing degrees of non-Citroen motor vehicle sales.

3. Estimating Citroen Sales in Leinster

Citroen Leinster sales figures are required to test for the most suitable the proxy (for the years 2005-2008 inclusive)⁶³ and to estimate the sales of the Citroen cartel for the period of its existence (1996 to 2003). Leinster Citroen sales figures were not available, so they had to be estimated. Broadly speaking the estimation procedure was to multiply the number of

⁶³ Since we have actual sales for some of the cartel members for these years.

new Citroen motor vehicle registrations in Leinster by a weighted average of Citroen motor vehicle prices. Motor vehicles includes cars and light commercial vehicles. We discuss registrations and then price.

Registrations

Citroen is a manufacturer of both passenger cars and light commercial vehicles (LCV). Data on *Citroen car registrations* in Leinster was available from the statistics section of the Society of the Irish Motor Industry (SIMI) website (<http://www.simi.ie/Statistics.html>). Access to the County Analysis section of this website has since been restricted to logged-in members of SIMI only, however registration data of new passenger cars on a county and car brand basis was attained before this restriction came into place. From this the number of registrations of new Citroen cars in Leinster was extracted for the years 2001 to 2003 inclusive and 2005 to 2010 inclusive. As the data set required related to the years 1996 to 2008, the missing years 1996 to 2000 and the year 2004 had to be estimated.

The missing years were estimated with reference to the registration numbers of new passenger cars of all car brands for the whole country, which were attained from the Vehicle Licensing Statistics Monthly Series (TEM02) compiled by the CSO. The registration numbers for the years 2001 to 2010 were collected. Citroen Leinster car registrations were then calculated as a proportion of the total Irish car registrations for each year. The average proportion was then calculated and applied to the Irish car registrations for the missing years so as to yield estimated Leinster Citroen car registrations for these years. As the standard deviation of the annual change in registration numbers for the years available was 0.4%, applying the average in this way was deemed appropriate.

Next the *registration figures of LCV's* were calculated. SIMI's second statistics website, Beep Beep Statistics (<http://www.beepbeep.ie/stats/>) provided registration figures for Citroen LCV's on a county basis from which Citroen registration numbers in Leinster could be extracted. However, it only provides this data for the years 2010 and 2011. While a similar procedure as the one described above could be applied in this case, wherein an average ratio of Leinster registrations to country registrations is sought, it was considered inappropriate as the sample was too small from which to extrapolate the average. Therefore a different approach was taken. The National Vehicles Section of the SIMI statistics website provides data on New Passenger Car registrations and New LCV registrations on a brand basis for the years 2000 – 2011 inclusive. From here the ratio of national Citroen car registrations to national Citroen LCV registrations was calculated for the available years. Using the assumption that the Leinster region shared the same characteristics as the national trend, this ratio was then applied to the Citroen Leinster car registrations to give the LCV equivalent. This assumption was tested by comparing the actual LCV registration number against the estimated figure for the years 2008 – 2010. The average percentage difference was 7 per cent. The average of the ratio of National Leinster Citroen Passenger Cars to National Leinster Citroen LCV's was ratio was applied to the years 1996 – 2000 in order to obtain an estimate of these years.

Price

The next step was to calculate a weighted average of the price of both Citroen cars and LCV's which could then be multiplied by the Citroen registrations of cars and light commercial vehicles, respectively. This would yield sales estimates of cars and LCV's, which summed would provide an estimate of the total Leinster Citroen sales.

SIMI compile suggested price guides which are available on the Recommended Price Guides section of their website. These guides formed the basis of the price calculations. Price guides for passenger cars were attained for the years 1999 to 2011. Price guides for the LCV ranges were available for a smaller range of years (1999, 2000, 2002 – 2004, 2008) and so some years had to be estimated. For now we will concentrate on the prices of Citroen cars and return to the issue of LCV's.

The *price guides* were broken down by *car brand or marque*. Within each brand, there was a further break-down of prices by range and model. For some years, price guides were supplied for all twelve months of the year while for others only a selection of months. For reasons of consistency and convenience, a data set of price guides for the months January, July and December was compiled for each available year. In years where price guides for one of the above months was not available, the next available month was used in its place.

The first step was to convert all price guides into euro. For the years prior to the introduction of the euro, the conversion rate of PUNT £1: €1.27 was used.

The prices listed in the price guides were the recommended retail prices for car sellers. As such, they included the portion of the price which is composed of tax. The formal term for this price is the Open Market Selling Price (OMSP) which is defined by the Revenue Commissioners as the price "inclusive of all taxes and duties, which, [...] the vehicle might reasonably be expected to fetch on a first arm's length sale thereof in the State by retail" (Revenue Commissioners, 2012a, Section 8.2.1). In order to account for this, the price guides had to be altered so to extract tax.

New cars are subject to Vehicle Registration Tax (VRT) and Value Added Tax (VAT). VRT replaced Custom duties on vehicles in 1993. Originally VRT was calculated on the basis of a vehicle's engine size. However in July 2008 this switched to a system based on a percentage of a vehicle's CO₂ emissions. The calculation of VRT for this data set (1996-2008 inclusive) reflected this change. Table A.2 below outlines the VRT rates for cars before and after the change.

Table A.2: Vehicle Registration Tax Rates, Passenger Cars, Pre and Post 2008

(1) VRT Rates pre-July 2008		
Engine Size	VRT Rate	Minimum Tax
Up to 1,400 cc	22.5% of OMSP	€315
1,401 to 1,900cc	25% of OMSP	€315
Over 1,900cc	30% of OMSP	€315
(2) Current VRT Rates		
CO₂ Emissions (g CO₂/km)	VRT Rate	Minimum Tax
0 -120g	14% of OMSP	€280
121 – 140g	16% of OMSP	€320
141 – 155g	20% of OMSP	€400
156 – 170g	24% of OMSP	€480
171 – 190g	28% of OMSP	€460
191 – 225g	32% of OMSP	€640
226g and over	36% of OMSP	€720

Source: Revenue Commissioners (2012a, Section 8, various pages).

The first set of rates was applied to the prices guides up to and including those for July 2008. The second set of VRT rates was applied to the prices guides for July and December 2008. The engine sizes and CO₂ emissions of the different models were supplied within the price guides.

Having deducted VRT, the next step was to subtract VAT from the recommended price guides. Motors vehicles are taxed at the standard rate. For the period of interest to this study, the standard VAT rate was 21 per cent for every year except 2001 when it was 20 per cent and December 2008 when it was 21.5 per cent. VAT is due on the full purchase price *received* by a dealer. This excludes VRT, as VRT is essentially paid by the dealer on the customer's behalf and accounted for in the price. Thus the VRT portion of the price is essentially a refund to the dealer, and is therefore not liable for VAT tax.

After tax deductions, the next step was to weight the price guides according to range popularity. The price guide for Citroen gave a break-down of prices for each car model. First the unweighted average price of each range was calculated. Then the ranges were weighted according to the sales of each price range. The rationale behind this is that if the same weight was given to the a car range that sold considerably less, compared to a car range that sold more units, than the average price obtained would be a less accurate estimate of the value of sales.

The popularity weights were chosen with reference to data supplied on SIMI's second statistics website, Beep Beep Statistics (<http://www.beeper.ie/stats/>). This gave the 10 most popular ranges of Citroen for the years 2007 - 2011 and their associated percentage market share of Citroen registrations. For the years 2007 and 2008, the average Citroen price was attained by only including those ranges which ranked 10 per cent or higher of the Citroen market share. For the years 1996 to 2006 inclusive, two assumptions were made to allow for calculation of the weights, given the absence of range popularity data for these years. First, it was assumed that the average of the market shares of the ranges of the years available would provide a reasonable estimation of the market share for the years for which

data was not available. The second assumption relates to the issue that the three of the four Citroen ranges to rank on average over 10% of the market share (C3, C4, C5) were introduced during the period 1996 – 2008. The C3 replaced the Saxo, the C4 replaced the Xsara and the C5 replaced the Xantia. It was assumed that the popularity of these ranges would be a reasonable reflection of the popularity of the ranges they replaced, thus allowing us to apply the average popularity market shares to the predecessor ranges.

Next the weighted price guides for the months January, July and Dec of each of the relevant years were averaged so as to yield average weighted price levels for Citroen cars for the years 1999 - 2008. To attain an estimate of the average weighted price levels for the years 1996, 1997 and 1998, the average annual change of the following five years (for which prices were available) was calculated and applied to the missing years. As the standard deviation of the annual change for these five years was 5 per cent this was deemed appropriate.

We now turn our attention to the *LCV price calculations*. For the most part, this process mirrored that of the Citroen cars, although some changes were necessary in light of the smaller sample of data available for the LCVs. As with the cars, the SIMI price guides formed the basis of the calculations.

The first step was to construct a data set of the price guides for the time period of interest (1996 – 2008). In contrast to the car price guides, where the majority of years contained a price guide for each month, the price guides for the LCVs were sometimes supplied as stand-alone annual price guide, or alternatively were supplied at the end of the car price guide for a particular month or a set of months within a year. Consequently, it was not possible to construct a uniform data set of price guides for the months of January, July and December, as was possible in the case of the car calculations. Instead, an alternative approach was taken. In cases where a stand-alone price guide was available, this was taken as the annual price level. In cases where the LCV price guide was supplied at the end of a monthly car price guide, this was taken as representative of the appropriate year's price level. In cases where two or more LCV price guides were supplied within a year, the average price level (calculated after VRT, VAT and popularity adjustments were made) was taken to represent the annual price level. This resulted in a set of price guides for the set of years 1999, 2000, 2002 – 2004, 2008. The remaining years had to be estimated, detailed below. For the pre-euro price guides, the conversion rate of IR£1: €1.27 was employed.

The VRT calculations in the case of LCVs were simpler than those necessary for the cars. LCVs are defined as category B vehicles and thus are subject to a flat VRT rate of 13.3 per cent of the Open Market Selling Price, (with a minimum tax of €125), under both the cc and the CO₂ based systems (Revenue Commissioners, 2012b, Part 2, s8). VAT was subtracted at 21 per cent, consistent with the approach used to adjust car prices.

The next step was to weight the price guides so as to adjust for differences in the sales or popularity of LCVs. The same methodology was used as was applied to cars. The unweighted average price of each Citroen LCV range was calculated. The range averages were then weighted, from which an overall LCV price was obtained. SIMI provided data on LCV Citroen range popularity only for the years 2010 and 2011. As with the car popularity weighting, it was assumed that the average of the market shares of the ranges of the years

available would provide an estimation of the market share for the years for which the data was unavailable, although it must be acknowledged that this was a less than desirable assumption in the LCV case, given the small sample size of car popularity data. The ranges which had averages which ranked 10% or higher were the Citroen Berlingo (not to be confused with the Citroen Berlingo Multispace, which was classified as a car), and the Citroen Nemo. The latter was introduced in 2007. In contrast to the car calculations, where the assumption was made that the popularity of a range would be a reasonable reflection of the popularity of the range it replaced, the Nemo was a joint-development between Fiat, PSA Peugeot Citroen and Tofas (Marsh, 2007), and thus did not directly replace another range, meaning that the same assumption could not be made. Consequently, the price guides for the years prior to 2007 were weighted by in effect only including the average of the Berlingo range.

The result of the above calculations was a data set of VRT, VAT and popularity adjusted annual LCV prices for the set of years 1999, 2000, 2002 – 2004, and 2008. The next and final step was to estimate the missing years required (i.e., 1996-1998, 2001, and 2005-2007). In the case of the Citroen cars, missing years were estimated based on the average price change for the subsequent five years, for which data was available. A different approach was employed for the LCVs because the substantial gaps between the years for which data was available it was not possible to estimate a reliable annual percentage change. In lieu of this option, the second best approach was deemed to be the use of the average of the prices levels which were available as an estimate for the price levels of the missing years.

Having obtained estimates of the prices of Citroen cars and LCVs for the years required, these figures were then multiplied by the estimates of the Citroen Leinster registrations of cars and LCVs respectively, so as to obtain estimated Citroen Leinster sales. Next the volume of commerce proxy was employed to apportion each company a percentage of the Leinster sales, resulting in an estimate of each company's yearly sales for the period of interest. The final step in estimating the volume of commerce was related to when periods of convicted cartel activity began or ended during the middle of a year. In these cases, annual sales were multiplied by the appropriate percentage of the year to which the cartel activity related.

4. Choosing a proxy

Although sales figures were not available for the years of cartel activity (1996-2003), sales figures for some of the companies for 2005 to 2008 inclusive are available from a variety of sources including newspaper reports and the Duffy judgment. These sales data are presented in Table A.3 in the panel "Correct Value." The corresponding estimated sales, using the proxies described in Section 2, and the methodology for estimating Citroen sales in Leinster, described in Section 3, are then estimated. Using Total Net Assets (TNA) as an example, the estimated sales of the i_{th} member of the Citroen cartel in year z are equal to:

$$E(\text{Sales})_{iz} = (\text{TNA of } i_{th} \text{ Citroen member in year } z / \text{TNA of all Citroen members in year } z) \times (\text{Sales of all Citroen motor vehicles in Leinster in year } z).$$

In order to select the best proxy we compute

$M(\text{Accurate})_{iz} = \text{Absolute Value of } [A(\text{Sales})_{iz} - E(\text{Sales})_{iz}] / A(\text{Sales})_{iz}$ for each of the proxies set out above from Total Net Assets to Stocks, where $A(\text{Sales})$ represents actual sales.

The criteria used to compare the accuracy of the proxies were the mean and coefficient of variation of $M(\text{Accurate})_{iz}$. Table A.3 below shows the full set of results, while Table A.4 summarises the findings.

Table A.3: Estimating the Value of Sales of Selected Citroen Members, by Proxy, Various Years

Correct Value			Estimator based on:		
Company	Year	Sales	Total Net Assets	Difference	% (Absolute) Difference
Ravenslodge Trading Ltd. TA	2006	6,500,000	3,898,988.32	2,601,011.68	0.40
Jack Doran Motors	2005	5,500,000	2,534,685.49	2,965,314.51	0.54
Duffy Motors (Newbridge) Ltd	2008	8,875,909	11,363,220.32	- 2,487,311.32	0.28
	2007	9,870,457	10,901,297.87	- 1,030,840.87	0.10
Bursey Peppard Ltd.	2008	3,200,000	1,333,784.76	1,866,215.24	0.58
	2007	3,200,000	890,300.51	2,309,699.49	0.72
	2006	8,266,667	929,794.61	7,336,872.39	0.89
Gowan Motors (Parkgate) Ltd.	2007	15,000,000	8,095,638.65	6,904,361.35	0.46
			StDev	3,396,876.67	0.25
			Mean	2,558,165.31	0.50
			Coeff of Variation	1.33	0.50

Estimator based on:			Estimator based on:		
Tangible Assets	Difference	% (Absolute) Difference	Stock	Difference	% (Absolute) Difference
7,717,439.13	- 1,217,439.13	0.19	7,273,177.61	- 773,177.61	0.12
7,049,651.88	- 1,549,651.88	0.28	7,671,663.91	- 2,171,663.91	0.39
20,169,244.96	- 11,293,335.96	1.27	8,990,582.76	- 114,673.76	0.01
9,103,479.49	766,977.51	0.08	8,028,119.44	1,842,337.56	0.19
169,701.09	3,030,298.91	0.95	1,717,786.42	1,482,213.58	0.46
407,043.15	2,792,956.85	0.87	1,633,904.40	1,566,095.60	0.49
604,832.35	7,661,834.65	0.93	4,232,460.49	4,034,206.51	0.49
-	15,000,000.00	1.00	-	15,000,000.00	1.00
StDev	7,595,581.95	0.44	StDev	5,348,236.41	0.31
Mean	1,898,955.12	0.70	Mean	2,608,167.25	0.39
Coeff of Variation	4.00	0.64	Coeff of Variation	2.05	0.78

Estimator based on:			Estimator based on:		
Stocks as % of Turnover (CSO) (1)	Difference	% (Absolute) Difference	Stocks as % of Turnover (CSO) (2)	Difference	% (Absolute) Difference
4,673,559.13	1,826,440.87	0.28	4,608,087.58	1,891,912.42	0.29
4,002,945.48	1,497,054.52	0.27	3,946,868.51	1,553,131.49	0.28
7,548,213.82	1,327,695.18	0.15	7,442,471.44	1,433,437.56	0.16
6,898,183.13	2,972,273.87	0.30	6,801,546.98	3,068,910.02	0.31
1,442,200.08	1,757,799.92	0.55	1,421,996.40	1,778,003.60	0.56
1,403,936.73	1,796,063.27	0.56	1,384,269.08	1,815,730.92	0.57
2,719,671.57	5,506,995.43	0.67	2,681,571.89	5,545,095.11	0.67
0.00	15,000,000.00	1.00	0.00	15,000,000	1.00
StDev	4,664,913.20	0.28	StDev	4,644,198.52	0.27
Mean	3,960,540.38	0.47	Mean	4,010,777.64	0.48
Coeff of Var	0.85	0.59	Coeff of Variation	0.86	0.57

(1) Using 2008 Ratio for all years

(2) Using average of 2008-2010 Ratios

Estimator based on:			Estimator based on:		
P&L Account	Difference	% (Absolute) Difference	Profit	Difference	% (Absolute) Difference
4,771,362.55	1,728,637.45	0.27	8,538,410.38	- 2,038,410.38	0.31
3,987,169.16	1,512,830.84	0.28	7,415,046.03	- 1,915,046.03	0.35
11,097,340.48	- 2,221,431.48	0.25	5,200,272.75	3,675,636.25	0.41
10,286,154.54	- 415,697.54	0.04	5,024,906.27	4,845,550.73	0.49
395,699.03	2,804,300.97	0.88	5,027,858.67	- 1,827,858.67	0.57
913,843.59	2,286,156.41	0.71	4,438,488.87	- 1,238,488.87	0.39
2,281,711.42	5,944,955.58	0.72	8,161,829.57	64,837.43	0.01
6,247,657.15	8,752,342.85	0.58	6,451,390.40	8,548,609.60	0.57
StDev	3,452,562.84	0.30	StDev	3,963,788.06	0.18
Mean	2,549,011.89	0.47	Mean	1,264,353.76	0.39
Coeff of Variation	0.74	0.63	Coeff of Variation	0.32	0.47

Source: CRO, Abridge Balance Sheets, various companies and years, and sources to Table A.1.

Table A.4: Summary of Mean and Coefficient of Variance of Using Different Proxies to Measure Market of Citroen Vehicle Sales

Proxy	% Mean	% Coefficient of Variation
Total Net Assets	0.50	0.50
Tangible Assets	0.70	0.64
Stock	0.39	0.78
Stocks as % of Turnover (CSO) (1)	0.47	0.59
Stocks as % of Turnover (CSO) (2)	0.48	0.57
P&L Account	0.47	0.63
Profit	0.39	0.47

For details of the proxy and the estimation procedures see text and Table A.3.

Source: Table A.3.

As we can see from Table A1.4, the Profit proxy has both the lowest percentage mean and percentage coefficient of variation, of 39 per cent and 47 per cent, respectively. Moreover, we have already discussed why Tangible Assets and Stock were deemed unsuitable proxies. The high percentage coefficients of variation of these proxies reflect the lack of prediction power. Thus Profit was selected as the most appropriate proxy of market share available and was used in the estimation of sales of the Citroen cartel members.

5. Conclusion

This appendix has outlined the processes employed to estimate sales of Citroen cartel members. The final step in estimating the volume of commerce was related to when periods that the cartel members were convicted of breaching competition law by being involved in the cartel. Typically, as shown in Table A.1 the period did not begin or end to coincide with the calendar year. Often the period began and/or ended during the middle of a year. In these cases, annual sales were multiplied by the appropriate percentage of the year to which the cartel activity related.

This appendix highlights the numerous assumptions which were required to estimate sales, and thus volume of commerce. While this limits the predictive power of the estimates, it must be remembered that the Sentencing Guidelines are based on categories. Thus a higher margin of error is catered for, as the volume of commerce may fall into the correct category, even if the point estimate is under- or overestimated.

Appendix B

Applying the Sentencing Guidelines to the Citroen Case

6. Introduction

This appendix outlines the steps which were taken to apply the Sentencing Guidelines to the Citroen case. We first apply the Sentencing Guidelines to the individual, fines and then imprisonment, before turning our attention to the firm. Attention then turns to testing the sensitivity and robustness of these estimates

7. Sentencing Individuals: Fines

The Sentencing Guidelines set out a fine range of 1 percent to 5 per cent of the volume of commerce, subject to a minimum fine of \$20,000. The volume of commerce was estimated using the methodology set out in Appendix A. To apply the Sentencing Guidelines it is necessary to convert the \$20,000 to euros. This was done using Purchasing Power Parity (PPP) exchange rates., based on those estimated by Eurostat.⁶⁴ The year in which the defendant was sentenced determined which annual PPP exchange rate was selected. For the defendants sentenced in 2008, the exchange rate used was €1: \$0.630686, and for defendants sentenced in 2009 the exchange rate used was €1: \$0.700868. Table B.1 below sets out the derivation of the fines for individuals in the Citroen case.

Table B.1: Fines in the Citroen Case: Applying the Sentencing Guidelines, Fines, by Individual Defendant

Defendant	Volume of Commerce	Range		Minimum Fine	US Sentencing Guideline Range/Value
		1%	5%		
James Durrigan	€ 31,503,556	€ 315,036	€ 1,575,178	€ 31,712	€ 315,036 – 1,575,178
Jack Doran	22,679,971	226,800	1,133,999	31,712	226,800 – 1,133,999
Patrick Duffy	35,085,083	350,851	1,754,254	28,536	350,851 - 1,754,254
James Bursey	48,620,214	486,202	2,431,011	28,536	486,202 - 2,431,011
Bernard Byrne	13,088,611	130,886	654,431	28,536	130,886 - 654,431
Michael Patrick Gibbs	32,512,808	325,128	1,625,640	28,536	325,128 - 1,625,640
Brian Smyth	27,904,142	279,041	1,395,207	28,536	279,041 - 1,395,207
John McGlynn	183,490,243	1,834,902	9,174,512	28,536	1,834,902-9,174,512

Source: Sentencing Commission (2011, Section 2R1.1, pp. 311-314) and Appendix A.

8. Sentencing Individuals: Jail

The methodology of the calculation employed to estimate the prison sentences of the individuals involved in the Citroen case is set out in Table B.2, using John McGlynn as an illustration. The application of the Sentencing Guidelines was the same for each of the other

⁶⁴ <http://epp.eurostat.ec.europa.eu/tgm/table.do?tab=table&init=1&plugin=1&language=en&pcode=tsier010>

defendants, except that they did not have a four point increase to their Offence Level in relation to the Aggravating Role Category, as they did not play an organising role in the cartel.

Table B.2: Imprisonment in the Citroen Case: Applying the Sentencing Guidelines to Jail Terms, John McGlynn

	Sentencing Guideline	Ref	Further Details	Guideline Instructions	Calculations	
Base Level	Base Offence Level	2R1.1(a)		12		12
	Participation in an agreement to submit non-competitive bids?	2R1.1(b)(1)	-	plus 1	0	
Adjustments	Volume of Commerce Calculation	2R1.1(b)(2)	Table given which corresponds Volume of Commerce to instructions re. adjustment to Offence Level using total value of sales	See Table 2 (main text)	8	
	Aggravating Role	3B1.1(a)	Was the defendant an organiser or leader of a criminal activity that involved 5 or more participants?	plus 4	4	
	Acceptance of responsibility	3B1.1(b)	Was the defendant a manager or supervisor (but not an organiser or leader) and the criminal activity involved 5 or more participants?	plus 3	0	
		3B1.1(c)	Was the defendant an organiser, leader, manager, or supervisor in any criminal activity other than described above?	plus 2	0	
		3E1.1	Does the defendant clearly demonstrate acceptance of responsibility for his offence? For a non-exhaustive list of appropriate considerations which may be included, see USSG 18 U.S.C. §3E1.1 Commentary	minus 2	-2	
			If the defendant qualifies for (a) above, the offence level determined prior to the operation of subsection (a) is level 16 or greater, and upon motion of the government stating that the defendant has assisted authorities in the investigation or prosecution of his own misconduct by timely notifying authorities of his intention to enter a plea of guilty, thereby permitting the government to avoid preparing for trial and permitting the government and the court to allocate their resources efficiently, decrease the offence level by 1 additional level	minus 1	-1	9
						21
Criminal History Category	4A1.1	Points are allocated on an increasing scale in accordance with the number of prior years spent in prison by the defendant			0	
Sentencing Table	Ch: 5 Part A	Table given which corresponds Offence Level with Criminal History Category to give Sentencing Guideline prison sentence	See Table 4 (main text)		37-46 months	

Source: Sentencing Commission (2011, Sections: 2R1.1, 3B1.1-3B1.3, 3E1.1, 4A1.1, Ch: 5 Part A, pp. 311-314, 350-379, 380-394, 406-408) and Appendix A.

The volume of commerce shown in Table B.2 makes use of a table which allocates adjustments to the defendant's Offence Level according to different volume of commerce ranges as discussed in Section 3 of the paper. These ranges are expressed in dollars, while the volume of commerce calculations presented in Appendix A were made for the Citroen cartel members were denominated in euro. The the euro denominated volume of commerce values were converted into dollar values in order to attain the correct adjustment to the Offence Level. The Purchasing Power Parity (PPP) Exchange Rates were used, so that a more appropriate comparison, which takes into account differences in purchasing power, could be obtained. These PPP exchange rates were available from EuroStat. Each year's sales were converted into dollars using the appropriate PPP exchange rate and the total was attained by summing the years.

9. Sentencing Firms: Fines

The methodology for the setting fines organisations involved in the Citroen cartel is set out in Table B.3, using Duffy Motors (Newbridge) Ltd. A similar calculation process was employed for the other companies.

Table B.3: Fines in the Citroen case, Applying the Sentencing Guidelines, Fines, Duffy Motors (Newbridge) Ltd.

	Sentencing Guideline	Ref	Further Details	Guideline Instructions	Calculations
Base level	Base Fine: 20% of Volume of Commerce	2R1.1(d)(1)		-	7,017,016.64
Culpability Adjustments	<i>Note Statutory Minimum 0.75, Statutory Maximum 4</i>				
	Start with 5 points	8C2.5(a)	-	5	5
	Involvement in or Tolerance of Criminal Activity	8C2.5(b)(1)	If the organisation had 5,000 or more employees...	plus 5	0
		8C2.5(b)(2)	If the organisation had 1,000 or more employees...	plus 4	0
		8C2.5(b)(3)	If the organisation had 200 or more employees...	plus 3	0
		8C2.5 (4)	If the organisation had 50 or more employees and an individual within substantial authority personnel participated in, condoned, or was wilfully ignorant of the offence	plus 2	0
		8C2.5(5)	If the organisation had 10 or more employees and an individual within substantial authority personnel participated in, condoned, or was wilfully ignorant of the offence	plus 1	1
	Self Reporting, Cooperation, and Acceptance of Responsibility (if more than one applies, use the greatest)	8C2.5(g)(2)	If the organisation fully cooperated in the investigation and clearly demonstrated recognition and affirmative acceptance of responsibility for its criminal conduct	minus 2	-2
		8C2.5(g)(3)	If the organisation clearly demonstrated recognition and affirmative acceptance of responsibility for its criminal conduct	minus 1	0
	Culpability Score				4
Minimum and Maximum Multipliers	8C2.6			0.8 1.6	
Guideline Fine Range (7,017,016.64*0.8) - (7,017,016.64*1.6)				5,613,613 - 11,227,227	

Source: Sentencing Commission (2011, Sections: 2R1.1, 8C2.5, 8C2.6., pp. 311-314, 524-531), Appendix A and Duffy Motors (Newbridge) Ltd. (2009).

Employee numbers are recorded as a note in the Financial Statements, but were not included in any of the Abridged Balance Sheets of the companies involved in the Citroen case. However, Duffy Motors (Newbridge) Ltd. filed the full set of Financial Statements in 2008, perhaps because of a late filing the previous financial period. From this we learnt that the average monthly number of employees at Duffy Motors (including the directors) during 2008 was 25 and during 2007 was 27. While this is the employee number for the whole of Duffy Motors' operations, and not just those involved in selling Citroen vehicles, this is the smallest category of staff used in the Sentencing Guidelines, so it is irrelevant if the staff numbers which applies only to Citroen is smaller. This number was assumed to adequately reflect the size of the company for the remaining years. It was also assumed that the rest of the Citroen cartel companies also fell into the range of having between ten and fifty employees, resulting in a positive adjustment of one point to the respective culpability scores.

10. Sensitivity of the Results

The estimates presented earlier in this section are based on the assumption that the Citroen cartel members that were convicted of breaching competition law in Leinster accounted for all Citroen motor vehicle sales in that geographic area. However, since the cartel member that became an immunity witness is omitted from consideration, the volume of commerce of the Citroen cartel members that were convicted is biased upwards, resulting in Sentencing Guideline jail terms and fines that are also likely to be biased upward. To take this into account it was assumed that the Citroen cartel members that were convicted of breaching competition law accounted for 95 per cent, 90 per cent and 80 per cent of the sales of Citroen motor vehicles in Leinster. The volume of commerce for each cartel member that was convicted was then recalculated and the Sentencing Guidelines applied to these new estimates. The results are presented below. Table B.4 to B.6 refer to fines for individuals, Table B.7 to B.9 refers to jail sentences for individuals, and Tables B.10 to B.12 refer to fines for firms. The results do not change dramatically compared with those reported in the text in Tables 7 to 9.

Table B.4: Fines in the Citroen Case: Sentencing Guidelines and Irish Courts, by Individual Defendant, Assuming the Convicted Cartel Members Accounted for 95 per cent of Citroen Leinster Sales

Defendant	Sentencing Guideline Range	Irish Court Sentence	Difference
	€	€	€
James Durrigan	299,284 - 1,496,419	0	299,284
Jack Doran	215,460 - 1,077,299	0	215,460
Patrick Duffy	333,308 - 1,666,541	50,000	283,308
James Bursey	461,892 - 2,309,460	80,000	381,892
Bernard Byrne	124,342 - 621,709	2,000	122,342
Michael Patrick Gibbs	308,872 - 1,544,358	30,000	278,872
Brian Smyth	265,089 - 1,325,447	30,000	235,089
John McGlynn	1,743,157 - 8,715,787	30,000	1,713,157

Source: See text.

Table B.5: Fines in the Citroen Case: Sentencing Guidelines and Irish Courts, by Individual Defendant Assuming the Convicted Cartel Members Accounted for 90 per cent of Citroen Leinster Sales

Defendant	Sentencing Guideline Range	Irish Court Sentence	Difference
	€	€	€
James Durrigan	283,532 - 1,417,660	0	283,532
Jack Doran	204,120 - 1,020,599	0	204,120
Patrick Duffy	315,766 - 1,578,829	50,000	265,766
James Bursey	437,582 – 2,187,910	80,000	357,582
Bernard Byrne	117,797 - 588,987	2,000	115,797
Michael Patrick Gibbs	292,615 - 1,463,076	30,000	262,615
Brian Smyth	251,137 – 1,255,686	30,000	221,137
John McGlynn	1,651,412 - 8,257,061	30,000	1,621,412

Source: See text.

Table B.6: Fines in the Citroen Case: Sentencing Guidelines and Irish Courts, by Individual Defendant, Assuming the Convicted Cartel Members Accounted for 80 per cent of Citroen Leinster Sales

Defendant	Sentencing Guideline Range	Irish Court Sentence	Difference
	€	€	€
James Durrigan	252,028 - 1,260,142	0	252,028
Jack Doran	181,440 - 907,199	0	181,440
Patrick Duffy	280,681 - 1,403,403	50,000	230,681
James Bursey	388,962 - 1,944,809	80,000	308,962
Bernard Byrne	104,709 - 523,544	2,000	102,709
Michael Patrick Gibbs	260,102 - 1,300,512	30,000	230,102
Brian Smyth	223,233 - 1,116,166	30,000	193,233
John McGlynn	1,467,922 - 7,339,610	30,000	1,437,922

Source: See text.

Table B.7: Imprisonment in the Citroen Case: Sentencing Guidelines and Irish Courts, by Individual Defendant, Assuming the Convicted Cartel Members Accounted for 95 per cent of Citroen Leinster Sales

Defendant	Sentencing Guideline Range	Irish Court Sentence
James Durrigan	12-18 months	3 months - suspended for 2 years
Jack Doran	12-18 months	3 months - suspended for 5 years
Patrick Duffy	12-18 months	6 months and 9 months - suspended for 5 years
James Bursey	12-18 months	6 months and 9 months - suspended for 5 years 28 days (imposed for non-payment of fine)
Bernard Byrne	12-18 months	9 months - suspended for 1 year
Michael Patrick Gibbs	12-18 months	6 months - suspended for 3 years
Brian Smyth	12-18 months	6 months - suspended for 3 years
John McGlynn	37-46 months	6 months and 9 months - suspended for 5 years

Source: See text.

Table B.8: Imprisonment in the Citroen Case: Sentencing Guidelines and Irish Courts, by Individual Defendant, Assuming the Convicted Cartel Members Accounted for 90 per cent of Citroen Leinster Sales

Defendant	Sentencing Guideline Range	Irish Court Sentence
James Durrigan	12-18 months	3 months - suspended for 2 years
Jack Doran	12-18 months	3 months - suspended for 5 years
Patrick Duffy	12-18 months	6 months and 9 months - suspended for 5 years
James Bursey	12-18 months	6 months and 9 months - suspended for 5 years 28 days (imposed for non-payment of fine)
Bernard Byrne	12-18 months	9 months - suspended for 1 year
Michael Patrick Gibbs	12-18 months	6 months - suspended for 3 years
Brian Smyth	12-18 months	6 months - suspended for 3 years
John McGlynn	37-46 months	6 months and 9 months - suspended for 5 years

Source: See text.

Table B.9: Imprisonment in the Citroen Case: Sentencing Guidelines and Irish Courts, by Individual Defendant, Assuming the Convicted Cartel Members Accounted for 80 per cent of Citroen Leinster Sales

Defendant	Sentencing Guideline Range	Irish Court Sentence
James Durrigan	12-18 months	3 months - suspended for 2 years
Jack Doran	12-18 months	3 months - suspended for 5 years
Patrick Duffy	12-18 months	6 months and 9 months - suspended for 5 years
James Bursey	12-18 months	6 months and 9 months - suspended for 5 years 28 days (imposed for non-payment of fine)
Bernard Byrne	10-16 months	9 months - suspended for 1 year
Michael Patrick Gibbs	12-18 months	6 months - suspended for 3 years
Brian Smyth	12-18 months	6 months - suspended for 3 years
John McGlynn	37-46 months	6 months and 9 months - suspended for 5 years

Source: See text.

Table B.10: Fines in the Citroen Case: Sentencing Guidelines and Irish Courts, by Undertaking Defendant, Assuming the Convicted Cartel Members Accounted for 95 per cent of Citroen Leinster Sales

Undertaking	Sentencing Guideline Range	Irish Court Sentence	Difference
	€	€	€
James Durrigan and Sons Ltd.	4,788,541 – 9,577,081	12,000	4,776,541
Ravenslodge Trading Ltd. t/a Jack Doran Motors	3,447,356 – 6,894,711	20,000	3,427,356
Duffy Motors (Newbridge) Ltd.	5,332,933 – 10,665,865	50,000	5,282,933
Bursey Peppard Ltd.	7,390,272 – 14,789,545	80,000	7,310,272
Finglas Motors (M50) Ltd.	1,989,469 – 3,987,938	35,000	1,954,469
Gowan Motors (Parkgate) Ltd.	4,941,947 – 9,883,894	30,000	4,911,947

Source: See text.

Table B.11: Fines in the Citroen Case: Sentencing Guidelines and Irish Courts, by Undertaking Defendant, Assuming the Convicted Cartel Members Accounted for 90 per cent of Citroen Leinster Sales

Undertaking	Sentencing Guideline Range	Irish Court Sentence	Difference
	€	€	€
James Durrigan and Sons Ltd.	4,536,512 – 9,073,024	12,000	4,524,512
Ravenslodge Trading Ltd. t/a Jack Doran Motors	3,265,916 – 6,531,832	20,000	3,245,916
Duffy Motors (Newbridge) Ltd.	5,052,252 – 10,104,504	50,000	5,002,252
Burseay Peppard Ltd.	7,001,312 – 14,002,622	80,000	6,921,312
Finglas Motors (M50) Ltd.	1,884,760 – 3,769,520	35,000	1,849,760
Gowan Motors (Parkgate) Ltd.	4,681,844 – 9,363,689	30,000	4,651,844

Source: See text.

Table B.12: Fines in the Citroen Case: Sentencing Guidelines and Irish Courts, by Undertaking Defendant, Assuming the Convicted Cartel Members Accounted for 80 per cent of Citroen Leinster Sales

Undertaking	Sentencing Guideline Range	Irish Court Sentence	Difference
	€	€	€
James Durrigan and Sons Ltd.	4,032,455 – 8,064,910	12,000	4,020,455
Ravenslodge Trading Ltd. t/a Jack Doran Motors	2,903,036 – 5,806,073	20,000	2,883,036
Duffy Motors (Newbridge) Ltd.	4,490,891 – 8,981,781	50,000	4,440,891
Burseay Peppard Ltd.	6,223,387 – 12,446,775	80,000	6,143,387
Finglas Motors (M50) Ltd.	1,675,342 – 3,350,684	35,000	1,640,342
Gowan Motors (Parkgate) Ltd.	4,161,639 – 8,323,279	30,000	4,131,639

Source: See text.

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