Implications of the de-merger of the former Aer Rianta for the regulation of airport charges in Ireland

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Contents

Executive Summary

1. Currently, airport charges at the three major airports, Dublin, Cork and Shannon, are regulated by the Commission for Aviation Regulation (CAR). Up until 1st October 2004, these three airports were owned and operated by the former Aer Rianta (ART). Pursuing the goal of promoting economic efficiency in line with its statutory obligations, in 2001 CAR imposed a company-wide price cap on ART (limiting the maximum revenue per passenger that the firm is allowed to earn) and a sub-cap on Dublin.

2. Pursuant to the provisions of the State Airports Act 2004 (the 2004 Act) and with effect from the Dublin Appointed Day (1st October 2004), all of ART's assets and liabilities have been transferred to the newly-created Dublin Airport Authority (DAA). Despite the creation of Cork Airport Authority (CAA) and Shannon Airport Authority (SAA) as separate and independent companies under the Companies Acts, DAA will, in addition to having the same responsibilities for Dublin airport, be responsible for the operation of, and for all assets and liabilities in relation to, Cork and Shannon airports, pending the Shannon and Cork Appointed Days. CAA and SAA are principally charged with developing business plans for Cork and Shannon airports respectively. The assets and liabilities that are currently ascribed to the DAA will only be legally allocated across the three new entities if the Ministers for Finance and Transport approve all three business plans, at the relevant time i.e. not earlier than April 2005. CAR is charged with making a determination in respect of airport charges at Dublin airport (which is the only airport in Ireland that will continue to be subject to economic regulation through CAR) within 12 months of the Dublin Appointed Day.

3. CAR's regulation of DAA (and, previously, ART), including the determination of the Dublin sub-cap, is based on the principle that economically efficient charges reflect underlying costs. It is based on a model that calculates maximum allowable revenues from regulated activities taking account of capital cost (the return on an efficient asset base and depreciation), operating cost, tax liability and gross commercial revenues and then divides this by the expected number of passengers. As is common regulatory practice, the model does not consider the way in which the regulated business is financed other than through its impact on the appropriate cost of capital to be used in the calculation of capital costs.

4. Even after the former ART's assets and liabilities have actually been allocated to DAA, CAA and SAA respectively (i.e. after the Cork and Shannon Appointed Days), the proposed de-merger of what is now DAA's business will not necessarily affect the assets used in the provision of airport services at Dublin. Similarly, the de-merger may not be expected to have a significant impact on operating costs incurred, and gross commercial revenues earned at Dublin airport. For example, DAA's tax liability may decrease as a result of it being responsible for interest payments on all of ART's historic debt. The impact of the increased gearing on the weighted average cost of capital (WACC) of the new DAA is unclear at present and it is possible that the WACC could either increase or decrease as a result of the

restructuring. It is also not clear that any such changes in the WACC would have a material impact on the current price cap on Dublin.

5. From a purely economic perspective, there are some obvious arguments to suggest that, in making a new determination, CAR may not need to concern itself with decisions on the particular allocation of assets and liabilities. More specifically, given CAR's objective to promote economic efficiency, it should aim to provide incentives to ensure that decisions about financial restructuring result in an efficient allocation of assets and liabilities, i.e. one that achieves a financial structure that minimises the costs incurred by the regulated firm. In order to achieve this, CAR does not, in our view, necessarily have to consider adjusting its regulated charges in light of particular restructuring decisions. This conclusion would emulate the constraints provided by a competitive market, where the price a firm can charge would not be affected by how it decided to finance its business, and where therefore decisions about financial structure (and restructuring) would be made in the expectation of a level of prices that reflect efficiently incurred costs.

1 Introduction and background

6. Pursuant to the Aviation Regulation Act 2001 (the 2001 Act) airport charges[1] at the three major airports in Ireland[2], which until 1st October 2004 have been owned and operated by Aer Rianta cpt (ART), are subject to regulatory oversight by the Commission for Aviation Regulation (CAR). Under Section 32 of the 2001 Act, a determination made by CAR may provide for an overall limit on the level of airport charges, specific limits on particular categories of charges, or a combination of both.

7. Prior to making its initial Determination, CAR consulted on how best to approach the regulation of airport charges, bearing in mind its statutory objectives and the specified factors to which it had to have regard, as set out in Section 33 of the 2001 Act.[3] Arising from this, CAR concluded that it could best achieve its objectives by adopting a methodology that aimed to achieve economic efficiency. In line with economic theory, regulatory practice and following extensive public consultation, CAR implemented incentive regulation in the form of a price cap.

8. More specifically, CAR's first determination in 2001 prescribed the maximum average yield per passenger (or the maximum yield per tonne for charges in respect of services supplied in connection with the transport of cargo) that could be derived from charges levied at the three airports, with a separate maximum average yield that could be derived from charges levied at Dublin airport alone.[4] For 2001, these figures were set at fixed amounts, with CPI-X price caps (i.e. an overall cap and a sub-cap for Dublin) put in place for subsequent years, up to 2006.

9. CAR has so far altered its original 2001 Determination on two occasions, as follows:

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[1] Airport charges as defined by the Air Navigation and Transport (Amendment) Act 1998 are charges levied for aircraft landing, taking off, or parking, the use of airbridges, for arriving and departing passengers, and for the handling of cargo, but exclude charges for air navigation and aeronautical communication services. Some of the latter charges (namely terminal service charges) are also regulated by CAR.

[2] Pursuant to the provisions of the Aviation Regulation Act 2001, regulation by CAR applies to airport charges levied by an airport authority at any airport in Ireland open to commercial traffic and with a passenger throughput in excess of 1 mppa. At present, this means that airport charges at Dublin, Cork and Shannon airports are subject to regulatory oversight by CAR.

[3] Economic Regulation of Airport Charges in Ireland (CP2/2001), CAR Consultation Paper, February 2001.

[4] There is also a separate sub-cap for off-peak take-off and landing charges at Dublin airport.

- The first alteration (concluded in February 2002) arose from the decision by the Aviation Appeals Panel, following an appeal against the 2001 Determination, to refer the original Determination back to CAR for reconsideration.[5] This resulted in CAR varying its original Determination, with retrospective effect back to September 2001.
- CAR undertook a review of its Determination, completed in March 2004, arising from (a) the changed circumstances in the aviation sector following the 9/11 attacks and (b) new information that became available to CAR in the course of Aer Rianta's legal action.[6]

10. The 2002 Agreed Programme for Government contained a commitment to continue to transform Aer Rianta and to ensure that Shannon and Cork airports were given greater autonomy and independence. Pursuant to this policy, the Minister for Transport announced in July 2003 that the Government had decided to establish, under continuing State ownership, three separate, independent boards for Dublin, Cork and Shannon airports, each of which would be directly accountable to him.

11. According to the Minister's July 2003 Statement[7], the policy rationale for this decision was that, by splitting ART's operations in this way, the three airports would be able to compete with each other and would be free to pursue vigorously new business opportunities. The status quo was rejected as one of an ongoing monopoly with attendant restriction on choice and growth. The option of privatisation was also ruled out, as it was felt that this would simply involve replacing a public monopoly with a private one.

12. Legislation, in the form of the State Airports Act 2004, was passed by the Oireachtas and signed into law in July 2004. This Act provides the legislative basis for the restructuring of ART and the establishment of three separate, independent State-owned airport authorities at Dublin, Cork and

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[5] The 2001 Act provides for appeals by aggrieved parties to an Aviation Appeals Panel against Determinations made by CAR. Following the 2001 Determination, five parties petitioned the Minister and an Aviation Appeals Panel was constituted to consider their objections to the Determination. The five parties to appeal the Determination were Aer Lingus, Air Contractors (Ireland) Limited, the Association of Flying Groups at Dublin Airport, British Midland and Ryanair. The Panel published its decision in January 2002 and, in doing so, referred a number of aspects relating to the 2001 Determination back to CAR for reconsideration.

[6] Aer Rianta chose not to use the appeals process provided in the 2001 Act and instead launched a wide-ranging legal action (by way of a Judicial Review process) against CAR. In April 2004 Aer Rianta failed in its attempt to get the High Court to review CAR's economic and financial analyses and conclusions underpinning the 2001 Determination.

[7] See "Government to establish three fully independent and autonomous airport authorities for Dublin, Cork and Shannon", Statement by the Minister for Transport, Seamus Brennan TD, 10 July 2003 at: http://www.transport.ie/upload/general/3769-0.pdf.

Shannon. According to the Act, on the Dublin Appointed Day, the new Dublin Airport Authority (DAA) would replace ART, and with the Dublin Appointed Day having been set by the Minister for Transport to be 1st October 2004, this has now taken effect. As a result, DAA now has responsibility for the operation of, and the assets relating to, Dublin, Shannon and Cork Airports. Shannon Airport Authority (SAA) and Cork Airport Authority (CAA) are both to be vested independent entities, but the initial functions of both are limited to the production of comprehensive business plans for each airport (although they may also perform some of DAA's functions with regard to the respective airports subject to an agreement with DAA). Only after the Minister for Finance and the Minister for Transport are satisfied that these business plans are satisfactory, will any assets be transferred from DAA to SAA and CAA on the Shannon Appointed Day and the Cork Appointed Day respectively. As has been the case with Dublin, the Cork and Shannon Appointed Days will have to be set by order of the Minister, but the Act provides that this will not happen before April 2005.

13. The 2004 Act provides the legislative framework for a full restructuring of the ART Group, eventually resulting in three independent entities, each being responsible for the operation of, and the assets relating to, Dublin, Cork and Shannon airports respectively. A final decision has yet to be made, however, on how the assets and liabilities of the former ART should be allocated across the three new entities. An option under consideration is for Cork and Shannon to be given a debt-free start by allocating the entirety of ART's historic debt (including debt incurred in relation to committed investments in Cork) to DAA's balance sheet. The legislation is not explicit on what is to happen with ART's non-core assets – the Great Southern Hotels (GSH) and Aer Rianta International (ARI) – and a policy decision in relation to the allocation of these assets will have to be made.

14. Arising from the passage of the 2004 Act, CAR is obliged to undertake a new Determination of airport charges at Dublin airport. This Determination must be completed within 12 months of the Dublin Appointed Day. In addition, the 2004 Act provides for other amendments to the 2001 Act. Pursuant to the 2004 Act, only airport charges at Dublin will be subject to regulation by CAR. The 2004 Act also amends CAR's statutory objectives, and the factors to which it must have due regard when making a determination in the future.

15. We have been asked by CAR to address the question how, from an economic perspective, it should take account of the de-merger of the former ART, and the allocation of its assets and liabilities, to the new airport authorities. We were instructed to answer this question on the basis of general principles of incentive regulation as applied by an independent regulator with a statutory mandate to promote economic efficiency (which is the manner in which CAR interpreted its mandate under the 2001 Act).

16. In order to answer this question, we briefly discuss the principles of economic efficiency, their implication for the setting of regulated charges, and the treatment of financial restructuring (Section 2). We then discuss

the impact of the proposed restructuring on the setting of maximum airport charges by CAR. We conclude that there is no reason for a new Determination specifying a price cap for Dublin airport to differ significantly from the current Dublin sub-cap (Section 3). In Section 4 we discuss why it would be inappropriate and contrary to economic efficiency for CAR to make adjustments to allowable charges at Dublin other than those that might arise from a change in the parameters it takes into account in setting the cap. We present our conclusions in Section 6. For the avoidance of doubt, we should stress that the views put forward in this paper are based on an economic interpretation of the role of regulation rather than a legal assessment of CAR's objectives under the 2001 Act as amended by the 2004 Act.

2 Principles of economically efficient charges and impact of financial structure

2.1 Efficiency as a principle of regulation

17. Competitive markets normally produce economically efficient[8] outcomes because the process of rivalry between firms ensures that prices are driven down towards costs in the long run. This puts pressure on costs, driving out inefficient suppliers with a higher cost of production than their rivals. With prices reflecting the cost of producing another unit of output, anyone whose willingness to pay exceeds production cost will end up consuming the good or service. Because firms can gain (temporary) advantages through improvements in quality or product range, allowing them to sustain prices in excess of costs, there are incentives to invest and innovate, but these are limited by other firms 'catching up' and competition issues focusing again mostly on price.[9]

18. This outcome is in stark contrast to what one can expect from a monopoly market. Here, the market is supplied by a single firm, with further entry protected by entry barriers, and, in the absence of regulation, the monopoly firm faces no constraint on its prices, except, to a degree, the willingness of customers to pay for its products. Because the monopoly price will inevitably be greater than marginal cost, this will result in allocative inefficiency. In addition, the monopoly will have little incentive either to reduce its costs or to introduce new products and services in the way that firms acting in a competitive market would. This results in productive inefficiency, in both static and dynamic terms. Although these effects are at their starkest in a pure monopoly market, they are present whenever there is market power allowing firms to maintain prices above long-run marginal costs.

19. In general, market power (its creation as well as its use) is kept in check through competition law. Competition law aims to prevent the creation of market power (through merger control and by imposing constraints on

[8] Economic efficiency comprises the notion that a given level of output is produced at the lowest possible cost (productive efficiency), that anyone whose valuation of a further unit of output exceeds the cost of producing this additional unit should be able to consume the good or service in question (allocative efficiency), and that, over time, the right investments are being made in terms of trading off the costs and benefits from such investments, e.g. in terms of new and better products, or lower costs of production (dynamic efficiency).

[9] Where adoption and diffusion of innovation would be too quick to allow the innovator to gain any benefit from successful investments, there is a need for legal protection through intellectual property rights such as patents or copyrights.

agreements between competitors), its preservation (e.g. through policing behaviour that would create or reinforce entry barriers protecting incumbents from competition from new entrants), or its abuse (e.g. through provisions against excessive pricing). However, where markets historically closed to competition have been opened up through a process of liberalisation (e.g. telecommunications or electricity distribution), or where genuine competition is not feasible owing to strong economies of scale (e.g. in the case of water supply), economic regulation complements competition law in supporting the transition to competition, or in ensuring that the outcomes produced by monopolies are as close as possible to those that one would observe in a competitive market.

20. For this reason, economic efficiency is widely accepted as the guiding principle of economic regulation. As Train notes, the "central issue of regulatory economics is the design of mechanisms that regulators can apply to induce firms to achieve optimal outcomes."[10] This is because inefficiency implies that social welfare is lost – someone could be made better off without having to make anyone else worse off. Even where economic regulation is charged with pursuing other, potentially conflicting policy objectives[11], the aim should be to minimise such welfare losses, i.e. to avoid inefficiency. Saying that regulators should pursue economic efficiency is simply another way of saying that regulation should produce outcomes that would be achieved by a well-functioning market. In other words, regulation should act to emulate competition in those areas where competition, for whatever reason, is not possible.

21. In pursuing this objective, regulation needs to be aware of its limitations. Regulation suffers from information asymmetries between the regulator and the regulated firm. As a result, the firm has the ability to "game" the regulatory process, by either withholding or revealing this information, depending on whether it is in its interests to do so. This may also make it difficult for the regulator to establish the correct targets for the regulated firm. For example, regulation can dampen innovation if the regulated firm believes that the rewards for any given innovation or new investment will be captured by the regulatory process and, in such a situation, will adopt a "do nothing" approach.[12] Thus, for a number of reasons, regulation cannot be

[10] K E Train, Optimal Regulation, MIT Press, 1991, p 2.

[11] For example, regulated prices may be required to deviate from costs in order to transfer rents to favoured economic groups.

[12] The scope for inefficiency in regulation is discussed, for example, in D M Newbery, *Privatization, Restructuring and Regulation of Network Industries,* MIT Press, 2001 (third printing), 162-9.

expected to be as effective as competition in achieving economic efficiency.[13]

22. However, in order to fulfil its role, regulation, where deemed necessary, needs to be designed in a way that minimises the potential downside from regulatory imperfection.

2.2 Incentive regulation, price caps and efficiency

23. Both economic theory[14] and regulatory practice (at least over the last number of decades) suggest that the most effective way of mimicking competitive outcomes and achieving efficiency is through 'incentive regulation'. Under incentive regulation "the regulator delegates certain pricing decisions to the firm and … the firm can reap profit increases from cost reductions. Incentive regulation makes use of the firm's information advantage and profit motive."[15] Price caps (such as applied by CAR), under which the price of a service, or the average price across a basket of services, is subject to regulatory constraints over time, are a prominent example of a regulatory approach that is aimed at providing such incentives.

24. Under a price cap the regulated firm must normally reduce its prices in real terms by a specified amount each year for a number of years (or, in some cases, cannot increase its prices by more than a specified amount each

[13] It is generally acknowledged that "competition is by far the most effective means of protection against monopoly" and that the role of regulation is simply to "hold the fort" for the arrival of competition (see S Littlechild, *Regulation of British Telecommunications Profitability,* HMSO, London, 1983). For a discussion on the merits of competition compared with regulation, see R Baldwin & M Cave, *Understanding Regulation,* Oxford University Press, 1999, 210-223.

[14] See, for example, Train, op cit.; M Armstrong, S Cowan and J Vickers, Regulatory Reform, MIT Press, 1994; or G De Fraja and A Iozzi, Short Term and Long Term Effects of Price Cap Regulation, University of York, Discussion Papers in Economics No 2000/61.

[15] I Vogelsang, "Incentive Regulation and Competition in Public Utility Markets: A 20-Year Perspective", *Journal of Regulatory Economics 22*, 2002, p 6.

year). Under such a regime, the regulated firm has an incentive to reduce its own costs and so increase its retained earnings. [16]

25. Unless the cap is specified with regard to the price of a single service, the regulated firm retains considerable flexibility under a price cap with regard to how it wishes to structure its charges, increasing the chances that fixed and common costs are recovered in an economically efficient way, without the need for the regulator to have detailed information about cost and demand conditions for each of the services covered by the cap. Where appropriate, this flexibility may be constrained through sub-caps, which imposes limits on the average price that can be charged for a subset of services covered by the overall cap.

26. In general terms, a price cap requires the regulator to form a view of the costs that an efficient firm would incur in the provision of the regulated services, and any efficiency gains it can be expected to make over the period covered by the price cap. On this basis, the regulator then sets an initial (average) price (P_0) and an allowable rate for the price change over the period of the cap, usually expressed in relation to changes in the overall price level in an economy, e.g. as CPI[17] - X. The allowable rate at which prices can changes is set so as to align prices with efficiently incurred costs (in the case where P_0 allows for some inefficiencies) and to ensure that improvements in efficiency are passed on to customers in the form of lower prices. For example, if the regulator expected the firm to be able to reduce its costs by 5% in real terms over the duration of the price cap, and the initial price reflected efficiently incurred costs, it would require price changes of CPI – 5%, so that prices (on average) would have to fall, in real terms, by 5% per annum. If, for historical reasons, the starting price were considered to be above efficiently incurred costs, X would be set higher (in absolute terms), requiring the firm to reduce its prices by more than 5% in real terms, thus approaching efficiently incurred costs over time.

27. Should the firm achieve greater efficiency gains, it would benefit from the associated profits. Should it not meet expectations it would suffer losses.

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[16] For example, the UK National Audit Office concluded that the way in which OFTEL (the UK telecoms regulator), Ofgem (the gas and electricity regulator in the UK) and Ofwat (the regulator of the UK water industry) have applied "RPI – X provides strong incentives to improve efficiency for the ultimate benefit of customers." (See NAO, Pipes and Wires, HC 723, April 2002). See also Ofgem, Guidance for implementation of the RPC price cap, November 2003. A good description of the incentive properties of price caps in the context or regulating airport charges can be found in Civil Aviation Authority, Heathrow, Gatwick, Stansted and Manchester Airports: Price Caps 2003 – 2008, CAA Preliminary Proposals, Consultation Paper, November 2001; Civil Aviation Authority, Pricing Structures and Economic Regulation: Consultation Paper, March 2001. Following reports by the Competition Commission in October 2002, the CAA put in place price caps for the period from 2003 to 2008 for Heathrow, Stansted, Gatwick and Manchester airports in March 2003.

[17] Consumer Price Index.

Periodic reviews of the price cap (covering both a re-setting of the X-factor and P_0-adjustments to correct for over- or under-recovery under the previous cap, or for exogenous cost or demand shocks) ensure that a fair balance is achieved between providing incentives for cost reductions, and letting customers of the regulated firm enjoy the benefits from improved efficiency.[18] However, even though differences between actual and expected performance would be considered in subsequent reviews, the firm would benefit (or lose) from performing better (or worse) than the regulator expected for the duration of the current price cap – and these gains or losses provide an incentive for the regulated firm to achieve cost savings.

28. The underlying costs of providing the regulated services, which form the basis for the setting of the cap, can be split into capital costs and operating expenditure (as well as tax payments that the firm will have to make). Capital costs are both the opportunity cost of the capital tied up in the regulated firm (expressed as a return on the value of the firm's assets) and the depreciation of the firm's capital base.

29. Assuming that economic efficiency is the guiding principle of economic regulation, the two key issues that need to be addressed in the determination of capital costs are the valuation of the firm's assets, and the level of return the firm should be allowed to earn on its assets. The first issue is addressed by calculating a regulatory asset base (RAB), which aims to value existing assets at their economic value, writing down inefficient investments in the past, and by ensuring that additions to the RAB over time (which have to be established in order to calculate the appropriate X-factor) only include efficient future investments (in order to establish the appropriate X-factor).[19] The second issue is normally addressed by setting

[18] The optimal duration of a price cap, and the way in which it is reviewed, needs to balance two effects. The longer the time period between reviews, and the less likely the regulator is to attempt to claw back unexpected efficiency gains through P_0-adjustments, the larger the benefits for the regulated firm of reducing costs and the greater the incentives to pursue cost savings and improve efficiency. At the same time, however, the less frequent reviews, and the less likely a P_0-adjustment, the longer users have to wait before they benefit from cost savings, and the greater the potential welfare loss from allocative inefficiency. The second effect is accentuated if the regulator has underestimated the potential cost savings that the regulated firm can achieve.

[19] In certain circumstances, there may be significant uncertainties around, or difficulties in calculating, the anchor level of the regulatory asset base. In such scenarios, an alternative form of control that may be employed is to allow the company a prescribed cash-flow over the duration of the control. Although this approach is sustainable in the short-term, it is desirable as soon as practicable to put in place a more traditional (return on RAB) control. This ensures that incentives on the firm to reduce costs are not driven by period-to-period cash outlays but rather by an assessment of the (more stable) structure of the business itself.

the allowable return at the level of the firm's weighted average cost of capital (WACC).[20]

30. Similarly, an assessment of operating costs would be based on the cost that an efficient operator would incur and cost savings that the firm can be expected to achieve over time.

2.3 Financial structure and the price cap

31. With the price cap being set with reference to the cost that an efficient supplier can be expected to incur in the provision of the regulated service, and the efficiency gains that it can be expected to achieve over the duration of the control, the way in which the regulated firm finances its business does not have any *direct* impact on its setting. In particular, whether a firm has higher or lower levels of debt does not directly impact on efficiently incurred costs, and thus should not directly affect the price cap. Whether it is using its profits to pay a dividend to shareholders, or finance future investments, does not directly impact upon its costs, and thus should not affect the price cap. Indeed, in a 'perfect' world where distortive taxation, capital market imperfections and imperfect corporate governance are absent, financial structure would have no impact at all.[21]

32. In a world that is not 'perfect' in the above sense, the financial structure of a firm may have an indirect impact on some of the variables that go into the setting of a price cap: [22]

- First, the way in which a business is financed may have an impact on how well its managers perform. Firms are normally assumed to behave as if they were maximising profits, which is what the firm's owners – its shareholders – would wish to happen. In practice, however, this profit-

[20] As tax payments are usually added to the cost, the appropriate WACC needs to be determined on an after-tax basis.

[21] This perhaps surprising insight is closely linked to the famous 'Proposition I' put forward by Modigliani and Miller in their seminal paper (see F Modigliani and M H Miller, "The Cost of Capital, Corporation Finance and the Theory of Investment", American Economic Review 48, 1958, pp. 261-297). With perfect capital markets, in the absence of distortive taxation, without bankruptcy costs, and in a world where operating expenditure is unaffected by financial structure (which may affect incentives of managers who make decisions about such expenditure), the value of a firm is determined exclusively by its real assets, but not the way in which the cash flows generated by these assets are split between owners and creditors, or indeed between different categories of financiers.

[22] An additional issue arises in the case of state-owned firms, where the incentive to reduce cost may be limited as a result of the firm having recourse to public funds should it be unable to meet its requirements under the price control. However, State Aid legislation exists to ensure that such a situation does not arise, and we therefore ignore this issue here.

maximisation objective is tempered by and overlaid with the incentives of managers whose objective is not naturally to maximise the value of the firm to shareholders, and who might not be perfectly incentivised to pursue profit maximisation ahead of their own personal objectives.[23] The financial structure of a firm often affects the extent to which managers' incentives can be aligned with those of shareholders. For example, a higher gearing increases the risk of bankruptcy, which not only shareholders but also managers wish to avoid. A higher gearing may mean that managers are more likely to take measures that reduce costs and increase profits. This might be reflected, for example, in a lower level of operating expenditure.

- Second, and perhaps more important, the assumption of perfect and frictionless capital markets, costless bankruptcy and non-distortive taxation does not hold in practice. For example, interest payments are tax-deductible, and the resultant tax shield means that (all other things being equal), financing a firm's operation through debt rather than equity reduces the company's WACC. Of course, bondholders are likely to require a higher debt premium as the gearing increases (in order to be compensated for the increased risk of having to write off some of the credit in the case of bankruptcy), which would have the opposite effect. Therefore, a firm's financial structure affects its WACC, and thus also affects the cost of capital that forms part of the base for setting a price cap.
- Third, in exceptional cases there may be concerns about the extent to which a highly geared regulated firm can be exposed to the risk that is inherent in an incentive regulation scheme, where the firm is exposed to outcomes where, in some periods, regulated charges are insufficient to cover its costs (e.g. because of demand or cost fluctuations). If equity accounts for a small proportion of the firm's funding, and therefore the proportion of risk borne by shareholders is small as well, exposing the firm to incentive regulation may ultimately prevent it from being able to fund any investments, or it may even become insolvent if free cash flows in a particular period are insufficient to service outstanding debt.

33. However, it would be wrong to conclude from the fact that financial structure may affect costs that a price cap should be changed in response to changes in financial structure. On the contrary, in the same way that the firm facing a price cap should face an incentive to reduce costs by eliminating waste and inefficiency in its operation and investment behaviour, the price cap should provide an incentive to adopt the financial structure that minimises costs.

[23] For an accessible overview of the implications of so-called principal-agent issues for corporate governance see P Milgrom and J Roberts, Economics, Organization and Management, Prentice Hall International Editions, 1992.

34. This implies the following:

- It would be mistaken to loosen the cap because a firm has a financial structure that does not provide the right managerial incentives, and which might therefore incur higher costs than would be necessary. Indeed, inefficiently incurred operating costs are generally excluded in the setting of a price cap, inefficient past investments are written down, and only efficient future investments are taken into account. Thus, even if the regulator is not able precisely to estimate efficiently incurred operating costs, and to establish efficient investments with absolute precision, using efficiently incurred costs as a benchmark essentially rules out consideration of the incentives created by a particular financial structure in the setting of the price cap. It is left to the firm to establish governance mechanisms (including its choice of capital structure) that best align management's objectives with those of shareholders.
- Similarly, a strong theoretical argument can be made for using the WACC of a firm with the optimal financial structure (rather than a firm's actual WACC) in the setting of the cap. Using the benchmark of an efficiently financed firm – i.e. a firm that has chosen the optimal capital structure, taking account of all the effects that arise from changing its gearing – would ensure that the regulated firm is not rewarded for inefficient financing decisions, but would rather have an incentive to adopt the optimal financial structure. However, whereas identifying inefficiencies in terms of operating expenditure and investment is relatively straightforward, there is no generally accepted model that would allow one to establish the optimal gearing level, and therefore, the firm's actual gearing may have to be used. For example, the UK CAA stated that:

  > *there is an optimum gearing at the point where the extra benefits from increased debt are offset by a mixture of rising debt premium costs and bankruptcy risks. Our reading of the literature does not suggest that there are adequate normative models available to allow regulators to take a view on optimal (as against actual) gearing within the conventional range. Accordingly the CAA is minded to use actual or projected gearing as an input into calculating the cost of capital.*[24]

  Kearney and Hutson, in their response to a submission by NERA on behalf of ART, argue that "the concept of optimal capital structure is

[24] Civil Aviation Authority, Cost of Capital – Position Paper, June 2001, p 20. See also Civil Aviation Authority, Economic Regulation and the Cost of Capital, November 2001. In the Annex to this document the CAA presents an overview of the approaches used by other UK regulators and the Mergers and Monopolies Commission/Competition Commission. This indicates that some regulators (notably Ofwat and Ofgem) use the notion of an optimal gearing, but that this is often based on assumptions rather than an underlying model of the optimal capital structure.

useful only insofar as it can be used as a guide for 'target' capital structure … The gearing ratio used in the WACC should reflect the anticipated gearing level over the regulatory or project term. In the absence of a known target capital structure, it is recommended that current gearing be used in the WACC calculation."[25] Consequently, they reject the call for using the supposedly optimal gearing of 30% in the calculation of ART's WACC because it is considerably below both the actual and the intended level of gearing.

35. Considerations of the impact of financial structure on the ability of firms to carry the risk associated with incentive regulation are conspicuous by their absence.[26] One of the rare cases in which this issue has been raised relates to the regulation of NATS (En Route) plc (NERL) in the UK. There, the CAA noted that

> *NERL is unusually highly geared, i.e. it has a high level of debt, and relatively little equity. At the time of the Composite Solution in March 2003, NERL had a gearing of 86%. NERL's limited equity has implications for the risk it can bear. This, in turn, may have implications for incentive-based regulation. The CAA will therefore need to ensure that the risks borne by NERL in any revised price caps are consistent with its capital structure. The CAA welcomes views on the extent to which NERL's high gearing should affect the CAA's implementation of incentives.* [27]

36. Quite predictably, the response from NATS to the question posed by the CAA is that its high gearing should be taken into account, whereas users of NATS services (such as British Airways), or representatives of users (e.g. IATA) point out that NERL's business is not particularly risky and that it should be able to reduce its gearing over time, in line with the target set in its business plans.[28]

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[25] C Kearney and E Hutson, Comment on the Report by NERA on Aer Rianta's cost of capital, Appendix I of CP9/2001

[26] For example, a recent consultation paper by the UK CAA does not address the issue of financial structure at all (see Civil Aviation Authority, Airport Regulation – looking to the future, learning from the past, May 2004). It is also worth pointing out that in the case where the regulator is concerned about the potential costs incurred by debtors in the case of bankruptcy, the regulated firm has an incentive to choose a sub-optimally high level of debt, thereby increasing regulated charges above their efficient level. For an analysis of the interplay between regulatory rate-setting and the regulated firm's decision about financial structure see Y Spiegel and D F Spulber, The Capital Structure of Regulated Firms, Northwestern University Discussion Paper No 942, May 1991.

[27] Civil Aviation Authority, NATS Price Control Review 2006 – 2010, Initial Consultation Document, Executive Summary, March 2004.

[28] Non-confidential versions of responses to the Consultation are available from the CAA's web site (www.caa.co.uk).

37. At the date of writing, the CAA has not drawn any conclusions with regard to how it will address NERL's gearing level in its price control. The CAA has noted, however, that "the company's future gearing decisions will be influenced by the regulator's decisions, including any decisions on incentives. So there is a potentially complex interaction between gearing and incentives, which places a responsibility on the CAA carefully to design the incentive structures it proposes."[29]

38. In summary, in pursuing the principle of economic efficiency, the impact of a regulated firm's financial structure on the setting of a price cap is limited. The main effect comes through the impact of a firm's gearing on WACC, both in terms of the weights attached to the cost of equity and the cost of debt, and the debt premium. Little consideration, however, is normally given to the extent to which a high level of gearing should require the regulator to step back from creating strong incentives for the regulated firm to operate efficiently because of the associated risk faced by the firm.[30]

39. A potential conflict with the principle of economic efficiency could arise in the situation where a regulator is obliged to ensure that a firm remains financially viable. However, from an economic perspective, such an obligation should not extend to a point where a regulated firm is permitted to operate in an inefficient manner without facing the threat of bankruptcy. As Newbery remarks, "the most obvious example where removing the threat of bankruptcy reduces efficiency can be found in the Soviet-type economies of Eastern Europe which operated under extreme forms of low-powered incentive schemes and guaranteed survival"[31]. It is difficult, therefore, from an economic perspective, to devolve any obligations on a regulator to ensure the financial viability of the regulated firm from the notion of economic efficiency. Thus, an obligation on a regulator to enable a regulated firm to operate in a sustainable and financially viable manner would not imply that the firm cannot be allowed to go bankrupt as a result of inefficiency and mismanagement. If the regulated firm were to operate inefficiently, it would on the contrary be in the longer term interests of current and prospective users of its services for it to go bankrupt as a result, so that the existing assets could be taken over by a new and more efficient operator, which would ultimately mean better services at lower prices.

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[29] Civil Aviation Authority, NATS Price Control Review 2006 – 2010, Initial Consultation Document, March 2004, paragraph 4.27.

[30] It is worth noting that concerns about financial viability are not normally raised with regard to firms that enjoy market power. To the extent that economic regulation applies to firms with market power, or firms that provide essential services, and provided the regulator is not over-zealous and sets the charges too low, the bankruptcy risk of regulated firms should be fairly limited.

[31] D M Newbery, *Privatization, Restructuring and Regulation of Network Industries,* MIT Press, 2001 (third printing), p165.

3 Impact of the de-merger on the setting of charges at Dublin airport

3.1 The current price caps

40. Efficiency principles were recognised clearly by CAR in formulating its initial charge controls. In its first consultation paper on economic regulation, CAR discussed the rationale for regulation in the Irish aviation sector[32]. In this consultation, CAR began by postulating the question as to why regulation was needed at all before articulating its regulatory aims and discussing the best method for achieving these. CAR concluded that its statutory objective could best be met by a regulatory regime that promoted economic efficiency and it decided that a price cap regime, with its superior incentive regulation properties, provided the best means to do this.

41. Initially, CAR aimed to establish a separate price cap for each of the airports subject to regulation of airport charges pursuant to the 2001 Act. However, having received a Ministerial Direction to "make every reasonable effort to ensure that its final determination reflects the important emphasis which the Government has placed on balanced regional development",[33] CAR decided to implement an overall cap for ART, and a sub-cap for airport charges at Dublin. In CAR's view, the use of a Dublin sub-cap best met the objective of providing Dublin airport with sufficient resources to support its continued infrastructural development in line with the particular importance allocated to it by the National Development Plan and the National Spatial Strategy. At the same time, a company-wide cap (in combination with a Dublin sub-cap) allowed the airport authority maximum flexibility while ensuring that adequate resources were available for the development of Cork and Shannon.[34]

42. Both the company-wide cap and the Dublin sub-cap are constructed in the way described in the previous section. However, in the case of airport charges, a complication arises from the fact that the assets employed by the regulated firm are used in the provision of both regulated services (i.e. airport services, as defined by the relevant legislation) and unregulated services (i.e. other services provided at the airport not covered by legislation such as retailing, catering, car parking, concessions etc.). Similarly,

[32] Economic Regulation of Airport Charges in Ireland (CP2/2001), Commission for Aviation Consultation Paper, February 2001.

[33] CAR, Report On The Determination of Maximum Levels of Airport Charges – Part I (CP8/2001), Appendix II.

[34] CAR, Report On The Determination of Maximum Levels of Airport Charges – Part I (CP8/2001), pp 4-6.

operating expenditures may be related to both regulated and unregulated activities. These activities, together with the provision of the regulated aeronautical services related to the landing, taking-off, and parking of aircraft, the arrival and departure of passengers, the use of airbridges and the movement of cargo[35], constitute ART's core activities.

43. CAR addressed this issue by using a so-called "single till" approach under which gross commercial revenues (i.e. revenues earned from the provision of unregulated services) are subtracted from the cost base in order to establish the level of revenues that ART would be allowed to earn from the provision of aeronautical services.

44. Excluded from the regulatory till and, hence, from the price cap calculations were ART's "non-core" activities, which, in CAR's opinion, did not have "sufficient nexus" to the regulated activities. The "non-core" activities that were excluded in this way were those relating to ARI and GSH, as well as non-interest bearing loans from ART to both of these entities. Apart from these "non-core" activities, the "single till" approach adopted by CAR meant that all other ART activities were fully taken into account in formulating the price control.

45. In calculating a Regulated Asset Base (RAB) for the purposes of the initial price caps, ART's assets were valued (at end-2000) using Indexed Historic Costs, which were then adjusted by CAR to take account of inflation, capital expenditure and depreciation for the period January-August 2001. CAR wrote down the value of Aer Rianta's assets in both Dublin (the Pier C development, written down by 22.6%) and Shannon (the new terminal, written down by 21.2%), as it held that a significant proportion of the investment that had been made by ART was inefficient and therefore not allowable. Looking forward over the duration of the price control, CAR established a 'recoverable capital expenditure (capex) programme', which was used to quantify additions to the RAB instead of ART's actual or planned capex programme. This was done in order not to base the cap on potentially inflated investment forecasts (including potentially inefficient investments) as presented by ART in the RAB over the period of the price cap.

46. Operating costs were calculated by CAR on the basis of the last available general ledger before the base year, and, starting from this point, by considering possible efficiency gains informed by international comparisons and benchmarks.

[35] As CAR noted in its consultation paper (CP2/2001), these five regulated activities included many underlying activities and it provided details of 38 such services and facilities provided by BAA in relation to its airport charges in London.

47. In summary, CAR took a number of steps to ensure that its regulation of airports charges levied by ART was based on principles of economic efficiency. These included the adoption of an incentive-based price control mechanism and, within the price cap, the specification of such items as a recoverable capital programme, an allowable cost of capital and forward-looking efficiency assumptions for the three airports. The Dublin sub-cap, based on costs and revenues from core activities in Dublin, specifically aimed to preserve "Dublin's place allocated to it by the NDP and NSS and provide it with sufficient resources fur further development. It also ensures that development at Dublin will not be restricted by a cross subsidy to Shannon or Cork – a policy [deemed by CAR to be] contrary to the NDP and NSS".[36]

3.2 Impact of the de-merger

48. The 2004 Act lays out a process that transforms what has been a single firm operating the three airports into three separate entities. However, for the time being, no allocation of assets and liabilities of the former ART to these three entities will take place and so, in the short term, all that has occurred is that DAA has replaced ART as the entity operating the three airports. Although CAA and SAA have been created as independent entities, they will not be responsible for operating the airports at Cork and Shannon respectively (other than by agreement with DAA), and will not receive any of the assets or liabilities associated with these airports before the Cork and Shannon Appointed Days respectively, which cannot be before April 2005.

49. It is worth noting that the 2004 Act directs CAR to determine a price cap for Dublin airport as soon as possible and no later than 12 months after the Dublin Appointed Day[37]. It is therefore possible for CAR to make a determination for Dublin before any assets, debt or equity have been transferred to the new entities. In that case it would seem appropriate for CAR to set maximum charges for Dublin airport using the method by which it calculated the existing Dublin sub-cap.

50. Following the Cork and Shannon Appointed Days, DAA's assets and liabilities could be allocated in a variety of ways, and no decision as to how such an allocation should take place has yet been made. However, in addressing the impact of any actual allocation of assets and liabilities, which would take effect from the Cork and Shannon Appointed Days respectively, on the setting of the Dublin cap, we assume for illustrative purposes that Cork and Shannon are to be given "debt-free starts". This would imply that all of

[36] CAR, Report On The Determination of Maximum Levels of Airport Charges – Part I (CP8/2001), p 6.

[37] Section 22 (1) of the State Airports Act 2004, amending section 32 of the 2001 Act.

ART's historic debt (including debt related to committed investments in Cork) would be allocated to DAA, without DAA benefiting from the revenue-generating potential of the assets for which this debt has been incurred.[38]

51. As noted above, the financial structure of a regulated firm, and consequently the financial structure of DAA that would result from an allocation of assets and liabilities following the Cork and Shannon Appointed Days, does not have a direct impact on the price cap. Thus, any adjustment would have to be based on the indirect impact of financial structure on those factors that go into the setting of the cap.

52. The current Dublin sub-cap has been calculated on the basis of:

- the RAB calculated for Dublin airport (which includes a write-down of inefficient past investments, and an allowable capex programme going forward).
- the WACC of ART;
- depreciation of assets in the Dublin RAB;
- operating expenditure commensurate with the expected passenger volume handled at Dublin airport;
- the expected tax liability arising from operations at Dublin;
- gross commercial revenues earned from the provision of services at Dublin airport; and
- the expected passenger volume handled at Dublin airport.

We discuss the impact of the proposed de-merger (and the associated transfer of assets and debt) on each of these key variables.

3.2.1 Impact on RAB

53. The RAB reflects the value of the assets required to deliver the core services, i.e. the economic value of the assets used in the provision of services at Dublin airport. The RAB for Dublin airport does not include any of the assets involved in the provision of services at Cork or Shannon, and therefore a transfer of these assets to the new CAA and SAA will not affect the RAB relevant for the setting of a Dublin price cap.

54. The price caps are set for a future period[39] so in addition to valuing current assets, the financial model of Dublin airport used by CAR also considers the

[38] This is consistent with the initial Ministerial announcement of the planned restructuring (see footnote 7 above) and subsequent public statements.

[39] According to the 2001 Act, caps are set for a five-year period with an interim review after two years; the 2004 Act amends this to provide that the cap can be set for a minimum four-year period.

future capital expenditure programme required within the period covered by the cap. However, unless the proposed restructuring creates the need to replicate assets that were previously used jointly for the provision of services at the three airports (giving rise to a potentially inefficient duplication of fixed costs), there is no reason to expect that efficient capex at Dublin airport will increase as a result of the proposed de-merger.

55. For the avoidance of doubt, the de-merger will not lead to asset stranding in relation to Dublin airport. Although DAA is expected to carry debt that is related to the acquisition of assets from which it would not earn any revenues (namely those assets that are allocated to CAA and SAA), these assets are not stranded in the sense that they have ceased to generate revenues. They continue to generate revenues, even though these revenues accrue to CAA and SAA.

3.2.2 Impact on WACC

56. As noted above, the financial restructuring associated with the proposed de-merger may have an impact on the WACC of the new DAA. In particular, taking on all of ART's historic debt, but losing some of the revenues (namely those associated with the operation of Cork and Shannon airports), is likely to increase DAA's gearing above the level of gearing of the former ART.[40]

57. The impact of an increase in gearing on the appropriate WACC for DAA is unclear. Everything else being equal, increasing the proportion of debt in the overall finance mix would tend to reduce WACC because of the debt premium being significantly lower than the equity risk premium, and the tax shield effect (which is limited by the relatively low corporation tax rate). However, the debt premium might increase as the risk faced by lenders increases with an increased reliance of a business on debt rather than equity, partly or fully offsetting this effect.

58. For purely illustrative purposes Table 1 shows the impact of changes in the level of gearing on WACC, using the assumptions for the other parameters

[40] ART's activities were financed partly by debt and partly by shareholder funds, which reflect the residual value of the company that its owners could realise upon liquidation after the claims of bondholders had been honoured. In recent years, ART's leverage (the ratio of debt to the sum of debt and equity) had increased because it had used debt to finance its investment programme: in 2002, leverage stood at 54%, compared to 50% in the previous year. The majority of ART's debt is of a long-term nature: as of mid-2003, 75% of its debt was not due to mature before 2009 (Standard & Poors, Ratings Direct Research (Aer Rianta), November 2003).

set out in the report by Kearney and Hutson for CAR.[41] Everything else being the same, the higher gearing of DAA would imply a lower WACC. The Table also shows the debt premium that would be required in order to leave the WACC unchanged at the level calculated by Kearney and Hutson. Of course, the financial restructuring might also change the appropriate level of Beta to be used in the calculation of WACC for DAA.

Table 1: Impact of gearing on WACC

Gearing	Post-tax WACC	Pre-tax WACC	Debt-premium required for unchanged WACC
50%	5.7%	6.6%	
54%	5.5%	6.3%	1.60%
60%	5.2%	6.0%	2.20%
70%	4.7%	5.4%	2.80%
80%	4.2%	4.8%	3.30%

59. It is beyond the scope of this paper to assess the likely impact of the proposed restructuring on the WACC of DAA. However, it is worth pointing out that any significant increase in the level of WACC as a result of a very high gearing would very likely be the result of an inefficient allocation of assets and debt.[42] In particular, by giving Cork and Shannon a debt-free start, these new companies would have a very low gearing, which might push up their WACC as a result of not being able to benefit from the tax shield effect. If at the same time the DAA WACC were to increase because of a rather high gearing level, the break-up would have resulted in an increase in the WACC across the board. Overall, the effect on WACC is unclear and hence it is also unclear as to whether or not it should warrant any material modification to the existing price cap on Dublin airport.

[41] See C Kearney and E Hutson, Aer Rianta's Cost of Capital, August 2001 (provided as Appendix VI to CP8/2001). Kearney and Hutson use a risk free rate of 2.6%, a Debt Premium of 1.1% (based on ART's contemporaneous bond issue), an Equity Risk Premium of 6%, an Equity Beta for ART of 0.93, and a corporation tax rate of 13.2%. Based on ART's gearing of 54% at the time, they are using a gearing of 50% in their calculation.

[42] In this context, it is also worth mentioning that NERA, on behalf of ART, has proposed to use an 'optimal' gearing ratio of 30% in response to CAR's consultation, based on four comparator airports at the lower end of the spectrum of gearing ratios (see C Kearney and E Hutson, Comment on the Report by NERA on Aer Rianta's cost of capital, Appendix I of CP9/2001).

60. Thus, even if there is very little information about the optimal capital structure of a firm, an increase in WACC across the three new entities compared with ART's WACC would clearly suggest inefficiencies in the financial restructuring. An upwards adjustment of the price cap arising from this would be inconsistent with the principle of promoting economic efficiency.

3.2.3 Impact on operating expenditure

61. In its financial model, CAR has allocated opex to the airports in proportion to passenger numbers. This is based on the assumption that these costs scale with the number of passengers, and that there are no significant economies of scale or scope.

62. There is no reason to expect that the proposed break-up would have any material impact on operating expenditure at Dublin airport, in particular, compared with the efficient opex figure used in the calculation of the current Dublin sub-cap.

3.2.4 Impact on tax liability

63. As DAA would be responsible for all interest payments currently made by the former ART, and because interest payments are tax deductible, one might expect that the tax liability of DAA would be below the imputed tax liability of Dublin airport under the current sub-cap. Downward adjustments of tax payments would have the effect of reducing allowable revenue, and thus per-passenger yield.

3.2.5 Impact on gross commercial revenues

64. There is no obvious reason to expect gross commercial revenues to change as a result of the proposed de-merger. These revenues from unregulated core activities are currently modelled based on the ledger of each airport. Commercial revenues at Dublin, as calculated for the current Dublin sub-cap therefore fully reflect the commercial revenues earned at Dublin airport, and a price cap for DAA should be based on similar gross commercial revenue levels (subject to changes in the assumptions underlying their forward projection for other reasons).

3.2.6 Impact on passenger numbers

65. Passenger numbers at Dublin may be expected to fall if (a) Cork and Shannon airports are sufficiently close substitutes for Dublin from the perspective of passengers currently arriving at, or departing from Dublin airport and (b) Cork and Shannon would reduce their airport charges to an extent that triggered such substitution. There is no empirical evidence to suggest strong substitution between the three airports, and the future pricing strategy of Cork and Shannon is unknown.

3.3 Summary

66. Given the existence of a sub-cap for Dublin airport, and given that (with the possible exception of WACC) the de-merger should not have any significant impact on any of the factors that are taken into account in the financial model used by CAR in setting the Dublin sub-cap, the only adjustments to the cap that should be made in response to the proposed de-merger are those that would flow from changing some of the assumptions in the financial model in the way discussed above. The effect on WACC is unclear *a priori*, but there are good arguments to suggest that any significant increase in WACC of DAA over the current WACC of ART is likely to be the result of an inefficient restructuring decision and should therefore not form the basis for an increase in charges.

67. Given that DAA may be faced with a significant debt burden as a result of the proposed restructuring, this conclusion might seem counter-intuitive. However, any significant upwards adjustment of charges at Dublin would result in charges in excess of costs and corresponding monopoly profits for the owners of DAA – i.e. exactly the outcome that regulation is intended to prevent, as we discuss in the next section.

4 Financial restructuring and regulation

4.1 Financial restructuring and value creation

68. We understand that the decision by the Government to break up the former ART is motivated by the expectation that the de-merger will create value. In announcing plans for the break-up, Minister Brennan, speaking in July 2003, stated:

> *Under the new arrangements the three airports will compete with each other and vigorously pursue new business, free from central control. This healthy competitive tension and unrestricted quest for new routes, airlines and passengers will grow the business to the benefit of the airports, the regions, tourism, job creation and the country overall. Shannon and Cork are being given a new debt free start and, under strong and visionary leadership, the opportunity to expand on a scale never before envisaged*.[43]

69. The expectation that restructuring a business and splitting it up into its constituent parts can unlock value is not uncommon. In the same way as mergers may create value by bringing about cost savings or synergies across different businesses, breaking up a firm can create value, for example, if it allows the emerging entities to pursue a strategy of specialisation that might lead to cost savings in the long term, or simply take advantage of different stock market sentiments towards the individual parts. For example, the view that combining fixed and mobile telephone assets would reduce the extent to which the market value attributed to the considerable growth prospects of mobile operators could be realised led to the de-merger of the mobile businesses of incumbent fixed line operators from the late 1990s. Another example is the break-up of British Gas into separate businesses, freeing each of these to pursue their own strategies.

70. The current BG Group plc is the result of two de-mergers. In the first de-merger, the retail business of British Gas plc was split off into a separate firm, Centrica plc, leaving the UK pipeline business and the international gas exploration and production business in the hands of BG plc. Following a restructuring in 1999, which organised the regulated UK pipeline business, Transco into a separate business unit, full separation of the pipeline business from the exploration business was achieved through a further de-merger in 2000 (which took effect on 21 October 2000), creating Lattice Group plc and BG Group plc. The main reason for the de-merger was to 'raise shareholder

[43] "Government to establish three fully independent and autonomous airport authorities for Dublin, Cork and Shannon", Statement by the Minister for Transport, Seamus Brennan TD, 10 July 2003.

value and stimulate greater earnings growth'[44] and the de-merger was received well by the markets. There was widespread agreement that separating the international oil and exploration business from the regulated utility at a time where most energy companies were enjoying record earnings due to high oil prices should unlock value. When Lattice was merged with National Grid (which owns and operates the UK electricity distribution network) to form National Grid Transco in October 2002, it was valued at approximately £6.3bn[45] – a significant gain in valuation from Lattice's market capitalisation of £5.4 bn on 23 October 2000 when independent trading of Lattice shares started.[46]

4.2 The allocation of assets and liabilities

71. In a restructuring situation, the owner of a firm has considerable freedom in terms of how it decides to allocate existing assets and liabilities to the newly-created firms, although the allocation of assets is largely determined by the nature of the underlying businesses. It would not have made much sense, for example, to leave ownership of the pipelines used for the transport and distribution of gas in the UK with Centrica (or later BG Group).

72. This still leaves freedom in terms of how existing debt is shared out amongst the new firms, i.e. how the new businesses will be financed. As noted earlier, this financing decision does not matter in a perfect world with perfect capital markets, costless bankruptcy, no distortive taxation and perfect governance. In such a world, the combined value of the newly-created businesses – the net present value of future cash flows generated by the firm[47] - only depends on the revenue-generating potential of the underlying assets. Unless the de-merger changes this value-generating potential, or affects the operating costs of the business, the combined value of the newly-created businesses should be exactly the same as the value of the integrated firm, regardless of the way in which existing liabilities are allocated to the new businesses.

73. However, in practice, the decision about where to allocate debt will matter. As noted above, the impact of the resultant gearing levels on the WACC of

[44] FT.com site, 'BG takes GBP250m of special charges ahead of demerger', 7 Sep 2000

[45] Joint market capitalisation of the merged company was approx. £14.8bn of which 42.7% was to be owned by Lattice shareholders.

[46] Financial Times, 'BG in strong debut after Lattice move', 24 October 2000.

[47] In very basic terms, the value of a firm (or, more generally, any asset) is given by the present value of cash flows that the firm can be expected to generate in the future. Cash flows, in turn, reflect the difference between the earnings in a particular period (revenues less operating costs) less net investments made in this period (see Brealy, R A and S C Myers, *Principles of Corporate Finance*, 6th edition, McGraw-Hill, 2000, p 77 f.).

the various businesses, and its effect on managerial incentives, need to be taken into account. The effect of financial restructuring on the capital structure of the newly-created firms can increase or reduce the value created by a de-merger. This is essentially a question of finding the optimal capital structure for the de-merged businesses, taking account of the impact on managerial incentives and the various firms' WACC, given gearing levels, planned investments, and the debt and equity premia associated with the respective businesses.

74. The factors that determine the optimal capital structure are related to the impact of gearing on managerial incentives, the WACC faced by each of the independent businesses, and the ease with which they will be able to raise funding for further investment (to the extent that this is not reflected in the WACC). In some circumstances, this may mean that assets and liabilities are allocated to different businesses. The de-merger of BT's wireless business through the creation of mmO2 provides a prime example.

75. BT management first proposed to de-merge its fixed and wireless businesses into two companies, BT Group and mmO_2 in May 2001. The motivation was that the fixed and wireless businesses had different market focus and growth potential. The fixed business was also to a much higher degree a regulated business than was the wireless. The de-merger would give the two separate companies "greater market flexibility, independent access to the capital markets and improved management focus."[48] BT shares had traditionally been high-yield shares paying out good dividends for a number of years, whereas mmO_2 was seen as a more speculative investment in a fast growing market, perhaps attractive to a different type of investor.

76. Under the de-merger proposal, each BT plc shareholder would receive one BT Group share and one mmO_2 share for each BT share. Prior to the commencement of official trading in the new shares, there would be a period of conditional trading where existing shareholders could dispose of unwanted shares in any of the two companies at a discounted transaction cost. The de-merger proposal was accepted by the shareholders who voted in favour at an Extraordinary General Meeting 23 October 2001.

77. A crucial feature of the proposed de-merger was that the debt incurred by BT for the acquisition of so-called third generation (3G) mobile licences across Europe would remain with BT Group, although the licences would be assigned to mmO_2. Thus, although BT had invested about £10bn in securing 3G licences for its wireless businesses in the UK, Germany, Netherlands and Ireland[49], only £500 million of debt was allocated to mmO_2, giving it "one of

[48] BT Shareholder, 'Circular to shareholders', September 2001, p.12

[49] Financial Times, 24 Sept 2001, 'BT to take surprise GBP500m on investments'

the strongest balance sheets in the sector."[50] This decision was made in view of the considerable capital expenditure that would be required from the wireless business in order to roll out 3G mobile networks, and the expectation that raising the necessary funds would be easier for mmO_2 if it started with a lower level of gearing.

78. Of course, this decision had a significant impact on BT Group's gearing, which increased from 65% for the integrated company to 92% for BT Group.[51] BT was already under pressure to reduce its debt, and the de-merger, together with a rights issue and the sale of non-core business such as BT's Yell subsidiary, was initially intended to reduce BT's debt levels. Thus, the decision to retain much of the debt related to the acquisition of 3G licences in Europe required increased efforts to ensure that other strategies to reduce the debt levels of the new BT Group were successful. Indeed, the success of the rights issue and the successful sale of BT's Yell subsidiary have helped BT to maintain its A- credit rating.[52]

79. If mmO2 had been allocated the debt that actually related to its operations, mmO2's gearing would have been 87% and its credit rating may have made it difficult to raise the capital required to roll out 3G networks, estimated to be £8.3 bn over the following five years.[53] Thus, the decision by BT to retain much of the debt associated with the acquisition of 3G licences was reflected in the value of mmO_2 shares – loading more debt on mmO_2 would have increased the value of the shares in BT Group, but would have reduced the value of mmO_2 shares. The allocation decision was taken in the expectation that the former outweighed the latter.

80. Whereas retaining most of the debt, but not the corresponding assets, clearly had an impact on the balance sheet of BT Group, it did not result in any change to BT's Regulatory Financial Statements. Facing a higher debt burden, and, in particular, debt related to the acquisition of assets that were now vested in different companies, did not result in calls for an increase in BT's regulated charges. The decision to allocate debt in this form was one taken by shareholders, and it would be shareholders who would reap the benefits or suffer the loss associated with this decision. The financing decision did not affect the cost incurred by BT in providing regulated services, and it would therefore not have any impact on the network price cap or the cap on retail prices.

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[50] Financial Times, 8 Sept. 2001, 'Wake-up call for BT shareholders: Mobile phone demerger'

[51] BT Shareholder, 'Circular to shareholders', September 2001, Pro forma consolidated balance sheet for BT Group plc as at 30 June, p. 48

[52] Standard and Poor's has rated BT/BT Group as A- since May 2001

[53] mmO_2 Listing Particulars, 2002, p. 81

4.3 Financial restructuring has to take account of the regulatory framework

81. In the same way, the decision by the Government to restructure the former ART's business in a way that allocates all of ART's historic debt to DAA should be regarded as one that primarily affects the Government, as the owner of the former ART, now DAA. The Government, as sole shareholder, will be the beneficiary of any increase in value as a result of the break-up. Equally, if the de-merger leads to a significant loss in synergies, this would reduce the combined value of the entities below the current value of DAA, and it would also be the Government who would suffer the loss.[54]

82. Similarly, if the financial details of the restructuring result in capital structures of the various businesses that are optimal, the value created by the financial restructuring is reflected in the increase of the combined value of DAA, SAA and CAA to its owner, i.e. the Government. If the detailed implementation of the restructuring process destroys value, then it should equally be the owner who suffers the loss.

83. A profit-maximising owner would be expected to allocate debt in such a way as to maximise the combined value of the three entities (measured, for example, by the amount that it could realise were it to sell the three firms). In doing this, the owner would have to take account of the various effects of implementing a particular financial structure, including the ability to finance further investments at the various airports. Specifically, any decision to load DAA with all of ART's historic debt would have to consider the impact on DAA's ability to fund future investment through further debt, and the consequent need to use retained earnings or an additional injection of shareholder funds for any planned expansion.

84. In a competitive environment, the owner making a restructuring decision would obviously have to take the competitive constraints on its business as given. There would be no basis for any decision, for example, to allocate debt to a particular de-merged business in the expectation that this firm could suddenly increase its prices in order to obtain higher revenues to offset the cost of having to service the entire outstanding debt without any contribution from other parts of the business. The prices that the de-merged businesses can be expected to charge are constrained by competition, and cannot simply move up in order to accommodate the need to increase retained earnings in order to compensate for a higher gearing.

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[54] Arguments about the possible loss of synergies between the three airports and the possibility that the de-merged entities could be financially weaker than Aer Rianta have been at the core of political and trade union opposition to the Government's break-up plans (see, for example, *Aer Rianta plan is lunatic and prejudiced,* The Irish Times, 28 May 2004 and *Break-up could trim €110m off assets of Aer Rianta,* The Irish Times, 3 June 2004).

85. In exactly the same way the owner of a regulated business making a re-structuring decision would have to take the regulatory environment as given. If regulation is aimed at achieving outcomes that are broadly similar to those that would prevail in a competitive market, it would equally be without foundation to assume that regulated revenues would suddenly increase to provide higher revenues to a particular business to allow it to service the entire debt without any further effect on shareholders.

86. Thus, a decision to restructure the former ART would have needed to take account of the possibility that CAR's approach to setting airport charges would continue to operate as it does at present. In a competitive market, a firm cannot automatically raise its prices if its debts increase and so there is no reason to assume that the owner of a regulated business should be able to do so. [55]

[55] For the avoidance of doubt, this should hold regardless of whether the business is State-owned or privately-owned. Otherwise, the principle of regulatory independence would be completely undermined.

5 Conclusions

87. In our view, based on a purely economic perspective, the de-merger of the former ART does not of itself require any significant adjustment to airport charges at Dublin airport. This is because economic efficiency requires that regulated charges are set with reference to underlying costs, including a reasonable return on capital employed by the regulated firm. Restructuring of the former ART's business along the lines set out in the 2004 Act should not be expected automatically to increase costs. On the contrary, we note that the Government expects the de-merger to generate benefits in terms of improved efficiencies, higher utilisation and/or lower costs.

88. Moreover, even if the de-merger results in a significant increase in the underlying costs of the DAA, this does not necessarily provide a justification for allowing such increased costs to be recovered through higher charges collected from users of Dublin airport. This is because the cost increase would suggest that the decision to split up the former ART's business was itself inefficient, and such inefficiency should not be rewarded by the regulator.

89. We believe that the impact that the final allocation of assets and liabilities may have on the value of the new DAA can be regarded as irrelevant for the regulation of airport charges based on considerations of economic efficiency. Even though increasing the proportion of ART's debt allocated to the new DAA might, for example, reduce its value to the owner, this reduction is accompanied by correspondingly higher values of the new CAA and SAA to their owners (as a result of lower debt levels or, in the extreme case, a completely debt-free start). Indeed, if in such a situation airport charges in Dublin were allowed to rise to maintain the value of the regulated firm to its owners, this would effectively undermine the regulatory framework and lead to a windfall gain for the Government (as the current owner of DAA, and the future owner of the three independent companies emerging from the full restructuring process) at the expense of the users of Dublin airport. This would be incompatible with the objective of economic efficiency and a regulatory regime that facilitates the development and operation of cost-effective airports meeting the requirement of users.

90. In conclusion, we believe that CAR, as the economic regulator with statutory obligation to users, has a clear option to disregard the way in which assets and liabilities are allocated to DAA, SAA and CAA (assuming that such an allocation would actually take place within 12 months of the Dublin Appointed Day). The determination of airport charges at Dublin should, in our view, be based on the existing Dublin sub-cap, updating assumptions where appropriate. If this leads to financial difficulties for the new DAA, it would seem that technically it would be the owners of the business who would have to bear the losses that might result from an inefficient restructuring decision.