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Competition and Regulatory Policy and Institutional Design for Scotland

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Foreword

It has been a long haul, but worthy of all the effort. These latest research papers mark the final stage in our series of four ‘conversations’ on issues related to possible constitutional change in Scotland. We are most grateful to the ESRC for providing support for this venture; and to Professor Charlie Jeffery and colleagues at the Department for Government at the University of Edinburgh for being our partners in the venture. Along the way we have had a great deal of support from many people, including a number of DHI Trustees. Their input is much appreciated; and I must also acknowledge the major assistance provided by Catriona Laing and Joan Orr in the DHI office. Catriona has nobly worked with me on organising all the round tables and seminars and Joan has had responsibility for all the publications. The operation would not have been feasible without them.

To remind you all, each ‘conversation’ has followed a similar format. We have sought draft papers from a number of key and informed parties, to be discussed at a private round table. Then the papers have been re-visited and discussed at a full DHI seminar, with a main speaker and contributions to an extended Q&A/discussion session from all authors. Both round table and seminars were held, as is usual for our events, at the Royal Society of Edinburgh in George Street. The papers have been published on our web site just in advance of our seminars. Generally there has also been significant media interest.

The first ‘conversation’ covered issues related to macro-economic policies and financial regulation. Then we moved on to welfare and social security matters before tackling the energy sector – in co-operation with the Scottish Council for Development and Industry. Our final topic, for which we have worked closely with the Scottish Government, has been competition policy and regulation. The papers for this last conversation are now being published.

For conversation 4 the round table was held at the RSE on 8th April, ably chaired by DHI Trustee Kyla Brand – who also happens to run the Office for Fair Trading office in Edinburgh but was operating in a personal capacity. (I should also note that for over 8 years I have been a member of the Competition Commission, but my involvement was as DHI Director.) Papers were prepared by Martin Cave and Jon Stern – on the over-arching background and key issues; David Simpson (ex DHI Trustee and ex WICS board member) on the positive experience in the water sector; Iain Osborne based upon his experience as a senior regulator across five different sectors and at the EU, UK and devolved levels; Luis Correia da Silva of OXERA – providing an informed outsider’s view; the Netherlands Authority for Consumers & Markets; and David Saunders the Chief Executive of the Competition Commission specifically on competition matters. We owe a huge debt to them all.

It is my firm view that this set of papers, and the various discussions which have taken place, will be of major assistance to the Scottish Government as it considers the best way forward for competition policy and regulation in the event of a yes vote at the referendum next year; and also in the event of a no vote when there might well be scope for beneficial change and possibly further devolution of responsibilities. The whole series has been a great success and this last venture in particular should be seen as making a major positive and constructive contribution to informed decision-making and policy formation.

Nevertheless it is my eternal duty, while Director, to note that while the DHI welcomes the contribution made to debates of this nature, we have no view and as a charity can have no view on the policies considered. It is now for others to make best use of the fruit of our labours.

Jeremy A Peat
Director
David Hume Institute

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1. Context

The Scottish Government has recently published a paper on this topic⁴, covering competition policy and the regulation of infrastructure industries – primarily those involving a physical network. In this paper, we set out some principles and present evidence from international experience before setting out some options that we think would best suit Scotland. When presenting these options, we distinguish between those arising:

- (i) within an Independent Scotland (IS); and
- (ii) under Enhanced Devolution (ED).

2. Economic Principles and Policy Issues for Competition and Regulatory Institutional Choices

We assume that the IS, Scottish Government will continue to follow EU obligations both on competition law (originating in the treaty) and requirements imposed on the regulation of infrastructure industries. The latter are embodied the series of Directives legislated for each sector by the European institutions.

These do not however preclude Member State policy making. It is therefore a critical issue where such policies are made – in Edinburgh or London - and the role of the Scottish Government in setting policy objectives. Currently, policy objectives for water and electricity generation planning are set in Edinburgh while those for competition policy and the other industries listed above are set in London. Under IS, we assume that, subject to EU requirements, *all* relevant policy objectives would be set in Edinburgh. Under ED, we assume that the current degree of devolution would continue but might be extended.

There are some underlying policy choices that are relevant for institutional policy design, particularly for IS. These include:

- (i) *Attitudes towards Scottish companies and ‘national champions’*

EU countries take different views on this issue while operating under the same EU competition policy and infrastructure industry Directives viz. France and Sweden. Some countries, particularly some of the smaller member states, take a less pro-competitive view and support local infrastructure (and other) companies by a variety of methods.

⁴ *Economic and Competition Regulation in an Independent Scotland*, The Scottish Government, February 2013

The Scottish Government's recent paper refers to the objective of ensuring "that markets are working efficiently in Scotland" and states that "Competitive markets are, and will continue to be, an essential component in the Scottish economy"⁵. However, for regulated infrastructure industries, it also refers to the need "to balance the interests of the consumer and industry"⁶; elsewhere it refers to "benefits for Scotland's economy and its companies". It is not clear what may be implied by these formulations, but they are in apparent contrast to previous GB legislation for infrastructure industries, which sets the key objective of regulation as the maximization of the welfare of consumers - current and future- subject to various constraints such as financeability⁷.

A critical policy issue in the Republic of Ireland and the post-1989 small countries of Central and Eastern Europe (CEE) has been whether and how far to set competition and regulatory policy to provide support to domestic companies and national champions within a market framework. In general, policy in the majority of these countries has tilted towards national support e.g. in Ireland, the Czech Republic, Latvia and others.

Which way an independent Scotland would incline on this issue is unclear. However, we note that issues of this kind seemed to have played some role in the way that Scottish Water and its regulatory framework were established and the role of WICS - even with the pioneering policy of retail competition for all non-householder water customers.

Evidence from many countries suggests that the substance of Scottish competition and regulatory policy under IS will depend more on this fundamental policy choice than on any institutional design issues. This has been particularly important for the newly independent countries of Central Europe, especially the smaller ones.

(ii) *The balance between competition policy and sectoral regulation for infrastructure industries*

This has become a lively issue in the UK. Some have argued in recent years that regulatory agencies should use competition law and remedies rather more than they have done over the last 10-20 years. It has been suggested that sectoral regulators have made too much use of prescriptive ex ante regulatory approaches and remedies relative to the ex post competition policy approach. This debate has shaded into the question of sectoral regulators' powers of concurrency which we discuss in Section 6.3.

Scotland under IS would have to take a view on this policy issue. A view that reflected more concern for the independence and viability of Scottish infrastructure companies would be unlikely to favour the more 'neutral' competition approach to the regulatory one.

⁵ Scottish Government, *op. cit.*, Executive Summary and p.3

⁶ Scottish Government *op. cit.*, p.13.

⁷ See, for instance, Utilities Act 2000.

(iii) *Separation of Powers*

Small countries with tight-knit local political, legal, commercial and economic elites can sometimes struggle to achieve genuine separation of powers between governments, regulatory agencies and regulated company senior managements. Not surprisingly, this is most difficult in small developing countries (e.g. Botswana and Jamaica). However, it has also been an issue in some CEE countries (e.g. the Baltic States and some others).

This would not necessarily be a problem for an independent Scotland – but it could rapidly become so the more that policy towards regulated industries was targeted towards ‘national champions’.

These issues already arise to some degree in energy where the Scottish Government has adopted a strongly pro-renewables electricity policy, with ambitious targets for Scottish wind-powered generation (and exports). Scotland also has its own Digital Strategy, and ambitious plans to become a ‘hydro nation.’ It is not clear how far they would be expanded under ED. However, under ED - provided that there were no devolution of competition policy (or of the competition agency) - the policy (and political economy) issues discussed above would probably remain relatively minor. This is particularly so if the projected Competition and Markets Authority (CMA) were to remain the price control appeals authority for Scottish regulatory agencies, as it does for Northern Ireland.

3 . **Regulatory Design for Infrastructure Industries**

Most EU and OECD countries have (a) more than one sector specific regulatory agency and (b) a competition body separate from the regulatory agencies/agency. We outline the main alternatives as currently observed below before, in Section 6 below, discussing the pros and cons of each option and making recommendations for Scotland.

3.1 Sector Specific Infrastructure Industry Regulation

The most frequently encountered institutional arrangements for sector specific infrastructure industry regulation are:

- one regulator covering telecoms, possibly including postal services (and possibly including broadcasting content, although this can be more contentious); and
- one regulator for electricity and natural gas. Energy regulatory agencies often include water and sewerage, where water has an economic regulator.

Examples of this framework include Britain (but with a separate water regulator), the Republic of Ireland and the majority of EU member states⁸.

⁸ See F.Trillas (2013) *The Institutional Architecture of Regulation and Competition: Spain’s 2012 Reform*.

A major reason for the distinction between these two groups is that telecoms and postal services all have the ‘monopoly’ network element at the local customer service point (e.g. the local loop). In the ‘core networks,’ however, there is network competition in these industries, particularly for telecoms. Conversely, electricity, natural gas and water all have common, physically unavoidable central networks (and/or local distribution networks).

A single body to regulate both telecoms (and possibly) posts but also including energy (and possibly water), such as the Office of Utility Regulation in Jamaica and the Bundesnetzagentur in Germany, is both less common and more controversial. A combined regulator can lead to ‘Cinderella’ sectors unless generously staffed. The World Bank advocated them in the 1990s for many small countries but in most cases, this advice was rejected e.g. in the Baltic States. In Botswana – a country with a population of just 2 million, the telecom regulator accepted broadcasting regulation responsibilities but not electricity and water, primarily because of the differences in industry and network characteristics listed above. Within the EU, only Germany, Luxemburg and Malta combine energy and telecom regulation in a single body.

For transport industries, practice varies. Railway economic regulators like ORR are uncommon; airport-airline regulators more common. Sometimes transport regulators exist, but often with a policy role.

3.2 Infrastructure Regulation without Sector Specific Regulators

The other main option is to make infrastructure industry regulation into a part of the competition agency’s remit. This can be done (viz. Australia, Netherlands) but is very uncommon. In Australia, the Australian Competition and Consumer Commission (ACCC) is responsible for Federal electricity regulation but not for the regulation of distribution or retail supply which is the responsibility of the States. Telecommunications regulation is shared between the ACCC and the Australian Communications and Media Authority (ACMA), with the latter also regulating radio spectrum and broadcasting.

In general, the trend over the last 10-15 years is clearly to establish separate sectoral regulators outside competition agencies viz. Germany. Trillas (2013) surveys the scope of telecom regulators in the EU and only two (Estonia and Netherlands) currently combine competition policy with telecom regulation, although there are (controversial) proposals that Spain should follow this model.

Note that EU obligations would require an independent Scotland both to have a designated competition agency and designated energy and telecom regulators. That eliminates the possibility of doing without telecom regulation and leaving it to general (ex post) competition policy as some economists have suggested.

4. Evidence on Resources Required for Sector Specific Regulatory Agencies

This topic has been systematically investigated by the World Bank and others. For electricity/energy, evidence from 34 developed country jurisdictions and 26 developing countries was collected in 2001. This data set was reported and discussed in Domah, Pollitt and Stern (2002) and revisited in Pollitt and Stern (2010)⁹.

The developed country jurisdictions in this 2001 sample included some very large US State Regulatory Commissions with 500 or more staff but also some very young – and small - regulators. For instance, the Netherlands energy regulatory agency in 2001 had only 25 staff; but, by 2005, this number had increased to 70. The data set also - and more importantly - included information on the number of professional staff. The definition of ‘professional’ was not standardized but left to the local reporting agent, but this should not create serious comparability problems for the developed country data set.

The main results from the 2001 survey are as follows:

- (i) The median number of energy regulatory staff in developed country regulatory agencies was 51. The mean was 131 but this included California PUC with 946 and a few other very large regulators.
- (ii) The median number of professional staff in developed country energy regulatory agencies was 32 with a mean of 81.
- (iii) Visual inspection of the data shows only two European energy regulators with under 30 staff – Netherlands and Ireland and both of these have since expanded to over 50 staff.

The Domah, Pollitt and Stern work also included estimation of some regression equations to explain the number of staff and of professional staff. The data set shows that for developed countries, the median energy regulator had 51 staff, of whom 32 were professional staff. The estimated regressions showed that, for developed countries, by far the most important factor in explaining staff numbers (both total staff and professional staff) was the number of customers followed by the number of regulated companies¹⁰.

⁹ Domah, P, Pollitt, M. and Stern, J., (2002 ‘Modelling the Costs of Electricity Regulation: Evidence of Human Resource Constraints in Developing Countries’, *CMI Working Paper No.11*
Also Pollitt, M. and Stern, J., (2010), ‘Human Resource Constraints for Electricity Regulation in Developing Countries: Has Anything Changed?’, *Utilities Policy*.

¹⁰ A 1% increase in the log of the number of customers was associated with an increase in staff numbers (both total and professional) of around 0.5%, but slightly more for professional staff. The coefficient on the squared number of customers was not statistically significant. These results imply that the predicted number of staff continue to increase with higher customer numbers, but at a decreasing rate the larger the number of customers. See Domah, Pollitt and Stern *op. cit.* Figures 2 and 3 as well as Tables 5 and 6.

There is no comparable source of data for telecom or other regulators. However, Buckle (1999) reported data for staff numbers in telecom regulators for 13 countries. In general, telecom regulators were quite large and, in the majority of cases where countries are in both data sets, the telecoms regulator had larger numbers of staff. Much depends on their role in spectrum management, which is labour-intensive.

5. Competition Policy, Infrastructure Regulatory Arrangements and Staff Numbers in the Republic of Ireland.

It is useful to learn from the experience in this regard from the Republic of Ireland (RoI) because:

- Scotland and the RoI have very similar populations – 5.3 million in Scotland as against 4.5 million in the RoI;
- Both Scotland and the RoI have a densely populated belt including the capital city and the well-developed economic area in which it is located; otherwise, they are both essentially a substantial low-density, rural land-mass with many low income inhabitants;
- The RoI, like Scotland, has substantial economic links – including physical infrastructure links with its immediate neighbour. These links are most obvious in electricity but also exist for railways and other network infrastructure industries.

Annex 1 contains more detail, but our summary conclusions on institutional design are as follows:

- (i) RoI exhibits the current ‘standard’ pattern of a competition agency and two main regulatory agencies
- (ii) The RoI competition agency (the TCA) is a single body competition agency like the CMA. It handles all competition issues but not regulatory appeals which are sent to the courts.
- (iii) The two main regulatory agencies are:
 - (a) *ComReg* (the Commission for Communications Regulation) which regulates telecoms, radio communications (including the management of radio spectrum), broadcasting transmission and the postal sector but not broadcasting content; and
 - (b) *CER* (the Commission for Energy Regulation) which regulates electricity, natural gas and has recently been given the responsibility for the economic regulation of water.

- (iv) There are also (a) a small airports/airline regulator and (b) a small transport regulator with policy as well as regulatory responsibilities.

On staffing levels, the RoI agencies have small-to-moderate levels of staffing, reflecting cutbacks since 2008. The TCA currently has around 45 staff, down from 60 before 2008. ComReg has around 120 staff and an annual budget of around Euros 25 million and CER has around 70 staff and an annual budget of around Euros 10 million. CER is likely to recruit an extra 15-20 staff to cover its new water responsibilities – a number very similar to that of WICS in Scotland.

Both ComReg and CER use paid consultancy advice to supplement internal analysis and provide peak load support.

These staffing numbers are around what one would expect e.g. from the data set and econometric modeling in Domah, Pollitt and Stern(2002). It is noticeable that, as in other jurisdictions, the communications regulator is larger than the energy regulator. We suggest below that this is likely to be a good guide to expectations under IS for this institutional structure, if the regulator were to be responsible for spectrum management.

The Northern Ireland economic regulator (NIAUR) gives a good indication of the absolute minimum size needed for an energy and water regulator. It employs 60 staff on an annual budget of around £8 million. This is for a population of 1.8 million.

The Irish example is also very relevant for Scotland in that there is an all-Ireland single generation market for wholesale electricity – the SEM. Regulatory responsibilities for electricity distribution and retail supply are handled separately by CER and NIAUR . But the SEM (including the North-South interconnectors) is jointly regulated by CER and NIAUR via the SEM decision making body. Each regulator is represented on the SEM decision making body along with an independent expert and each of the regulators – plus the independent expert - has one vote. (See Annex for more details.)

The all-Ireland SEM is clearly relevant for regulation of the GB electricity market under IS and possibly under more highly devolved ED approaches.

6. Competition Policy Design Issues and their Regulatory Implications

6.1 Competition law enforcement

This section first briefly discusses how competition law might best be implemented under our alternative assumptions of i) an independent Scotland (IS) and ii) enhanced devolution (ED).

Member states within the EU have little discretion about the competition law which they adopt, as its basic nature is pre-empted by Articles 101 and 102 TFEU, the first of which deals with agreements among firms, the second of which covers abuse of dominance by firms. In the UK, the Competition Act 1998 aligned UK law with the Treaty. But this does not preclude adding additional features to the bedrock. A good example is the ‘market investigation’ option introduced by the Enterprise Act 2002, which allows the UK authorities to investigate markets and, if an adverse effect on competition is found, to apply appropriate remedies. An IS would have to decide whether it wanted a ‘standard’ competition law based on Articles 101 and 102, or something more extended.

Enforcement of competition law in the EU already takes place within a two-level system, with the European Commission dealing with the more important cases involving significant interstate trade, and national competition authorities (NCAs) dealing with the rest.

This division reflects the fact that the rational location of decisions in competition cases is influenced, by, among other things, the geographical extent of the market. This problem is most acute where the geographical area of the market exceeds the area over which the enforcing authority has jurisdiction. But it may work in the opposite way if a locally focused issue has to be handled by an authority with a much wider jurisdiction (for example, if a local bus merger in Wales had to be handled in Brussels).

6.2 Competition law and regulation

As discussed in Section 3, in some jurisdictions, competition authorities are brigaded with sectoral/economic regulators to form a unified authority; in others the two types of law are administered by separate authorities.¹¹ Which is better? As with other issues discussed in this paper, the answer depends on the balance of output-related effects and input costs.

A brief survey of the arguments in favour and against combining *ex ante* regulation and *ex post* combination law in a single organisation is as follows:

A Pro combination factors

- P1. *Firm opportunism*: separation gives a firm the option of choosing the forum most favourable to its purposes

¹¹ Countries exhibiting a combination of an NCA with at least one NRA include: Australia, Estonia, New Zealand, the Netherlands, and prospectively Spain. Countries with separated agencies include: the US, Canada, Japan, the large majority of EU Member States. There is a third ‘hybrid’ category discussed under the heading of ‘concurrency’ below, which includes Greece, Ireland and the UK.

- P2. *Expertise*: the skills and knowledge held by a sectoral regulatory agency make it better suited to conduct competition cases
- P3. *Cost savings*: a combination should lower costs
- P4. *Agency rivalry*: in times of budgetary stringency, separate agencies may compete for budgetary resources by excessive populist interventions, which may imperil investment in network industries.

B *Anti combination factors*

- A1. *Authority opportunism*: an authority able to choose between *ex post* and *ex ante* intervention may choose the option most tractable and convenient to itself, rather than the most suitable option. It is generally assumed that this creates a bias in favour of *ex ante* regulatory remedies.
- A2. *Regulatory capture*: it is harder to suborn two organisations than one (although a combined organization may be stronger and harder to capture)
- A3. *Need for multiple viewpoints*: having the same body exercise both functions eliminates open and transparent competition of ideas between agencies in an important area of public policy. Harmonisation into a single agency means that bad decisions and errors can take longer to spot and be harder to remedy. Multiple viewpoints give the separate organizations stronger incentives to get things right.
- A4. *Resources*: it is possible that sectoral activity will overwhelm competition law enforcement.
- A.5 *Appeals*: separation allows the competition agency to set general guidelines for regulatory agencies and to act as an appeals body.

Finding the right path through these conflicting forces is difficult. Our preference is for separation between competition and regulatory agencies, based largely on concern about regulatory opportunism and about the resulting suppression of multiple viewpoints.¹² This reflects the views of some economists who have looked at these issues from a theoretical standpoint as well as the preferences that countries have increasingly revealed in their actual choices¹³. But, we are well aware that in the Scottish context, this judgment has to be tempered by concerns over costs.

¹² By way of example, one of the most prominent margin squeezes cases in Europe, in which Deutsche Telekom was found by the European Court to have breached Article 102 TFEU, concerns a set of tariffs which had been approved by the sectoral regulator (Case T-271/03 and Case C280/08)

¹³ See Trillas (op cit) who discusses this issue in detail and cites various papers in support of separation including Laffont, J.-J. and Martimort, D. (1999), 'Separation of regulators against collusive behaviour', *RAND Journal of Economics*, 1999.

6.3 Concurrency

Concurrency is a sectoral form of combination of the roles of the competition authority and the regulatory authority, in that it assigns enforcement of competition law in the sector in question to its regulator. It thereby entrusts to the regulatory body the choice over whether to take an *ex ante* or an *ex post* approach. This is precisely the above-noted anti-combination factor, A4.

Concurrency has been subject to debate in the course of the recent Enterprise and Regulatory Reform act. In the course of its enactment, it has been suggested that regulators have preferred the *ex ante* route, on the ground that it gives them greater control. The concurrency arrangement has not been fundamentally changed in the Bill, but opportunities have been created for it to be over-ruled in particular cases or even for concurrent powers to be withdrawn with competition powers in the sector reverting to the CMA.

Combining competition and regulation in a single agency clearly makes concurrency option moot: there is no separate regulatory body to ‘take on’ competition powers. Those (like the present authors) whose objections to such combination revolve around regulatory opportunism and the suppression of multiple viewpoints are likely to have concerns about concurrency as well.

6.4 Appeals

Both regulatory and competition law decisions are normally subject to appeal both on the merits and on process.

Different jurisdictions take quite different approaches to both the nature of the appeal - particularly over its thoroughness – e.g. a full on the merits standard or a judicial review standard only; the degree of deference to be accorded to the authority which took the decision under appeal; and the identity of the appellant body. Candidates for this last role include:

- a specialist tribunal, such as the Competition Appeals Tribunal (CAT);
- the general courts;
- an *ad hoc* appeal body; or
- a body such as the Competition Commission, which will conduct an administrative rather than an adversarial appeal of technical economic issues, such as price controls.

Under IS, a new appeal body is required.

Between them the authors have direct experience of each of the above-noted arrangements in different jurisdictions. This has left us with a preference for the first or the last option, but we also recognize that such specialist institutions may not make sense in small jurisdictions. We do, however, see the necessity to ensure that the appeal body is fully separated - physically, organisationally and in budgetary terms - from the initial deciding body. Absent this, there will be at least an appearance of prejudice and conflict.

Under ED, the current UK arrangements could be extended, if desired, but probably with an enhanced Scottish presence in the CMA and, probably, the CAT. This might involve some or all of the following: a separate Scottish Chamber, a mandatory Scottish member on all cases involving a Scottish issue and/or a Scottish branch of the institution.

7. Institutional Options for Scottish Competition Policy and Regulation

We start by looking at options under independence and then consider how this might change under enhanced devolution.

7.1 Competition Policy and Regulatory Options for an Independent Scotland (IS).

We assume in what follows that IS would be a full member of the EU. If so, it would be required under EU legislation to have a agency or agencies which enforces EU competition law and network industry regulations of the type mandated by the various EU Directives. However, these agencies could choose to handle all the work in Scotland or (subject to agreement on both sides) to delegate or share some of it with established London-based agencies in the rest of the UK.

On *competition policy*, on past precedent Scotland, as a Member State of the EU, would have an NCA, the writ of which would broadly run in its territory. In respect of cases subject to investigation and not dealt with by the EC, that country's NCA would deal with it. This is exactly the current system applying, for example, to a merger affecting France and Italy; both NCAs would examine it. The problem is that, just as the US and the EU authorities sometimes do not agree, so the NCAs of two Member States may not agree – for example, in the case of a merger, over whether it should be allowed, and, if it is allowed, subject to what conditions.

The implications of a separate NCA for Scotland are thus not novel, but the high level of integration of the UK and Scottish markets for many goods and services is likely to lead to many overlapping cases and risks a higher number of conflicting results. It is therefore natural to ask if some form of joint process involving the Scottish and UK NCAs might be designed to deal with such cases. This would avoid having to deal with the considerable degree of overlap of Scottish and rest of UK markets (and the inevitable greater scope for conflict between competition agencies). Avoidance of duplication and of conflicting results creates a potential gain form some kind of combined approach by the two NCAs in relevant cases.

For the reasons given in Section 6, we favour keeping competition enforcement agency separate from infrastructure regulation.

For *telecoms and related industries*, under IS, there would need to be a Scottish communications regulatory locus with the regulator's actions to a high degree governed by the European Directives for electronic communications services in force at the time.

In relation primarily to fixed networks, it would have to establish an access regime for any operator with significant market power. For both Scotland and the rest of the UK (RUK), this would be BT. The RUK and Scottish NRAs would have notionally to ‘disaggregate’ BT’s network for this purpose. This task, which might most easily be accomplished (at least in the first instance) by means of joint study, the two NRAs would subsequently make their own regulatory decisions within the EU Directives.

In relation to wireless communications, the principal regulatory task is often that of spectrum management. This can be entrusted either to a governmental body (as in the Netherlands), or to an independent regulator, which may be the communications regulator. Neither option is clearly superior.¹⁴ In practice, the relevant authorities in many adjacent member states (including the two in the island of Ireland) have faced the problem of co-ordinating their spectrum management policies over national boundaries. This is now fairly commonplace, even if it is not always smooth and efficient.

One problem is that such a fragmentation of regulation is not well calculated to promote the single market of telecommunications. As an example, mobile operators in border regions may charge international call rates and the even more disadvantageous international roaming rates for cross border voice and data services. (This has been a problem in the island of Ireland.) Independence may also precipitate discussion about the sharing of auction revenues when existing licences have years to run under the new jurisdictions.

In short, the UK and Scotland would have with respect to telecommunications, and similarly with posts, to face for the first time problems which the Baltic States, the Benelux countries and other groups of adjacent countries have faced for years. It will not be pleasant, but is unlikely to be disastrous. And some form of explicit regulatory co-operation may be necessary as well as attractive.

For *water and sewerage*, there is no need to modify existing Scottish regulatory arrangements based on WICS. However, should an England-Scotland retail water market develop from 2017, there will be a need for WICS and Ofwat, along with the respective governments, to agree a regulatory framework.

Energy (electricity and natural gas) present the most difficult set of issues. To meet existing EU requirements, there would be a need for a Scottish energy NRA. This could be part of a larger body (e.g. combined with water or even with competition policy).

The first major problem with electricity and gas industry regulation under IS is how to address cross-border wholesale generation and gas markets and the management of the England-Scotland interconnectors. Assuming that the wholesale markets would continue to be integrated across both countries and integrated management of interconnectors, that would require joint RUK-Scottish regulation based on joint government agreements. The Irish SEM and its regulation might provide a useful starting point for negotiating such arrangements.

¹⁴ In short, giving the task to a governmental body may involve politicising it. Giving it to a communications regulator may place non-communications spectrum users at a disadvantage.

The second problem with energy is how to handle off-shore gas and electricity production and the associated transmission. That will depend, at least in part, on how the relative ownership shares of disputed off-shore energy resources are determined.

We would expect that achieving acceptable institutional and substantive agreement in this area could be difficult under IS given the strong desire of the Scottish Government to increase renewable electricity exports to RUK. This could readily come into conflict with (i) the role of current UK subsidies in supporting renewable investment in Scotland; and (ii) transmission network investment costs and charges¹⁵. Scottish electricity consumers could possibly face significant tariff increases if subsidies from RUK were cut off and/or RUK greatly increased its imports of renewable electricity (particularly wind-power) from Republic of Ireland or elsewhere.

In general, the arrival of independence could well threaten existing compromises on these energy network issues, as happened in the Czech-Slovak divorce and elsewhere in Central and Eastern Europe (e.g. the Baltic States and the merger of East and West Germany). However, post-independence negotiations would at least be constrained (and might be significantly eased) by EU moves towards a Single Energy Market and the implementation of the Project Target model for inter-country market expansion within the Third Energy Package¹⁶.

For *railways*, intra-Scottish railway regulation could be handled within a small Scottish transport regulator – or perhaps bundled into a wider regulator. However, even if Scottish licences were required, the development and regulation of the Anglo-Scottish lines would at least have to be shared with ORR. The same seems to apply if not to airports, then to air traffic control. Airline regulation could be done on a ‘Scotland’ basis.

For the reasons given in Section 3 above, we would recommend separate communications/spectrum and energy regulatory agencies under IS, the latter probably jointly with water. We would also both recommend and expect a separate competition agency, rather than a single competition plus regulatory agency. This would correspond to what has been found most suitable in the Republic of Ireland.

As for staffing levels, we would suggest that RoI staffing levels are likely to give a good ball-park estimate of staff numbers needed in the medium to long-run in Scotland under IS. This means at least 50 staff in the competition agency, around 100-150 staff in a joint communications/spectrum regulator¹⁷ (unless that were run on a minimal basis primarily relying on Ofcom), and around 80 for an energy and water regulator. This is consistent both with the results from the above-noted econometric work based on international survey data as well as with RoI staffing levels.

¹⁵ The issues on transmission investment include both (a) the volume of investment required (e.g. as the share of intermittent wind-powered generation increases); and (b) the degree to which transmission tariffs are explicitly distance related rather than ‘postage stamp’ averaged.

¹⁶ For more detail, see Chapter 4 of J Stern, M.Cave and G Cervigni (2012), “The role of system operators in network industries”, *CERRE Study*.

¹⁷ Appreciably less if spectrum regulation is done elsewhere.

The numbers required in the competition agency under IS would, in part, depend on whether or not the competition agency handled regulatory appeals (as is currently the position in Britain), or whether they would be handled elsewhere (as in Ireland.) Additional staff would be needed, if the Scottish competition agency were to take regulatory appeals on Scottish regulatory issues, or on issues involving cross-market Scottish-England & Wales topics

7.2 Scottish Government Recommended Competition Policy and Regulatory Options for an Independent Scotland (IS).

The text of the main paper published in February 2013 by the Scottish Government on competition and economic regulation recommends *either*:

- (a) a combined competition and economic regulator (as in Estonia and the Netherlands); *or*
- (b) a combined regulator with a separate competition agency,

The Scottish Government paper leans towards (b) above except that it appears to opt for one rather than two regulatory agencies.. However, Section 5 accepts that, for railways and telecoms, “ ... it is likely to take longer to develop the full range of expertise” It also states, on page 14, that “One option would be to create a new corporate body for water regulation and then, by staged commencement, bring all the other regulatory functions into that body”. The key question is whether or not this new body would include or exclude telecoms.

The discussion in Section 5 of the Scottish Government Paper is close to the approach we have recommended, particularly if Scottish telecom regulation were kept minimal. If not, we suspect that IS would require a separate and sizeable telecoms regulator - as in Ireland and most other countries.

On staffing numbers, the Scottish Government paper and Annex A at some points suggest that numbers and costs could be kept very low by merging institutions. However, it is far from clear that this is what is expected.

The last column of Figure A2 on p.20 (staff per million population) implies a total number of regulatory and competition staff in IS of between 180 and 360, with Netherlands giving the lower figure and Finland/Croatia the higher. The numbers we suggest above suggest above would give a minimum of 230, plus transport and other small bodies, with a more central estimate of 305 (assuming 150 telecom regulatory staff and 75 competition agency staff.¹⁸ Applying the UK number per million population would imply 310 staff plus a few in transport, etc. Hence, the implied Scottish Government staff numbers look sensible – but rather higher than one might expect from the text.

On costs, the text also seems to suggest some potentially large savings. However, the concluding statement on this in Annex A ends up suggesting a gain from merging institutions of 10-20%.

¹⁸ This assumes that spectrum management is a regulatory rather than a governmental function

It is unclear what level of merger is proposed but the suggested savings do not seem unreasonably high.

The main problem with the Scottish Government paper is that it tends to consider the choice of institutional arrangements rather more by staff numbers and costs than by any economic or regulatory assessment criteria. We would strongly recommend that the best way to design effective competition and regulatory institutions is, firstly, to establish their purpose and then to consider costs and staffing as a constraint.

7.3 Competition Policy and Regulatory Options under Enhanced Devolution

This section is inevitably more speculative, because it depends primarily on how far devolution is enhanced and in what sectors.

For *competition policy*, under ED, there is scope for an extension of the current two-level regulation of competition which applies in the EU to a three-level system. This could involve the EC, UK NCA and a devolved Scottish Authority, the last dealing with competition issues wholly or largely confined to Scotland. It should be noted that we know of no precedents in other countries for competition agencies below national level. To the best of our knowledge, they are not found in any EU country, nor in North America or Australia.

In addition, a quick scan of recent Competition Commission inquiries suggest that only a small proportion of the recent crop would fall to the Scottish Authority, although we recognize that a phase 1 (sifting) process with a closer territorial focus might change this situation. This suggests that an enhanced Scottish presence within the CMA – probably with a base in Scotland - could well achieve the same objectives but at rather less cost. We would expect this ‘Scottish Chamber’ to focus more on phase 1 issues rather than detailed phase 2 investigations.

As far as regulation is concerned, the scope for efficient devolution appears to depend on three factors:

- (i) the degree to which the underlying network assets providing the services are separated rather than integrated;
- (ii) the degree to which under devolution Scotland on one hand and England & Wales on the other pursue different policy goals in the relevant area; and
- (iii) the degree to which there are scale economies associated with having the regulatory task performed over a larger geographical area.

In the case of water, England & Wales and Scottish network assets are virtually separated, and WICS has shown that water regulation can effectively be accomplished on a devolved basis.

In the case of airports (but not air traffic control) non-hub airports are separated assets, so that integration would not appear to stand in the way of devolution.

The decision may therefore be affected by the nature of the Scottish Government's aviation policy and considerations of efficiency.

In the cases of energy, railways and telecoms, both local and national activities take place on network assets. The cases will therefore require detailed examination. The energy question (and the scope for policy differentiation) are discussed above. However, the risks of losing renewable subsidies and continuing to maintain a compromise on transmission tariffs could be significantly higher for ED than under IS. That would benefit Scottish consumers.

In the case of railways, the network provides a mixture of local and long-distance services, which creates a possible argument for regulation of infrastructure at GB level. But decisions about the provision of services on the network can be devolved.

In telecoms, networks provide local and, increasingly, national or global data services. Regulation is heavily predetermined by European legislation, although the nature and level of broadband subsidy, subject to State Aid rules, is already devolved. The pressure on spectrum regulation is in the direction of integration at the European level rather than fragmentation. On this basis scope for extended devolution may be limited.

On this footing the most likely and most immediate candidates for regulatory changes under ED seem to be

- (a) the formation of a Scottish energy regulator, combined with arrangements as in Ireland for Anglo-Scottish co-operation.. This might be achieved by scaling-up WICS or by creating an Ofgem-derived variant;
- (b) Scottish 'chambers' or local offices to be established in the CMA, Ofcom and ORR to ensure proper coverage of Scottish interests.

We would expect the staffing and expenditure costs of these proposals to be modest.

ANNEX

Competition Policy, Infrastructure Regulatory Arrangements and Staff Numbers in the Republic of Ireland.

In considering regulatory options for an independent Scotland, the example of the Republic of Ireland (RoI) is very instructive. This is for three reasons:

- (i) They have very similar populations – 5.3 million in Scotland as against 4.5 million in the RoI;
- (ii) Both Scotland and the RoI have a densely populated belt including the capital city and a well-developed economic area in which it is located but, otherwise, they are both essentially a substantial low-density, rural land-mass with many low income inhabitants;
- (iii) The RoI, like Scotland, has substantial economic links – including physical infrastructure links with its island neighbour, respectively Northern Ireland and England. These links are most obvious in electricity with direct physical transmission interconnectors and wholesale markets but the same point arises to a lesser extent with railways and other infrastructure industries.

A.1 Institutional Structure for Competition and Regulatory Policy in the RoI

The RoI has a single competition agency – the TCA. It currently has about 45 staff, down from 60 before 2008. The TCA is responsible for administering EU and Irish competition law within the Republic. Unlike the UK, the TCA does not handle regulatory agency appeals which go to the courts. The TCA covers the range of responsibilities currently covered in Britain by the OFT and the CC.

RoI has its own ICT regulator – ComReg. ComReg is responsible for the regulation of telecoms, radio communications (including radio spectrum issues), broadcasting transmission and the postal sector but, at least currently, not for broadcasting content regulation. ComReg currently has around 120 staff and an annual budget of around Euros 25 million.

RoI also has an electricity and natural gas industry regulator – the CER. The CER can employ up to 85 staff and currently employs around 70 people on an annual budget of around Euros 10 million. CER has also recently been given responsibility for water industry regulation as the Irish government has recently consolidated the local Irish water and sewerage companies into a single semi-State company - Irish Water which has been established as an independent state owned company¹⁹. CER is likely to recruit 15-20 new staff to cover water and sewerage.

The RoI also has a small airports/airline regulator and a small other transport regulator with policy as well as regulatory responsibilities.

¹⁹ Irish Water has been established within the Bord Gais Group, which is responsible for natural gas transport, distribution and retail supply within the Republic

This regulatory structure and the associated numbers are similar to what one would expect for a country of the size of the RoI. Given Ireland's financial and budgetary problems since 2008, there has been considerable pressure on these regulatory agencies (as on all Irish public sector bodies) to keep costs and staff numbers as low as possible. It is worth noting that the proposed water regulatory staff complement is very similar to that of WICS.

To give some idea of minimum number of staff required in infrastructure regulation, NIAUR (the Northern Ireland electricity, natural gas, water and sewerage regulator) employs 60 permanent staff on an annual budget of around £8 million. This is for a population of 1.8 million people.

A.2 The All-Ireland Single Electricity Market

The RoI and Northern Ireland are each responsible for the regulation of their own retail supply and distribution sectors for electricity and gas via CER and NIAUR respectively as well as for within-area transmission. There is no gas interconnection between the two but there is significant electricity interconnection with three North-South interconnectors and proposals for at least one major new one.

The all-Ireland Single Electricity Market (SEM) was established in 2007. This provides an all-Ireland wholesale generation market (including ancillary services) with linked transmission via the N-S interconnectors. The SEM sets trading rules for buyers and sellers and is underpinned by regulated transmission tariffs. The SEM is operated by SEMO (the Single Electricity Market Operator) which is a joint venture between EirGrid and SONI, respectively the transmission system operators of the Republic and Northern Ireland.

The SEM Committee is the decision-making body governing the market which consists of CER, NIAUR and an independent expert, each of whom has one vote²⁰.

Australia has not dissimilar arrangements with a National Electricity Market (the NEM) which covers wholesale markets in Australia other than Western Australia and the Northern Territory. The NEM and associated transmission is regulated by a Federal agency within the ACCC (the Australian competition commission) but with intra-State network services and supply regulated within the individual States²¹.

Were Scotland to become an independent country, a framework of this type would provide an obvious potential model for the British electricity market.

A.3 Republic of Ireland and Energy Policy Issues Affecting Regulation

²⁰ See CER April 2011 Factsheet on the Single Electricity Market. This provides a good introduction to the SEM and has links to more detailed documents.

²¹ See http://www.aph.gov.au/Parliamentary_Business/Committees/Senate_Committees?url=electricityprices_ctte/electricityprices/report/c02.htm for more details.

The Republic's main utilities have been state-owned. There is virtually no Irish gas production.

In electricity, the Irish Government has maintained a vertically integrated ESB and, in the past, has opted for minimalist unbundling variants of EU Electricity Directives and limiting competition. However, for financial and other reasons, the Irish Government was proposing in early 2012 to sell some of ESB's "non-strategic" generation but to retain ESB as a vertically integrated state-owned company. This proposal, which is a classic 'national champion' ploy, replaced an earlier proposal to sell a minority stake in ESB²².

Bord Gais Eirann, the Republic's gas company, is much less of a national champion, not least because it has to import (almost) all of its gas. However, in February 2012, the Irish Government announced that the BGE gas supply business would be privatized but the transmission and distribution systems plus the interconnectors with Britain would remain in State ownership. Nevertheless, this would mean a largely vertically unbundled Irish gas industry.

One final issue affecting North-South energy policy is that the Republic is (like Scotland) pursuing a very ambitious expansion of renewable energy – mainly wind-power. Northern Irish plans in this area are much less ambitious which may cause problems for the SEM. More importantly, the Republic, like Scotland, sees sales of wind power to England as a major revenue earner.

²² See Mason, Hayes and Curran Newsletter, February 2012 <http://www.mhc.ie/publications/item/540/update-on-irish-state-asset-commercialisation-privatisation-opportunities/>. For a critical view of ESB's performance as a relatively protected national champion, see Richard Tol blog "Towards a Privatized ESB" in The Irish Economy of September 2011. Tol's article generated a large number of heated responses, for and against

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