

How the UK could benefit from extending the digital single market in telecommunications

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1. Introduction

One of the conditions set by the British Prime Minister as necessary for him to recommend that the UK remain in the EU was a common European accord to extend the digital single market². This makes a great deal of sense, both in real economic terms and as a marker that Britain, a country which has an important specialisation in services, can thrive in the Single Market³.

Extending the digital single market requires that barriers which fragment the European market into a set of national markets with different rules, hindering cross-border trade, are dismantled. These barriers can be aggregated into four categories: differences in consumer protection rules, differences in the e-business environment (such as degree of trust in online purchasing), differences in taxation and accounting rules and systems, and, differences in sector regulation relating to telecommunications (Copenhagen Economics:2010).

Perhaps counter-intuitively, given some of the general rhetoric that surrounds the UK's relationship with the EU, what the identification of most of these barriers implies is that the UK government ought to be pursuing an agenda whereby a series of individual national rules are replaced by single EU-wide rules. Unfortunately for those politicians who might prefer a simple life, there is a tension between seeking to "reduce interference" from the EU and seeking a single market to replace 28 different national markets.

This paper focuses on one of these sets of barriers: the differences in sector-specific regulatory rules in telecommunications and the impact they have on businesses and consumers in general. Here it appears that while the United Kingdom wills the deepening of the Digital Single Market as being in the national interest, it also appears that it may be reluctant to will the means by which it could actually be delivered. This reluctance might arise for fear of offending a perspective which many people have been encouraged to hold by some politicians and parts of the popular media— that of an EU which dictates rather than a venue where common rules are adopted.

This article will argue that the specific reluctance to deal with barriers in telecommunications appears to be due to the confluence of three factors:

- a possible concern amongst junior government Ministers that any pooling of sovereignty is politically unacceptable even where there are practical gains to be made for the UK;

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² <https://www.gov.uk/government/speeches/european-council-june-2015-david-cameras-speech>

³ Note that while it is sometimes held that the UK is a uniquely service-based economy, the relative economic importance of services in the UK is not that different from most Member States at 79% of GDP. It is not the highest, services share of GDP in Luxemburg is 87%. France's share is 78.5%. Italy's is 77%. Germany is something of an outlier at 71%. <https://www.quandl.com/collections/economics/services-share-of-gdp-by-country>

- a delegation of policy-making authority in telecommunications in practice to a regulator which is focused on ensuring the roll-out of consumer broadband rather than promoting the wider economic benefits which would accrue to British business if a discrete amount of decision-making was pooled in order to open up cross-border markets; and
- while there is a general willingness to pursue the digital single market amongst EU institutions, a change in generations of officials may risk a loss of precision as to how subsidiarity might best be pursued. Rather than an across-the-board pooling of authority, an emphasis on more pooling of authority with respect to wholesale telecommunications inputs for business services rather than with respect to inputs for broadband consumer services might be the most efficient mix. The fact that decision-making with respect to consumer broadband is the most politically sensitive and therefore the least susceptible to the pooling of sovereignty might also underline the value in disentangling the regulatory needs of business and consumer markets.

There would appear to be some scope for the UK government to seize the initiative and argue for a system of governance in telecoms regulation which will open up the digital single market for businesses⁴. This could entail learning from the mechanism promoted for pharmaceuticals during a previous Conservative UK administration. The latter is widely viewed, including by business users, as having been very successful (European Policy Forum:2007:58; Kelemen and Tarrant:2011:942). It can also be characterised not as EU imposed decisions but an agreed requirement that national regulators must collectively work together to come up with effective and binding solutions. A move to such a requirement is reasonable in light of the failure of most telecoms national regulators to pay any notice to the recommendations of their own collective body, BEREC, on cross-border business services. In other words, politicians ought to impose a rule on the telecom regulators since the latter have been given the opportunity and failed to self-regulate themselves.

2. To what extent is there already a digital single market in the EU?

2.1. This depends on what we mean by a single market. If we mean a series of national markets in which any European company has the right to establish itself and one in which any European company is permitted to trade across borders subject to compliance with national rules in other Member States, then there is a single market in digital services. If we mean a market subject to a single set of rules which thereby reduce the costs to businesses and consumers of trading across borders, then we do not yet have a complete single market (Copenhagen Economics: 2010; ECORYS:2011; European Commission: 2013 and 2015; Pelkmans and Renda: 2011). In the rest of this report, we will refer to these two forms of single market as the “incomplete” and the “complete” single market.

2.2. The creation of the first type of market, the incomplete single market, has been of benefit to the UK. British politicians sometimes suggest there is in general no single market in services⁵. This is not an accurate evaluation, since the UK runs a large balance of payments surplus

⁴ The European Commission (2015) is consulting on and the European Parliament (2015) has called for a revision of regulatory governance in order to facilitate completion of the single market for digital services.

⁵ <http://blogs.new.spectator.co.uk/2014/01/the-eu-had-30-years-to-create-a-single-market-and-failed-we-need-change/>

with the rest of the EU in services⁶. It is also worth noting that EU countries (including the UK) import services equivalent to approximately 32% of the world trade in services. The EU potentially comprises a much more valuable market than the US which imports just under 10% of the global trade in services⁷.

2.3. A reason people may doubt the existence of a single market in services is the dead-weight influence of older conceptions of international trade. Traditionally, trade economists had taken the view that while goods can be traded internationally, services typically were not - since they were consumed locally at the point of production⁸. Haircuts were often given as the example of a typical service which could not be traded internationally⁹. It is true that services have appeared to be traded less across borders than goods. For example a recent paper by the CityUK used the traditional figure of services constituting just 20% of international trade¹⁰. However, it is now widely recognised that a cross-border market for services exists and it has been facilitated by digital communications. Furthermore, it has been recognised that services inputs are embedded in final goods exports. The OECD recently noted "The progression of the debate over services in the global economy has moved from one long period in which most services were dismissed as being "untraded" or "invisible" ...Analysts and policymakers are increasingly aware of the pervasive importance of services both as tradeable in and of themselves, as well as their integral contribution to production and trade in goods"(OECD:2014).¹¹ The OECD notes that on average services comprise 42% of the added value incorporated in goods exports and that the figure is the highest for the UK with almost 60% of the value in final goods exports coming from intermediate services inputs(OECD:2014:16).

⁶ For example in 2014, the UK balance of trade surplus in services with the rest of the EU was £23bn:

<http://www.ons.gov.uk/ons/rel/international-transactions/outward-foreign-affiliates-statistics/how-important-is-the-european-union-to-uk-trade-and-investment-/sty-eu.html>

⁷ https://www.wto.org/English/res_e/statis_e/its2013_e.pdf, p.26

⁸ See the trade economist Bhagwati's critique of the old fashioned approach in Political Economy and International Economics (Bhagwati:1996: 234).

⁹ The author attended a seminar held in Brussels in May 2008 where senior staff from national regulators said that cross-border services did not exist in ICT (http://www.eu-newgov.org/database/DELIV/DCLAD23_Practitioner_Forum_European_Networks_of_Regulatory_Agencies.pdf). This may lead them to favour a certain conception of international trade. As Pelkmans and Renda note "Institutionally, NTRAs have, almost by default, a powerful vested interest to maintain the current splintered set-up of the EU "internal" market (Pelkman and Renda:2011: 10).

¹⁰ Services account for 75% of Global GDP but only account for around 20% of total trade. CityUK "Analysing the case for EU membership"(2014), p.60

¹¹ The UK Treasury, in a paper on the long term challenges and opportunities for the UK economy, noted as long ago as 2004 that: "The ICT revolution has intensified international trade in services, extending the frontiers of international competition into sectors that were once sheltered. Traditionally, international trade in most services has not occurred because such services were thought to require buyers and sellers to be in the same place at the same time. Many services, however, do not require physical proximity, but have usually taken place face-to-face because of technical constraints, habits or customs. Such services involve the exchange, storage, processing and retrieval of information. Production and consumption of services can now be separated through the standardisation of process and the capacity for data storage or because geographical distance is not a barrier for the simultaneous production and consumption of services, for example through call centres. ... Use of ICT enables information to be codified and digitised. This information can be stored and exchanged in electronic form, and allows services that use it to be provided remotely, often much more cost-effectively than they could be locally. Such services range from simple data-handling activities to services that involve the application of a high degree of skill. Thus advances in ICT have solved the technical problem of transporting and storing many services." (HM Treasury 2004: 14)

- 2.4. EU-wide agreement has been critical to opening up the “incomplete” services markets for cross-border providers. EU legislation in the 1990s, for example, opened up national telecoms services and infrastructure markets which had previously been exclusively reserved for monopoly national incumbent operators (Pelkmans:2001; Thatcher: 2007; HMG: Balance of Competences:2013:46). UK operators have been major beneficiaries. Vodafone for example has become one of the leading European mobile operators¹², whilst BT is one of the leading cross-border business services provider¹³. The telecoms infrastructure and services market is important for GDP but is not as important as e-commerce market and a fraction of the third market discussed in para 2.5. below. In 2013, telecommunications industry revenue in the UK represented 2.3% of GDP (OECD:2013)
- 2.5. In terms of cross-border digital sales, the UK also has one the leading e-commerce sectors in the EU, together with Germany.¹⁴ More consumers from the rest of the EU purchase on-line from the UK than from any other Member State. 71% of British retailers also offer cross-border delivery of on-line sales¹⁵. However, the sector is still relatively small due to the four categories of barrier set out in the introduction and which make it difficult for firms to sell into other Member States and for consumers to have confidence in the conditions of sale. In its strategy document for the digital single market, the European Commission cites evidence which predicts that a complete single market would quadruple the value of ecommerce (Commission:2015:5). Ecommerce is currently estimated to represent an additional 3.1% of UK GDP (ATKearney:2015)
- 2.6. However, following the approach of the OECD, it is key to note that the concept of a digital single market is not something which should be reduced to telecoms products and services plus e-commerce. Whenever a consumer located in an individual Member State purchases a good or a service locally which comprises a good or service created from intermediate inputs from throughout the EU and where digital services are integral to that production process, regardless of whether the consumer buys on-line or physically, the consumer is a beneficiary of the digital single market and added value is created. This is by far the biggest economic contribution of the digital single market to GDP. Its importance however lies not just in its traded value as a cost of production but in the fact that it comprises the nervous system of the entire single market production process (OECD: 2014). In other words, the digital single market is now embedded inside the success of the single market in goods and it permits not just more efficient production but potentially new forms of production.

¹² 26% of all mobile phone subscribers in the EU are Vodafone customers
https://www.vodafone.com/content/dam/group/policy/downloads/vodafone_europe_investing_for_future_feb_2015.pdf, p.5. Due to its acquisition of Cable and Wireless’s business services division, Vodafone is now also an important provider of all forms of cross-border telecoms services to businesses: <https://www.gartner.com/doc/reprints?id=1-27HTSRU&ct=150115&st=sb>

¹³ <https://www.gartner.com/doc/reprints?id=1-27HTSRU&ct=150115&st=sb>

¹⁴ https://www.atkearney.com/consumer-products-retail/e-commerce-index/full-report/-/asset_publisher/87xbENNHPZ3D/content/global-retail-e-commerce-keeps-on-clicking/10192

¹⁵ <http://www.thepappers.com/ecommerce-facts-and-figures/uk/6>

- 2.7. For example, a leading European truck manufacturer has said in the event that it could obtain ubiquitous mobile data service throughout Europe from a single supplier, at low cost, and, with a single predictable and defined level of service from that single supplier, then it could introduce an application of the “internet of things”. Parts in trucks in use would be able to electronically inform garages as they came to the end of their lifespan and trucks could adopt itineraries which took in repair/ replacement while still engaged on their own business delivery (Indepen:2008:15).
- 2.8. A complete digital single market could lead to major efficiency gains in the 82% of the British economy excluding government services which is traded (roughly 18% consists of government services). At a minimum, it is likely to impact positively on exports to the EU which comprise roughly 20% of the UK’s traded economy (McFadden and Tarrant:2015:30)
- 2.9. All of the available estimates as to the forgone gains to growth by failing to transition to the complete digital single market indicate that the loss is large. What is interesting about this literature is that the organisations which represent multinational business users of telecoms and multinational business service providers factor in a dynamic effect on growth based on the productivity gains multinational businesses could achieve by being able to reorganise themselves across the single market if they were able to obtain the telecoms products they require (Indepen:2009; WIK:2013). In other words, these organisations calculate the effect of achieving a complete single market. Studies conducted for the European Commission, however, simply extrapolate what the economic gains would be if the least competitive national markets with the lowest broadband rollout were brought up to the level of the best performing markets: in other words, where there is convergence between a set of different markets comprising an incomplete single market. (ECORYS/TU-Delft: 2011; MICUS: 2009). This methodology appears inadequate to take account of potential gains which can only be realised in common. Implicitly, and counter-intuitively, the logic of these models also suggest that deepening the single market cannot be of any benefit to the best performing national markets. The example provided by the truck manufacturer give in 2.5. above falls into the category of potential gains which would accrue to all economies and which are not taken into account. It is unclear why the studies conducted for the Commission have used a methodology based on an incomplete single market to predict the possible gains of moving to a complete single market.
- 2.10. A consequence of ignoring the effects on business of a true single market in cross-border telecoms services has the effect that the estimates of the overall effects on growth from studies conducted for the Commission are lower than the estimates made in the studies conducted for business users’ organisations¹⁶:

¹⁶ Oddly, the methodological approach adopted in the ECORYS report restricts the effects of effective regulation of wholesale inputs for business services to the reduction of costs for business service providers alone without recognising the effect of the availability of products (and reduction of costs) on what MNCs could then do with their IT process and with their vertical and horizontal organization. From this perspective, the quantitative analysis in the ECORYS report does not match its own qualitative analysis which recognises that regulatory fragmentation is preventing innovation. For example, ECORYS note “the heterogeneity in the implementation of regulation forces multi-country operators to duplicate costs thereby limiting opportunities to realise economies of scale (ECORYS:2011:13). Both the Indepen and WIK studies explicitly accept that the reduction of costs for business service providers is low, but critically model the majority of the gains as coming from extending IT and from reorganisation/innovation in business processes.

- 2.10.1. ECORYS predicts that bringing each member of the incomplete market up to the same level would increase overall EU GDP by between 0.22 and 0.44% per annum (ECORYS:2011:69).
- 2.10.1. WIK takes a more holistic approach and looks at all gains from more open communications markets, including productivity gains, efficiency gains and welfare gains. They estimate that a more effective regulation of wholesale services for business users would lead to gains of EUR 774.45bn in terms of NPV over a 15-year period, almost two third of which would come from productivity gains (WIK:2013:11).
- 2.10.2. Indepen estimates an economic gain of between EUR 1,196bn and 1,277bn in terms of NPV over 20 years when assessing the full static and dynamic effects due to the development of true pan-EU communications services based on 'ubiquitous access.' This is equivalent to an increase in EU GDP gradually rising to between 1.6 and 2 per cent over a 10-year 'settle-in' period (Indepen:2009:31).¹⁷
- 2.10.3. To sum up, while Ecorys estimates incremental GDP growth of between 0.22% and 0.44% per year over a 10-year period, WIK estimate a rise in growth of GDP which stabilises at 0.6% per year: so between 50% and 300% larger than the effect modelled by ECORYS. Indepen estimate an upper bound of GDP growth of 0.41% in the first ten years and of 2.01% in the following ten, or an average growth rate of 1.18% over the entire period.¹⁸ While these figures are not directly comparable, due to the different methodologies deployed, they give an idea of the different sizes of the estimated impacts - and of the importance of modelling the effects on what MNCs could do in an altered environment, particularly over a time-frame in which business reorganisation can be undertaken.
- 2.11. Given that use of cross-border ICT is primarily a phenomenon undertaken by MNCs (OECD:2014) and the UK has a disproportionate level of inward investment from MNCs (HMG:2015:6), one could reasonably assume that greater restructuring around MNCs will lead to greater gains from trade for the UK than for most Member States.
- 2.12. A further problem with the methodological approach adopted by ECORYS and MICUS is that it tends to suggest that greater rollout of broadband is the solution to increasing European productivity. However, we can be pretty sure that this is too simplistic. EU roll-out of broadband surpassed that of the US in 2004 (OECD:2007) . At the same time, EU productivity has fallen away relative to that of the US, a phenomenon which began when we entered the digital age. Commentators suggest that the reason for this is that EU businesses cannot organise themselves to obtain the continental economies of scale which their US competitors can achieve (Copenhagen Economics: 2010). Part of the reason for this is that the fragmented nature of the telecoms inputs means that they cannot organise their IT on a continental basis. This also has implications for the extent to which international companies choose to site activities in the EU at all. The OECD list appropriate provision of telecommunications infrastructure as a key input in allowing domestic firms to participate in

¹⁷ These figures use 2007 as the reference year, when EU GDP was about EUR 12,200bn per year.

¹⁸ In terms of compound annual growth rate, using discounted yearly GDP gains, based on Method 3 (i.e. the highest estimate for GDP gains).

global value chains (OECD:2014). Illustrative of this, a representative of a management consultancy company told an interviewer from the International Users' Group in 2007:

"...[in] the US where a customer can simply go to AT&T or Sprint and get a nationwide, continent wide service including voice. Some companies' American management are incredulous that this cannot be done in Europe, and see this is a major disadvantage of operating and selling services in Europe. Many of the company's clients/prospects are reviewing their outsourcing and off-shoring arrangements. If Europe had a more competitive infrastructure, some might consider in-shoring again to enable contact centres to leverage more flexible, local resources, which their own customers would prefer."
(BT, EVUA, INTUG: 2007:36).

- 2.13. Copenhagen Economics point out that the incomplete single market means that Europe has also ceded the bulk of the mass ecommerce market to US giants. An outcome which is the backdrop to the domestic political furore regarding taxation of retail e-commerce activity in the UK and which has led the European Commission to take action in this sector, among others, through state aid control.¹⁹

Copenhagen Economics note that to compete in the mass e-commerce space that the characteristics of firms that succeed in mass e-commerce are:

- knowledge intensive
- large R&D investments
- very low marginal costs
- substantial network effects (value increases with the number of clients)
- substantial regulatory costs (each new market [where it has differing regulation] adds a cost

and they state: *"In sum, these characteristics naturally entail that these innovations require a large market to reward the R&D investment. The low marginal costs and the positive network effects are accelerated by achieving a scale market.*

A barrier to innovation is created when firms perceive the EU market for electronic products and services as small, due to differences in regulation and consumer preferences. The costs of reaching a certain scale may become [prohibitive] when compared to the low level of demand in EU markets. This means the the profitability for certain innovations may be too low.

As a result, despite the same total market size and similar broadband penetration, the fragmented EU market may provide less encouragement for innovation than the US."
(Copenhagen Economics:2010:23).

3. The importance of telecommunications regulation to the Digital Single Market

¹⁹ http://europa.eu/rapid/press-release_IP-14-1105_en.htm and http://europa.eu/rapid/press-release_STATEMENT-14-303_en.htm

- 3.1. Telecommunications infrastructure comprises the physical routes over which the computers that collectively form the digital single market communicate. In the historic copper and hybrid copper-fibre networks, digitalisation required specially installed hardware at both the customer end and close to the edge of the network. Multi-site business networks had a separate set of hardware from public users, allowing a private network to exist over a network which partly shared the copper and fibre links over which consumer traffic travelled but which also had separate fibre links. MNCs often hand over the piecing together of these networks to cross-border service providers who constructed a network from infrastructure leased from each of the incumbents and added its own sets of hardware. In an all fibre network, the physically separate links and hardware can be replaced and all of the network can be shared, subject to there be centrally set quality requirements in place which facilitate this.
- 3.2. In each member state, the historical incumbent telecommunications operator owns the bulk of this infrastructure (hardware and physical links) and rights of access for its maintenance and repair. These incumbent operators are also active in downstream digital services markets. Absent EU regulations which require them to provide equal access to their infrastructure and maintenance/repair systems, these incumbent operators have an incentive to exclude or discriminate against competitors and to favour their own service arms (Cave and Crandall: 2001). Where they succeed in doing so, incumbent operators can create national digital islands of supply and demand. In turn, where this occurs, the delivery of European-level scale economies in the provision of services can become impossible.
- 3.3. Although the principles of EU telecommunications regulation require that domestic incumbents make infrastructure and the service levels on which it is provided available on a cost-oriented and non-discriminatory basis, these principles are applied on a discretionary basis by national regulators. The EU Commission has sought powers of oversight over national regulators with respect to all markets (consumer and business) in several sets of legislation since 1998, but to date the Council of Ministers has declined to provide this (Kelemen and Tarrant:2011:937 ; Tarrant, Coen and Cadman:2014:56).
- 3.4. National regulatory discretion has led to enormous variety in the regulation of access and in many cases to its absence in practice. Tables drawn up by WIK relating to wholesale broadband access and wholesale leased line access illustrate the enormous variation in access regulation (Wik:2010). These tables echo other similar findings (Indepen (2008: 38-48), European Commission (2015:34)²⁰; Pelkmans and Renda (2011).
- 3.5. However, it is important to note that effect of variation in wholesale regulation between national markets may be very different in terms of its effects on residential and business markets. This is for the following reasons:

²⁰ European Commission state: "Important differences exist within the EU as regards telecoms regulation and spectrum policies, which cannot be justified by national circumstances and which hinder the potential for further investment and the emergence of innovative businesses at an EU-level. This prevents the EU from reaping the full potential of an EU-wide telecoms market in which players active at a multi-territorial or pan-European scale would compete with innovative local providers relying largely on their own infrastructure."

- 3.5.1. National regulators are focused on ensuring the maximum coverage of broadband at the highest speeds to consumers, so the mix of regulation at the national level may be better tailored to best achieve this at the national level.
- 3.5.2. If a national regulator gets the mix of regulation wrong in one or several Member States, this means individual consumers in that or those countries are likely to pay higher prices, obtain lower speeds, have lower quality and/or have slower repair times. The effects on markets in other Member States are likely to be indirect. To give an example in a hypothetical two country situation: an individual in country A purchasing broadband is unaffected by the cost of broadband in country B. (An indirect effect could occur in the sense that online cross-border sales from country A into country B are reduced and the loss of scale pushes up prices to individual in country A).
- 3.5.3. There may be greater impediments than telecoms regulation to the roll-out of pan-European consumer services such as the lack of harmonisation of consumer protection rules or differences in tax treatment.
- 3.5.4. Unlike the roll-out of consumer broadband, the evidence is overwhelming that national regulators are not focused on ensuring effective access for cross-border businesses. Interviews with multinational business conducted by EVUA/INTUG/BT in 2004, ERG (2009), Indepen 2008 and Ecorys 2012 all underline this. Ecorys state "Interviewees indicated that they perceive private sector regulation as being too focused on national markets. As a result, the existing market for pan-European products and services is unregulated and faces a lot of the same "problems" which are regulated at a national level (access to essential network facilities, strategic behaviour) [with respect to consumer markets]. More specifically, interviewees mentioned that NRAs structurally fail to recognise pan-European business users as a separate market segment. This has resulted in a lack of standardised wholesale offers fit for multinational corporations or those companies wishing to expand their operations cross-border. This increases the costs for multinational operations. Furthermore, when an international pan-European tender has a big footprint in a specific country (say Germany, France) the incumbent supplier can in the absence of standardised NRA offers, easily fence off other pan-European service providers who depend on bitstream access."(ECORYS:2012:3).
- 3.5.5. Unlike, in the consumer scenario set out in 3.5.2 above, the effect in country A of a lack of a regulated access product made available to the firm in country B can be that no pan-European offer is made available which includes A. The rule of thumb at a company such as BT Global Services, for example, was that unless 60% of an MNCs traffic could be delivered over BTGS's own network (which was only in the central part of major European cities) then the lack of availability or high prices of incumbent wholesale products would mean that BTGS would not make a bid. This matters since as we shall discuss further below, European goods production is now significantly multi-national. However, the difficulty in building pan-European IT platforms matching the multi-site multi-country physical production process is likely undermining potential productivity gains and making pan-European businesses less competitive.
- 3.5.6. In its study for the Commission, ECORYS make the point that a new generation of potential pan-European Over-The-Top providers such as e-health providers will face the

same potential issues of discrimination as cross-border service providers (ECORYS:2011:33;78). This analysis is correct since the software part of a cross-border service (i.e. directing the businesses process of a single MNC) will not necessarily be technically particularly different from directing the interactions of an e-health business with its private network of users. In both cases, the connection to an individual incumbent's network can take place centrally or close to the edge of the network. However, OTT service providers such as e-learning or e-health providers are still highly likely to use telecoms business service providers. This is because there will be economies of scale in single entities conducting access negotiations and then maintaining and monitoring the virtual cross-border networks with 28 national incumbent telecoms operators on behalf of both MNCs and OTT providers.

- 3.5.7. In addition, to the extent to which the quality of service and repair and maintenance aspects of the access provided by the incumbent to third party service provided are inadequate in practice, OTT providers may still need to contract with cross-border aggregators. In addition, incumbent providers do not in practice provide optimal infrastructure throughout the territories they serve and OTT providers may also wish to use cross-border service providers for part of their infrastructure access needs i.e. OTT providers may wish to obtain access to a competitor's network or hardware – which may still need to be installed relatively close to the edge of the incumbent network architecture. Typically, business service providers can obtain the scale to self-provide infrastructure in the central parts of city business districts.
- 3.5.8. The nature of supply for pan-European services is also different from the nature of supply for domestic broadband. There is an assumption that since multi-nationals are large customers that they can dictate terms. The evidence is that this is not the case as studies for the ERG (2009) and CMT, the Spanish telecoms regulator, (2011) found. In practice, the process often works as follows: an MNC will invite pan-European providers to tender for all its sites whether large sites or individual home-workers. No individual telecoms operator will have own-infrastructure connecting to other than a proportion of these sites and must buy-in inputs from the national incumbents (where available at all). At the same time, national regulators may either: (i) lift access requirements from the incumbent telecoms operator where it believes that mass demand in specific local geographic markets will support the roll-out of alternative infrastructure. This, however, is a residential consumer based model and in most geographies makes no economic sense for the the multi-site business model; or (ii) privilege access to the incumbent's infrastructure only for those alternative operators with a certain volume of business – again a residential rather than business services model. Regulators sometimes also assume that pan-European business service providers could repurchase access from these consumer-facing competing operators who could theoretically aggregate demand to purchase products from the incumbent on the favourable regulatory terms. This is evidence-free policy-making as it hypothesises away the fact that the processes and systems deployed by a new entrant such as a cable company are completely different from those required by a company which serves business users. In the author's opinion, this argument may be deployed to avoid having to define a separate business and residential product market - partly perhaps because the regulator has a political objective to deregulate a market and partly perhaps because it just makes life easier.

Where NRAs go down these paths, MNCs may be forced to maintain in-house telecoms departments and negotiate separately with each national incumbent in whose territory they produce.

3.5.9. NRAs are rightly under pressure across Europe as part of “better regulation” processes. However, this tends to be asymmetrically interpreted as less rather than better. Consequently, when local geographic markets become competitive for consumer broadband NRAs are likely to want to move quickly to deregulate, even if the conditions of competition for cross-border broadband inputs for business services are quite different. This creates a tension since much of the infrastructure (but not all) and some of the surrounding IT and repair and maintenance services (but not all) are shared. Recognising the different conditions of supply and demand would mean that the same local geographic market should not be completely deregulated but only for consumer services. For most national regulators, there is a need for a steer that they should regulate in a sophisticated not a crude fashion and that the needs of business should be taken into consideration, given the potential gains that can be achieved via a complete digital single market. As we discussed in section 2 above the value of telecoms markets are less than ecommerce markets in the UK and both are trivial compared to the overall but IT dependent market for traded goods and services.

4. The nature of European goods and services production

4.1. Contemporary goods production is increasingly analysed by economists as being characterised by cross-border supply chains (OECD:2014; Badwin:2011).

4.2. The degree to which production is cross-border for the UK is even greater with respect to its trade with the rest of the EU than it is with respect to its trade with the rest of the world. Gasoriek and Mendez-Parra investigate data on UK employment in export production. They show that the UK is economically integrated with EU countries quite differently to how it is integrated with non-EU countries. UK exports to the rest of the world are primarily finished products, whereas almost 40% of UK exports to the EU are then included in products which are then exported from a partner-EU country to the rest of the world (Gasoriek and Mendez-Parra:2014).

4.3. Their figures show that 4.5 million people are employed in the UK producing goods and services for exports to the rest of the world but only 700,000 are employed in producing goods and services which are incorporated into final products exported from a third country. Conversely, 3.8 million people are employed in the UK producing goods and services to the EU, but 1.46 million of those 3.8 million are employed in producing goods and services which are incorporated in exports by an EU partner.

4.4. The UK-EU supply chain integration is increasing in intensity. In 1995, 27.3% of the jobs in producing for EU markets were for intermediate elements in a supply chain whereas by 2011 this represented 38.7%.

5. The implication of cross-border supply chains for multi-site corporation demand for telecommunications

- 5.1. In 2008, the consultancy Indepen interviewed MNCs whose production in total represented 1% of EU GDP to assess the nature of their demand in order to support multi-site multi-country production. The results were consistent. In order to maximise productivity, they required ubiquitous access and seamless networking across borders and all sites and wanted one operator to put a bespoke pan-European communications service together for them (Indepen: 2008:22-24). A survey by WIK (2013) of 112 MNCs came to the same findings.
- 5.2. The global ICT provider and the global financial services company interviewed by Indepen ranked the ability to get such seamless networking in Europe as low and similar to Africa and dissimilar to the US. (Ibid:p.23)
- 5.3. Despite higher broadband roll-out than the US, the EU has lower business-productivity (Copenhagen Economics: 2010). ICT investment also produces lower productivity gains than in the US (Indepen:2008:31-33) . A part of the explanation for this could be that the lack of seamless networking reduces the degree to which gains from ICT investment can be realised. The MNCs interviewed by Indepen were able to set out an extensive list of productivity enhancing changes they would make if they could obtain seamless networking (Indepen:2008:51-53).
6. Are there any tools in the existing EU regulatory framework to facilitate the provision of the necessary wholesale inputs for cross-border services?
 - 6.1. In order for adequate homogeneous cross-border services to business users to flourish, NRAs would have to (i) identify and assess the relevant markets at the retail level, (ii) identify any wholesale input needed at the wholesale level, (iii) consider the cross-border dimension in their analysis of wholesale markets, and (iv) conclude that a co-ordinated response to mandate equivalent access remedies in all Member States was necessary. This does not currently happen and there is no mechanism to facilitate it.
 - 6.2. In the revision to the EU framework in 2007, the market for wholesale broadband access was split in two separate markets, i.e. the wholesale market for local physical access (market 4) and the wholesale broadband access market (market 5). This distinction was largely based on the acknowledgment that the transition to fibre networks was making it more complicated to identify optimal physical access points for competitors at the local level and that quality of access could not be adequately regulated without mandating some kind of access between the local loop and the higher network levels typical of wholesale broadband access markets (European Commission: 2007).
 - 6.3. The latest revision of the list of relevant markets in 2014 maintains the focus on quality of access and, while eliminating most markets, identifies a separate wholesale market for high-quality access provided at a fixed location (European Commission: 2014). In theory, the type of services which this paper focuses on could be provided by accessing wholesale local access (market 3a), wholesale central access (market 3b), wholesale high-quality access (market 4), or indeed a combination of them. However, NRAs typically have tended not to identify separate wholesale requirements for business users requiring cross-border services.

- 6.4. The ERG and BEREC investigations of access markets for cross-border services arose in 2009-2011 due to pressure applied by cross-border business service providers and European business user groups during the last set discussions over reform of the telecommunications package. Such industry bodies have tended to be advocates for greater European supervision of the work of national telecommunications regulators. However, the flurry of work undertaken by BEREC up to 2011 on cross-border services has not led to any ongoing work since the last legislative revision of the framework was concluded in 2011, despite the publications the body made in the specific area of wholesale broadband local access (BEREC: 2012 and 2015). This could lead the impartial observer to conclude that the efforts of BEREC were supported by the national regulator members of BEREC as a way of avoiding pressure for legislative changes. Certainly, regulation of wholesale inputs on which cross-border business services would rely continues to be completely fragmented.
- 6.5. The Art. 7 procedure can in theory allow the European Commission to ensure that NRAs do not deviate from a common approach to assess these markets. However of the thousands of notifications under Art. 7, none specifically dealt with access inputs to support cross-border retail service provision for business customers. Of the 38 Phase II investigations conducted since 2011, no cases dealt with cross-border services.²¹ The framework already includes the tools for NRAs which would permit them to examine whether inputs for cross-border services are competitively supplied and whether regulation of access inputs is required. The framework does not, however, proscriptively require that such examination is undertaken.
- 6.6. Article 15(4) of the Telecommunications Framework Directive does allow the Commission to adopt a decision identifying transnational markets susceptible to regulation. However, this provision is miscast for tackling the issue since it is not the retail transnational market for the supply of cross-border services which is in need of regulation. Instead, it is the underlying series of national wholesale markets in which the access to national infrastructure is made available (or not) which is in need of regulation (WIK:2013).
- 6.7. ECORYS suggest that adopting Europe-wide standards with respect to three sets of products which cross-border service providers and OTT service providers need, could be part of the solution (ECORYS:2011). ECORYS suggest that specifying the standards should be pursued by ETSI and CEN (ECORYS et al:2013). Certainly, agreeing such standards would assist motivated national regulators to impose best practice regulatory access. However, this does not at all bypass the need for regulatory solutions – unless the national incumbent operators were voluntarily to adopt these standards: which they will not, since they could already supply appropriate products and many do not because, for most, it is necessarily contrary to their nationally anchored commercial strategies. Indeed ECORYS note this problem: “But even if European standards have been formulated, network operators may still have an incentive not to comply with these standards. Notably, because applying deviating standards will gain incumbents a competitive edge over foreign operators in international pan-European tenders with a big footprint in a specific country.”(ECORYS:2011:16)
- 6.8. In the last three legislative rounds, the European Commission has pointed out to Member States that there is great variation in the quality and appropriateness of the regulation applied by national regulators (Kelemen and Tarrant:2011: 937). However, the Council

collectively have declined to delegate supervisory authority to the Commission. Similarly, because the (general) EU rules are set out in a Directive rather than a regulation, there is little scope for legal challenge to inadequate regulation (Tarrant, Coen, Cadman:2014:55). In the Commission's latest preparatory communication and staff working paper, there is once again a finding of regulatory fragmentation (op.cit: p.34). In its consultation questions, the Commission asks whether an Agency type arrangement should be adopted in order to deal with fragmentation (Commission:2015: Annex 7). However, this line of questioning is not tied to cross-border problems in a particular market. Given the historical experience of Member State reluctance to agree EU supervision, there might be advantage in the Commission narrowing the scope of any push for supervisory powers to inputs for cross-border business alone.

7. UK position

- 7.1. The UK telecommunication regulator has traditionally been hostile to a single regulator for telecommunications. However, in practice, its policy-making focus in telecommunications has been on consumer products. Nonetheless, OFCOM staff were instrumental in carrying out BEREC's work on business service products and could readily set an example for other regulators if encouraged to do so. It is not clear how OFCOM would react to a Commission proposal that interpreted subsidiarity so that proposed joint decision-making only applied with respect to wholesale inputs for business services. With its wider remit for business as a whole, the Department of Business has been far more favorable in the past to the need for EU-level agreement on governance to support cross-border services.
- 7.2. I understand that UK civil servants currently take the view that ministers will not consider any suggestions relating to EU telecommunications legislation which would increase the EU's role in decision-making and that specifically this rules out the kind of suggestions made in this paper. The value of this paper may lie in pointing out two key points. First, the UK's economic interest lies in having binding joint rules which support cross-border business. Two, joint decision-making involving all national regulators and the European Commission is not at all the same as having an external EU bureaucracy which has liberty to impose rules whose construction to which we are not party.
- 7.3. It would be particularly fearful to not push for joint decision-making on an issue where the UK economy and people would benefit and where the UK has a powerful, well-resourced and technically-capable regulator which, if it were so directed, would be capable of significantly shaping any proposals – just as it did with BEREC's non-binding guidance. In addition, many of the suppliers of telecommunications business services, including what are probably the leading companies²², and, many of their MNC customers are headquartered in the UK and all would seek to contribute to regulatory rules.

²² The lack of market investigation by regulators leads to an absence of reliable figures as to market shares.

8. What is to be done?

8.1. The EU framework needs to expressly require that NRAs analyse a relevant market which consists of the supply of wholesale inputs to support the cross-border business market.

8.2. However, without a mechanism which requires them to actually do so properly, national regulators who do not think this is a priority will either not do so or go through the motions and put in place something ineffective.

8.3. This is not a new problem in European governance. Clearance of pharmaceutical products as being safe was originally subject first to purely national tests (Gehring and Kraphol:2007; Feick:2002; Hauray:2006; Keleman and Tarrant:2011:940-42). This led to a range of separate and misaligned national procedures which raised business costs and led to a fall in investment in pharmaceuticals in Europe. The first attempt to deal with this was to encourage uncoordinated mutual recognition. This had no practical outcomes whatsoever (Abraham and Lewis:2000:107; Hancher:1990:153;;Kelemen and Tarrant:941) . The second attempt was to try and coordinate mutual recognition through a body with coordination powers only, like the current telecommunications body. This second attempt also delivered **no** practical outcomes whatsoever (Hauray:2006:117). Finally, in 1993, Member States agreed a single clearance procedure for which NRAs had to bid to carry out. This only applies to new innovative products which are intended to be marketed throughout the EU (i.e. pan-European products). Two individual national regulators or teams of regulators are appointed to carry out two separate sets of tests. Their respective findings are then set out before their NRA peers within an EU Agency and a collective decision voted on. The Commission formally has a veto (as it has to adopt the final decision made by the Agency). However, this veto has never actually been used (Broscheid and Feick:2005). This is because the process locks everyone into a judicially reviewable process (Gehring and Kraphol:2005; Kelemen and Tarrant:2011). As the NRAs who form the decision-making board of the Agency know they could be vetoed, they produce sound and justified decisions. In turn, the individual NRAs conducting the tests know that they are competing with each other to produce results which must meet the requirements of the collective body which will only pass thorough work. Finally, the Commission is constrained by the quality of the work done. If it sought to overturn the collective NRA decision in the Agency, it would face potential judicial review from both NRAs and from companies impacted by the decision; a review which should succeed if the initial work were done thoroughly.

8.4. A Europeanised regime of this sort could be incorporated in telecoms legislation. BEREC could be required to appoint two national regulatory authorities or teams of regulators to recommend a market analysis approach and a recommended remedy for inputs for cross-border services. The Board of BEREC could then be required to vote on these proposals, subject to Commission veto if the proposal adopted were inadequate. Individual NRAs could then be required to undertake a market review of this market subject to the recommendation and then required to have it approved by a majority at BEREC and by the Commission. Absent a step requiring Commission approval, the incentive for NRAs will, as it currently is, to create a live-and-let live approach, allowing each NRA to pursue its preferred national objectives, ignoring the common interest in pan-European business markets. In order, as in pharmaceuticals that the Commission is also bound into this reasoned approach,

so that it only uses a veto if the Agency (which is effectively the collective NRAs) is abusing the process, use of the veto needs to be subject to judicial review.

9. Conclusion

- 9.1. The UK and the EU seek to encourage economic growth through expansion of the digital single market. However, one of the key building blocks for that market, effective telecoms regulation, is organized purely on a national basis. Business users have been pointing out for almost a decade that this misfit between the business need and the scope of the regulators has led the latter to ignore business needs.
- 9.2. In the last legislative round in telecommunications which concluded in 2011, representatives of NRAs argued that there was no such thing as cross-border markets in services. This is simply incorrect. What is true is that it is far from having reached its potential. Worryingly, it is the very inaction of NRAs that is in part a cause of this failure to reach potential.
- 9.3. A previous UK Conservative administration in 1993 was able to promote an institutional mechanism in pharmaceutical authorizations which was able to meet market needs while ensuring effective national regulatory input into regulation for the whole single market. This was a market just like telecoms where misalignment between NRAs was undermining the competitiveness of Europe vis-à-vis America. The institutional mechanism adopted in pharmaceuticals has proved to be very successful.
- 9.4. A merit of the model negotiated in 1993 in pharmaceuticals was that it split governance depending on whether a pharmaceutical product was intended to be marketed in just one Member State or whether it was intended to be marketed in the whole single market. Similarly, in telecoms, requiring joint decision-making between NRAs and the Commission could be restricted to cross-border business services.

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