Developing regimes and mobile telecoms regulation in the twenty-first century: who makes the call?

Bruce Wardhaugh [1]

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ABSTRACT

The growth of competition regulation in the twenty-first century will occur in those jurisdictions which at present do not have or are just developing their own competition regime. The experience of developed competition regimes in their choice of rule-making institutions, status if the rule in the jurisdiction's legal order, and the content of the competition rules can be useful for developing regimes in shaping their institutions.

This paper considers what lessons can be learned from these experiences. It uses the mobile telecommunications market as an example of a market which developing regimes must regulate wisely. This is due to the link between mobile telephony and economic development. But, as is also shown, if this market is poorly regulated, any benefits which may accrue to the consumer (or be beneficial to economic development) can be diverted to dominant or monopolistic entities.

The conclusion of the paper is that any lesson learned from other jurisdictions must be taken with care. Competition rules are a product not just of their legal systems, and they are also products of the market for which they are designed to regulate. Hence transplantation must be done with care. But of perhaps greater significance is the need for independence of the regulatory agency.

Keywords: Telecommunications; Competition; Development; Sector Regulation; Competition Agency Design

1. INTRODUCTION

In this article I examine issues for competition regulation in the twenty-first century. My concern is with the lessons which developed regimes can provide for developing regimes. Though I speak of competition regulation generally, my emphasis is on the mobile telecommunications market and its separate need for regulation.

This emphasis is due to the importance which mobile telecommunications has in facilitating the economic growth. Not only is it is an inexpensive means of communication, but mobile telephony can also be used as an alternative financial system: facilitating the transmission of payments and remittances. Yet the mobile telecoms market is also a market prone to abuse. Typically, mobile networks are established on the backbone of the infrastructure of a former state monopoly. The firm which took over that monopoly during a liberalization process will retain the significant incumbent advantages of the former monopoly. While telecommunications markets can be liberalized, the liberalization of these markets can bring a host of other regulatory issues into play. In addition to more general concerns of (near) monopolies from an incumbent effect, issues of access to essential facilities and margin squeeze also arise.

But also of significance is the degree of independence which a regulatory authority is given. Independence is a broad concept, extending beyond freedom from political interference to freedom from capture, and a sufficient degree of independence to be free from being 'hamstrung' by other legal measures exogenous to the competition regime. This latter loss of independence can be fatal to effective regulation, as we will see in this article.

This article is organized as follows: the next part examines the use of mobile telephony in developing economies. This part shows that given its use to facilitate inter alia market transactions, careful regulation is needed to nurture this industry in a developing economy, so that the gains which it might provide are actually realized by the population as a whole. These gains can be achieved through market liberalization, provided that the liberalized market is a competitive market. Facilitating competition in markets is the task of a well-structured competition regime, which has both legal content and an administrative and/or judicial structure. Getting both content and structure 'correct' is essential for a competition regime to function effectively.

Part three considers lessons which can be learned from established regimes. In it, I examine both the content of the legal rules and the nature of the agencies which enforce these rules. I show that while there may be a common content which condemns collusive activity, when anti-competitive activities outside this core are considered, the content of rules varies significantly. This can have an impact on the efficacy of a competition regime. This is very apparent with the key anti-monopoly rules that are used to regulate the telecoms market. Further, I consider the nature of the agencies regulating the market. While the focus of most of the literature has been on the relative merits of specialized and generalist agencies, I indicate that agency independence is central, and that a loss of independence can result not only from political interference or capture, but also can arise from legal considerations exogenous to the competition regime.

Part four is a point of illustration. It considers the Mexican telecommunications sector to show how things can go wrong if this market is ineffectively regulated. Rather than serving as a means of economic development and permitting the Mexican public from sharing in the gains from trade, ineffective telecommunications regulation permitted the private appropriation of a substantial portion of these gains, robbing the country of close to 2% of its GDP on an annual basis. The difficulty with the Mexican attempt to regulate the telecoms market was not just in political interference which manifested itself in the attractive packaging of the former governmental monopoly in the privatization process; but also in the peculiarities of Mexican administrative law, which had the consequence of hamstringing effective regulation of the liberalized market.

The article concludes with some remarks regarding the appropriate bodies for competition law regulation in the twenty-first century and concludes that the key determinant of a regime's efficacy is the regulator's independence. However, in reaching this conclusion, this article raises a number of points, which may not have unique solutions, but the adequate resolution of which is essential for any competition regime in the twenty-first century.

2. MOBILE TELEPHONY, DEVELOPMENT AND COMPETITION

2.1 BACKGROUND: DEVELOPMENT AND MOBILE TELEPHONY

On a casual examination of the World Bank's (2015) development indicators, it is easy to notice that in spite of the fact that many developing countries have low levels of developed infrastructure (in terms of measures such as percentage of paved road, percentage of the population with access to electricity and improved sanitation facilities), they have is a relatively high rate of penetration in the mobile telephone market. These statistics (World Bank 2015) show that, for example, in Kenya, 7% of the roads are paved, 19.2% of the population have access to electricity and 30% of the population have access to sanitary facilities. Nevertheless, there are 71 mobile subscriptions (both pre- and post-paid) per 100 people. In Guinea-Bissau (which is among those countries recognized by UNCTAD as a least developed country), no data exists for the percentage of paved roads or access to electricity, only 20% of the population have access to improved sanitation, yet there are 74 mobile subscriptions per 100 people. In contrast, both Kenya and Guinea-Bissau have less than 1 landline per 100 people.

It is fairly easy to see why mobile telephony has leapfrogged fixed-line telephony outside of the so-called first world: relying on radio waves, mobile communication does not require the extensive and expensive infrastructure of physical connections between every receiver and central exchanges, which would be impossible to install in areas where there is no access to electricity to run that portion of the network. Further the use of pre-pay subscriptions eliminates the problems of assessing creditworthiness and the costs of writing-off accounts that are uncollectible.

This market penetration of mobile telephony can be used to enhance a country's ability to gain through trade, and thus increase its level of development, according to any measure which uses an increase in GDP as a criterion for developmental status (see Sen, 1999: 5). This can be illustrated by Aker and Mbiti's study (2010: 213 - 214) of sub-Sahara Africa which identifies five mechanisms by which mobile telephony enhances development. To paraphrase these authors' conclusions:

1. mobile phones improve access to and use of information, reducing search costs, improve coordination among agents, hence increasing market efficiency;

2. increased communication improves firms' productive efficiency through better supply chain management;

3. mobile phones create employment due to demand for mobile-related services;

4. mobile phones facilitate communication among social networks in response to shocks, thereby reducing households' exposure to risk; and,

5. 'mobile phone-based applications and development projects-sometimes known as 'm-development'-have the potential to facilitate the delivery of financial, agricultural, health, and educational services'. (Aker and Mbiti, 2010: 214)

Point 5 is significant, as will be discussed below, as mobile telephones can be used as a form of a basic banking and money transfer service.

Expanding on the above, we note that points (1) and (2) relate directly to the use of mobile telephony to obtain the information required for arbitrage and arbitrage-like opportunities, including the ability to buy and sell goods or services on the most profitable markets. Mobile phones permit the real-time transmission of market data. It is possession and use of information (in particular on prices) which will give market participants the ability to maximise their position and thus ensure a more efficient use and distribution of resources. We note for instance, Abraham's 2006 study of the Indian fishing industry which shows the effects mobile telephones had in transforming that industry to the economic betterment of the fishers.

That industry is characterised by its highly perishable product, making arbitrage between markets difficult once fish are landed. Abraham (2006: 51) notes:

Another feature of the market before the introduction of mobile phones were occasions on which there would be a glut of fish in some markets while other markets experienced acute scarcity. This meant that prices would be unnaturally low in some markets and unnaturally high in others due to the mismatch between supply and demand. When they were asked whether the introduction of mobile phones had lowered the possibility of this mismatch occurring, close to three-quarters of the respondents replied in the affirmative …

In addition to these demand-side advantages provided by information communicated by mobile telephone, there are also supply-side advantages. Abraham continues (52):

Sizable numbers of fishermen and owners agreed that the search costs involved in looking for fish had come down since the advent of mobile phones. This reduced wastage of resources in two ways:
-- By reducing the time spent out at sea searching for fish. Other boats in the fishing unit would send out alerts on the mobile phones if large shoals were found. Over 94 percent of owners and fishermen had used mobile phones to alert other boats to the presence of shoals of fish at some time or the other.
-- By reducing the number of fishermen who had to spend time idling on shore. News of large shoals could be easily communicated and the idle resources put to use at once.
The reduced wastage has an immediate impact in terms of fuel costs. Most people in the community point to rapidly increasing fuel costs as one of the main reasons why the sector is seen to be increasingly unprofitable.

Additionally, and not to be lightly discounted, is the enhanced security while at sea which a mobile phone provides (Abraham 2006: 54). Risk, whether market or personal, is a quality which can be reduced through the use of mobile phones.

Following on point 5 above, mobile banking services can be used domestically or, more significantly, internationally, to send and receive remittances. Describing one such service, the Kenyan M-Pesa, Aker and Mbiti (2010: 221) note that money transfer by this sort of e-banking is 60 - 80% less expensive than its next cheapest competitors. The relationship between access to banking services and development potential is well explored elsewhere (see e.g. Burgess and Pande, 2005).

In addition to the e-finance uses to which mobile telephony can be put, it has also been rolled-out as part of a public health strategy. In a study in Kenya (Lester et al, 2010), HIV positive patients undergoing antiretroviral treatment (ART) were randomly placed into two groups, one group receiving weekly SMS messages to prompt them to take ART (and provide other support), the other group received standard (unprompted) treatment. Not surprisingly, those patients who were SMS-prompted were not only more likely to self-report increased compliance with ART, but also 'were more likely to have their viral load suppressed below detection levels than patients who received the standard care alone' (1842).

In an earlier reflective piece, Lester and Karonja (2008: 738) note that the implications of this extend beyond treatment for HIV to include other chronic conditions such as tuberculosis, and short term conditions like malaria. They observe:

The key advantage to using mobile phones to track patients is that they offer a low-cost, instantaneous, and increasingly ubiquitous communications medium, and are unrestricted to location. The goal is to improve effectiveness and efficiency of health service delivery with the farthest possible reach. (739)

In addition to the obvious economic advantages which this sort of support in treatment provides (as the costs of early intervention are less than the costs of subsequent treatment of a serious or terminal condition), successful public health uses of mobile telephony increase

other metrics of development (World Bank 2015), most notably those surrounding life expectancy.

2.2 MOBILE TELEPHONES, TRANSACTION COSTS AND ANTI-COMPETITIVE APPROPRIATION

Mobile phone use, while facilitating information acquisition which leads to Pareto-superior market outcomes, nevertheless imposes a transaction cost. Since Coase (1960) it has been recognised that in the absence of transaction costs, irrespective of the initial assignment or entitlement, resources will flow to their most valued use. However, the presence of transaction costs has the ability to impede an otherwise utility maximising exchange. Indeed, if the transaction costs exceed the gain from the envisaged transaction, the parties will not consummate the exchange.

In a competitive market, to the extent that those services the provision of which involves imposing transactions costs are needed (e.g. solicitors' costs in conveyancing), such services will be provided at the marginal cost of their provision. In a competitive market, a party which attempts to obtain a super-competitive return (i.e. above the marginal cost of the provision) for their services will soon be out-competed by an entrant. However, should entry be impossible (or difficult) due to entry barriers, the provider of these services will be in a better position to realise a super-competitive return (economic rent).

This has three consequences. First, a profit-maximising firm, when it has a dominant position on a non-competitive market, will attempt to maximise its revenue on the (goods or) services it provides, by increasing the price. Second, if entry barriers to a market are sufficient to permit a situation where artificially high transaction costs are created, these costs represent a direct transfer of wealth from the parties to the transaction to those imposing the transaction costs. Third, to the extent that artificially high transaction costs impede transactions, they cause a deadweight loss to the economy. These are simple propositions of microeconomics (see e.g. Motta 2004: 40 - 48).

The implications of these consequences for telecommunications (and to a significant degree, banking and finance) are profound. First, to the extent that entry to the market is difficult, the opportunities for entrants to compete away rents will be reduced. Second, to the extent that there is a sole or few provider(s) in the market, collective activity which facilitates pricing at super-competitive levels is made easier. This activity can take the form of outright collision (cartel activity) or collective dominance, where firms 'aware of common interests, consider it possible, economically rational, and hence preferable to adopt on a lasting basis a common policy of selling at above competitive prices, without having to enter into an agreement …' (Schwalbe and Zimmer, 2009: 222). Of course, if there is only one provider in the market, in the absence of effective entry, the monopolist has every incentive to maximise revenue through super-competitive pricing.

Barriers to entry into the mobile telecommunications market include the network itself. While the construction of a mobile network is significantly cheaper than a land-line network, there are costs incurred with matters such as erecting and maintaining mobile towers, the supply of energy required for their operation, and the switching of calls through the

network. Even if it is economically feasible to construct a second, competing, network, the value of this second network is limited unless that network can be integrated with the existing mobile network, and other outside (including international) networks. Finally, as mobile telephony operates on the radio spectrum, allocation (licencing) of the spectrum has access implications. This set of concerns raises the competition issues surrounding essential facilities, and illustrate how a difference in their legal resolution can affect the competitive environment in the mobile telecommunications market. A broad (akin to the EU) standard which determines what constitutes essential facilities is more likely to permit greater access to networks than what would be mandated under an American-influenced rule. This will be illustrated in Part Three.

Outside of access to the network, other significant competition problems arise. Even in wealthy jurisdictions, it is rare for more than two or three parallel but interlinked, physical networks to exist (Li and Lyons 2011). Added competition can be provided by 'virtual' mobile telecoms networks, which buy wholesale quantities of mobile time from vertically integrated physical networks (which also operate on the retail market) and then retail these minutes under their own 'label.' The temptation for the wholesaler is to engage in a 'margin squeeze,' charging a sufficiently high wholesale price that their competition cannot make an adequate return. Again, the difference in chosen rule can make a significant difference. To the extent that a positive obligation is imposed to avoid this practice, and virtual networks are not squeezed out of existence, these networks can provide added competition to physical networks, and thus facilitate downward pricing in the telecoms market.

The competition consequences for the mobile market are clear. Aker and Mbiti (2010: 227 - 228) conclude:

There is a strong correlation between mobile phone coverage, the types of services offered, the price of such services, and the telecommunications market structure for a particular country. In markets with limited competition, we would expect profit-maximizing firms to offer more limited services at higher prices. … [And] on average, prices decreased and services increased following market liberalization; average call prices fell by a minimum of 31 percent with partial liberalization and by up to 90 percent following full liberalization. Liberalization was also associated with an increase in international traffic volumes and improved call quality… . Overall, these patterns suggest that more competitive telecommunications environments can be beneficial for poor consumers.

Although the precise correlation between mobile telephone penetration and economic growth is unclear [2] for our purposes we need only point out that there is such a correlation. This link adds further justification for the need to regulate the telecoms market with care. In addition to the standard, consumer surplus protecting justification for regulation of the market, these developmental concerns add a further, pressing reason for the need of such regulation, and that this regulation be done appropriately.

3. SOME LESSONS LEARNED

If we look at existing competition regimes we can learn some lessons from two features present in them: (1) the type of body tasked with rule formulation and/or adjudication; and (2) the content of these rules. Both of these features shows particular lessons for those who may wish to adopt these characteristics into a new regime, with the idea of facilitating competition to improve a country's growth.

3.1 THE TYPE OF BODY TASKED WITH RULE FORMULATION AND/OR ADJUDICATION

The main focus of the literature on this point to date has been to determine the relative efficacy of specialised bodies versus generalist bodies (e.g. Crane 2011; Wright and Diveley 2013; Ginsberg and Wright 2013). Both have their relative merits.

Specialized bodies typically possess the technical expertise required to appropriately evaluate the industry-specific elements of the dispute. As Wright and Diveley note, 'There is no debate that theoretical potential for superior agency performance lies in its ability to harness its expertise' (2013: 84). In competition matters this includes the ability to understand, critically assess and apply economic evidence regarding the relevant markets in dispute. There are at least two obvious advantages of this. The first is cost efficiencies in the evidence gathering and hearing process (such evidence can be presented without the need for it to be 'translated' by expert witnesses into laymen's' terms). The second is a reduction in error rate in the decisions. Given that the adjudicators are fluent with economic analysis, they are less likely to get the answers to the problems 'wrong.'

The difficulty with specialised bodies is their expense and how the expense can be justified. This is a particular issue for developing regimes and their use not just of a general competition agency (perhaps with a consumer protection co-mandate); but of their use of specialised sectorial regulatory agencies to regulate matters such as infrastructure (air-and seaports), utilities (electricity, water and sewer) and telecommunications. While these sorts of hyper-specialised bodies are less likely to get matters 'wrong,' they require a significant level of expensive expertise to ensure that this is in fact the case.

The significance of this is simple: every unit of currency spent in one area means that it cannot be spent in other areas. To enhance economic development, developing nations need infrastructure (to transport goods), education, and public health-to name just a few concerns. A choice therefore must be made among these options. The choice is not binary. And this is a normative political choice: though economics may fill in some of the blanks in hypothetical budget allocation scenarios, ultimately any choice cannot be made by that discipline.

The main merit possessed by generalist bodies is that they are relative inexpensive. The cost of the adjudication of competition law disputes by generalist courts is only the incremental costs of hearing that case (less the costs of not hearing another case, should use of that court not be by right). A generalist competition agency (perhaps with a consumer protection co-

mandate) could possibly provide needed generalist expertise (e.g. in cartel, dominance and merger matters) as well as (likely limited) insight into sectorial regulatory issues. Such bodies do require governmental expenditure; however, the precise level of expenditure is-as noted above-a political choice with normative content.

However, what has not been well explored by the literature is the need for independence of the adjudicatory or regulatory bodies. Assuring judicial independence is a problem in developing regimes. In addition to problems with appointment of the judiciary, there may also constitutional issues with regard to the isolation of that branch of government from political pressure from other branches. Likewise, independence requires insulation from lobbying efforts. Judicial independence is one element of the rule of law.

There are studies that indicate strong correlation between economic development and an independent judiciary are correlated (these studies are summarized in Dam (2006) and World Bank (2004)). Other studies also show that effective competition regimes advance economic development (OECD, 2013; Sokol et al, 2013). But these studies do not show causality. While judicial independence and economic development correlate, in what direction does the causal arrow flow, or is it a matter of bootstrapping? This is a point for further research.

With regulatory bodies, there is a second concern, namely that market regulators require highly specific expertise. It is trite to observe that almost by definition as the needed level of technical expertise becomes highly specific, fewer people possess this knowledge. Those possessing this expertise likely work in the regulated industry. Hence, the regulated and the regulator share the same talent pool. Regulatory capture is thus a plausible outcome. This is not just a problem with developing jurisdictions, but also exists in the so-called 'first world' (see e.g. the concerns expressed in e.g. Dnes 1995 and van Koten and Ortmann 2008).

Seeking expertise from outside the industry is likely to require recruitment abroad. In itself, this may not be problematic; after all there is no need to invent the same wheel twice. But to carry the wheel analogy a step further, we may be requiring the import of a Ford wheel when an (also imported) Fiat wheel may be more appropriate.

'Imported' expertise can bring with it imported legal content. The first section of this paper showed that content can make a difference-not just with how cartel behaviour may be regulated, but also in regard to permissible behaviour for a dominant enterprise. American and European views regarding essential facilities, refusal to deal and margin squeeze vary. These latter three doctrines will be significant to any regulation of many industries, in particular telecommunications.

Further, imported 'expertise' can also be a source of suspicion. The US has been known to suggest providing antitrust advice to developing countries as a means of influencing the development of their regimes (Weiser, 2009). However, such 'donations' of expertise is often viewed with suspicion, as having ulterior motives. In particular there is the view that the underling desire to make markets in developing economies 'more competitive' is so that American firms can enter and 'compete' in them. That American law permits export cartels (*Export Trade Act* 1918) only enhances this cynicism. Further, there is the suspicion that the

use of criminal sanctions in cartel matters is to ensure that the double criminality aspect of any extradition treaty is satisfied, putting the liberty of local businesspeople in jeopardy. Given the increasing number of non-US citizens extradited to face American criminal antitrust proceedings, this latter point may well be justified.

All of this is in addition to any other underlying concerns about differing cultural attitudes to cooperation, competition and distributive institutions in society which underlie the socio-normative foundations of a society's views towards regulation of competition. [3] To the extent that these foundations differ from the American (or any other 'imported') paradigm, then the justification for the use of the imported paradigm loses a significant amount of its force. [4]

A balance needs to be struck between the legitimate provision of advice and assistance to an independent government and the co-option of that government for other purposes. Likewise, assistance in offsetting the significant costs of staring up (and running) such agencies and assisting in the development of competition law and economics expertise in existing institutions (like the judiciary) if offered as some form of a cash based aid, may appear to be a bribe, and once given may be hard to verify whether it was effectively put to use.

Irrespective of the manner in which this international assistance is implemented, any developing jurisdiction must develop a prioritized agenda for competition regulation and enforcement. The typical development of competition regimes is from cartel control through dominance to merger control, with sector regulation being added along the way. It may well be that a developing regime should follow this pattern, concentrating initially on national or regional cartel activity which is likely to immediately harm consumers. Here price fixing in goods such as food staples (UNCTAD, 2014: 130), fuel, and agricultural inputs can appropriate a significant amount of consumer welfare. Similar harm can be done through abusive practices of dominant firms in these markets.

But beyond this, there is an additional concern, which will be made apparent in our consideration of the Mexican case. This is the independence of the relevant competition body from the interference of legal rules exogenous to the competition regime. In this Mexican case, these rules included the peculiarities of administrative law which could be exploited by the firm whose conduct is under review, the effect of which was to facilitate the delay in imposition of consumer welfare enhancing remedies. While the Mexican case may be an extreme example of the dysfunctional relationship the administrative and competition law regimes had with each other, its very extreme nature provides a powerful warning of what can go wrong.

3.2 THE CONTENT OF THE RULE

It is trite that the content of the rules is very determinative of the efficacy of the regime. For the most part, competition regimes worldwide are in agreement that certain practices are 'bad' and as a consequence, these activities are to be controlled. The means of control (private sanctions, administrative control, criminal penalties) are of course of importance, [5] but what may be more significant is the sort of activity which falls under the prohibition.

Hard core cartel activity with its collusive origin (price fixing, customer allocation, output restrictions) is generally regarded as wrong and condemned. But there is no universal consensus as to the form by which this condemnation takes place (criminal or other means). Although there may be universal agreement as to the core, the further from the core that conduct is, the less agreement there may be. Collusive behaviour among competitors at the horizontal level is bad for the consumer, but the cases of vertical arrangements such as territorial restrictions or resale price maintenance are less clear. There is even less clarity with regards to cooperation agreements in research and development, and joint ventures.

Likewise the content of the antitrust (dominance) rules is important. This is particularly so with the concepts of essential facilities refusal to deal and margin squeeze, both of which are significant to telecommunications regulation. Typically, liberalising a jurisdiction's telecoms market involves wrestling away the dominant grasp that the incumbent player (usually the former government-owned monopoly) has on the market. As seen below, this player not only controls the essential facilities necessary to operate a competing network, but also is likely to be in a position to be the sole (or dominant) wholesale provider of telecoms services, which it in turn sells on to its competitors. As a consequence of this market power, the incumbent may be in a position to charge a wholesale rate which is sufficiently high that the potential competitor cannot realise an adequate return on its investment-in other words, engage in a 'margin squeeze.'

In telecommunications, essential facilities include access to mobile towers, rights of way to erect same, access to the frequency spectrum (often granted to the former national monopoly when mobile service was first introduced), and other structural features (e.g. assignment of telephone numbers, use of switching facilities, integration with foreign telecommunications operators) which give their owner an advantage. It would be either impossible (due to network effects) or economically wasteful to duplicate these facilities. These facilities are almost always owned by the former governmental monopoly, giving it a significant incumbent advantage.

Thoughts regarding essential facilities are far from the agreed core of antitrust thought, as a comparison of the US and EU reveals. American doctrines of essential facilities and refusal to deal are primarily creations of the Circuit Courts [6] to limit the conclusion of the Supreme Court's 1919 decision in *United States v Colgate* in which that Court held (at US 307) at trade may deal with whomever it wishes on whatever terms it pleases. However, recent US Supreme Court decisions, particularly *Verizon v Trinko*, cast doubt on the extent-or even the existence-of a doctrine of essential facilities in US law.

Recently, in *Verizon*, the issue was access to local telephone exchanges owned by an incumbent carrier (here Verizon). Under the provisions of the*Telecommunications Act of 1996* incumbents were required to share access to the local network with new entrants who could then sell on these services at the retail level. In dismissing the complaint that Verizon denied interconnection services to prevent entry of competitors, the Court held (at US 407 - 8, S Ct 879):

The mere possession of monopoly power, and the concomitant charging of monopoly prices, is not only not unlawful; it is an important element of the free-market system. The opportunity to charge monopoly prices-at least for a short period is what attracts 'business acumen' in the first place; it induces risk taking that produces innovation and economic growth. To safeguard the incentive to innovate, the possession of monopoly power will not be found unlawful unless it is accompanied by an element of anticompetitive conduct .

The American rule makes essential facility and refusal to deal claims difficult to prosecute.

The European doctrine is different. Although the Commission takes the starting point that a trader is free to choose its own trading partners [7] (a starting point is shared with the American Authorities) the Commission goes a step or two further. It identifies the problems that an unmitigated duty to supply would have (e.g. disincentives in investment encouraged by free riding (*Guidance*: para 75)) but seeks to balance this against the potential harm to consumers which might occur under a strict regime of freedom of choice of contractual partners. This balance is announced (*Guidance*: para 81) in its enforcement priorities, which prioritizes enforcement when:

all the following circumstances are present:
- the refusal relates to a product or service that is objectively necessary to be able to compete effectively on a downstream market,
- the refusal is likely to lead to the elimination of effective competition on the downstream market, and
- the refusal is likely to lead to consumer harm.

This is broader than the US view.

The importance of this is magnified by the realisation that the telecommunications industry is susceptible to margin squeeze (Geradin and O'Donoghue, 2005; International Telecommunications Union 2014). In in his study of the EU case law on margin squeeze between January 2003 and March 2012, Veljanovski (2012) noted that in this timeframe, of the 41 European cases (of which 38 were national, and 3 were EU), 29 (71%) of these were in the telecommunications sector, with 3 in the postal sector, 2 cases in the water sector and 1 each in the gas, electricity, aviation, railway, pharmaceutical, entertainment and construction sectors. This is consistent with US experience, where the leading case (*Pacific Bell v Linkline)* is a telecommunications matter.

Again, antitrust thinking regarding margin squeeze is not part of the agreed core, as US and EU jurisprudence demonstrate. In the US, where there is a duty to deal only in the most extreme of cases, and where predatory pricing requires the proof of recoupment (*Brooke*

Group Ltd v Brown and Williamson Tobacco Corp), the difficulty of establishing a margin squeeze case can be seen from the Supreme Court's conclusion in *Pacific Bell v Linkline* (at S Ct 1120):

Plaintiffs' price-squeeze claim, looking to the relation between retail and wholesale prices, is thus nothing more than an amalgamation of a meritless claim at the retail level and a meritless claim at the wholesale level. If there is no duty to deal at the wholesale level and no predatory pricing at the retail level, then a firm is certainly not required to price both of these services in a manner that preserves its rivals' profit margins.

However, compare the American position to the European rule stated in *TeliaSonera*, (at para 40):

Where an undertaking introduces a pricing policy intended to drive from the market competitors who are perhaps as efficient as that dominant undertaking but who, because of their smaller financial resources, are incapable of withstanding the competition waged against them, that undertaking is, accordingly, abusing its dominant position…

The difference in content is significant. In the mobile telephone market, where towers are essential to the network infrastructure, if the chosen rule precludes an incumbent from being required to grant a potential competitor access to its towers, then the incumbent may have to duplicate the network. This cost would have to be passed onto consumers, and may preclude entry in the first place

Likewise, the content of margin squeeze rules will have significance. In telecommunications cases it is typically the ex-governmental monopoly player that has the advantage. In markets where there is no duty to deal at the wholesale level to potential downstream competitors, foreclosure to potential competitors becomes an increased probability.

These points show that in designing a regime for the twenty-first century there are a number of considerations that must be borne in mind by those designing the system. That there are no unique answers in addressing these concerns is a significant answer in itself: the resolution of many of the issues likely lies in the nature of the market and the social structure of the society in which the market is found, than in the legal regime (and its social structure) from which the rules are borrowed.

4. LIBERALIZATION OF THE MOBILE TELEPHONE MARKET: THE CASE OF MEXICO

The Mexican liberalisation of the telecommunications market has been selected as a case study for a number of reasons. First, as a part of Mexico's side of the bargain in ratifying the North American Free Trade Agreement, the government of Mexico undertook to develop and implement an effective competition regime, in a jurisdiction which theretofore had no such regime. Its choice was to implement both a generalist competition agency, which soon became (OECD 2004) by global standards an effective competition regime. However, the Mexican government chose to regulate the Telecoms industry by the use of a sectorial regulator, which being hamstrung by procedural hurdles in Mexican administrative law,

was of limited efficacy. Second, the liberalisation of the Mexican telecoms market via privatization was a cornerstone of the Washington consensus (Williamson 2003), a package of reforms promoted by International institutions such as the IMF and World Bank and academic and development economists to enhance the development of Central and South American economies. Third, as a result of the ineffective liberalization of the telecoms market, the Mexican government was the subject of a complaint before the WTO (2004), which one commentator remarked was that organizations first competition complaint (Fox, 2006). As a result of these features which surround Mexican telecom liberalization, the Mexican case has been well researched, thus producing a large and publically available data set.

4.1 MEXICO'S PRIVITIZATION OF THE TELECOMS MARKET

As part of a wider drive towards a privatization that began in the mid-1980s, the Mexican Government chose to divest itself of its ownership of Telmex, its telecommunications monopoly. To make this enterprise as attractive as possible for potential investors, Telemex was packaged as a vertically integrated firm, which was granted a national monopoly. This was in spite of the fact that other means of selling this governmental asset were available: regional monopolies, or spinning-off its various services and selling these as distinct entities (Mariscal and Rivera, 2005: 761).

In December 1990, Telmex was auctioned off to a joint venture of Grupo Carso and two foreign telecoms firms. Although the Government imposed a number of service mandates on Telmex, it was granted a six-year monopoly on the long distance market (Solano, del Villar and Garcia-Verdú, 2006: 540). However, it was not until 1996 that the Mexican Government established a specialized Telecommunications regulator, with the Ministry of Telecommunications (SCT) regulating (without a statutory charter or mandate) in the interim (Mariscal and Rivera, 2005: 761 - 762). When long distance competition opened up, as a result of the manner in which the Long Distance Rules were written, Telmex could set the prices for the interconnection rates (Mariscal and Rivera, 2005: 763; Solano, del Villar and Garcia-Verdú, 2006: 541). The rates were set at 5.3 US cents per call in 1997 and 1998. This was over two and a half times the World Bank's suggested weighed average tariff of 1.9 cents (Mariscal and Rivera, 2005: 763).

Telmex was able to rapidly leverage its status as the incumbent landline operator to in favor of Telcel, its wholly owned mobile subsidiary. Telcel soon became the dominant mobile operator in Mexico, with a 70% market share (OECD 2012: 23).

4.2 THE ATTEMPTS AT TELECOMS MARKET REGULATION

In 1996, the Government established the Federal Telecommunications Commission (Coftel) with a mandate to regulate the industry. It, however, was not given true independence. It makes recommendations to the SCT which then implements the decision (Mariscal and Rivera, 2005: 762). In addition to this sector regulator, the Federal Competition Commission (CFC) has an overarching mandate ensure Mexico's markets are competitive, and as part of this mandate it has the responsibility to perform market studies. The CFC will use these market studies to provide opinions to sector regulators, who in turn will use these opinions

as a basis for further regulation (Solano, del Villar and Garcia-Verdú, 2006: 530 - 537). These opinions can include determinations of market dominance.

However, this process is ineffective. The sequencing is strict: the CFC must first form the opinion before the sector regulator can act upon it and regulate. There is no means for the sector regulator to develop its own opinion. Further, the efficacy of the regulatory process is further hindered by peculiarities of Mexican administrative law. Solano, del Villar and Garcia-Verdú (2006: 537) note:

The Mexican judicial system provides a legal recourse, *amparo* that allows a plaintiff to demand a temporary suspension of regulatory actions when they consider regulatory resolutions to have violated their constitutional rights. Most regulated companies have used this procedure and given that the court system operates slowly, *amparos* have remained in place for 2-3 years. The result has been a temporary suspension of most regulatory decisions. [8]

The results of this have been catastrophic for consumers. The *amparo* regime will allow, for instance, the challenge of a determination of a dominant position, once that is reconsidered (several years later) and then any regulations made subsequent to a revised finding of dominance can be challenged. These regulations, in turn, will be effectively stayed by a further use of an *amparo* for a number of years (Solano, del Villar and Garcia-Verdú, 2006: 538 - 539, 544 - 546; Mariscal and Rivera, 2005: 762). In the meanwhile, the abusive practice will continue at the consumers' expense.

4.3 THE FAILURE OF REGULATION

In its 2012 *Review of Mexican Telecommunications Policy*, the OECD (2012: 17) described these consequences:

The poor development of telecommunication infrastructure in Mexico is due to a large part to lack of effective competition, and the resulting high level of market concentration. In turn, this has implications for consumers, leading to lower levels of consumption as a result of high prices across the range of telecommunication services. This has resulted in a significant welfare loss for users in Mexico. … Consumer welfare loss in the Mexican telecommunication sector over the period 2005-09 is estimated at USD 129.2 billion, or an average of USD PPP 25.8 billion per year. The latter amount is equivalent to 1.8% of Mexican GDP per year (or USD PPP 240 per capita per year). [9]

In addition to these deadweight and consumer surplus losses, there will be additional losses resulting from the loss of productive efficiency associated with the use this form of communication (to better organize behaviour in the market-e.g. obtain price information, coordinate deliveries, etc.).

The fundamental problems with Mexican Telecoms regulation are that the regulator has been captured, lacks independence, and is subject to the control of a legal system which can be used to frustrate the implementation of welfare enhancing policies. [10] Second-guessing

past decisions is always a strategy of dubious worth; however, three decisions made in the privatization process merit a further look.

First, the decision to make the government company as attractive or potential investors is a concern. In circumstances like this, the obvious means to dress-up a company to attract suitors is to sell it as a monopoly. Potential investors thus bid on the present value of a stream of monopoly profits. The successful investor gets an excellent (because super-competitive) return; and the government gets a good price for its asset. Hence, it is a win-win situation for these parties: but not for the consumer.

Second, in dressing-up Telmex in this way, the firm was sold as a vertically integrated national monopoly. The national scale and integrated nature of its operations provided it with the resources sufficient for it to remain the dominant operator (at every level). Indeed, by permitting it to set the interconnection rates (with weak regulatory oversight), the privatized firm was given a carte blanche to squeeze the margins of its potential competitors.

Third, the decision to permit this incumbent firm to enter into the mobile market allowed it to use this advantage to rapidly achieve dominance in that market. This is to be contrasted with the British decision where BT (the former public monopoly) was not permitted to enter into the mobile market immediately (BT 1998), due to the well-justified concerns that such leveraging would occur.

In addition to these blunders in the privatization of Telmex, there are additional concerns with the regulatory process as a whole. In addition to the*amparos* regime, which permits significant delays to the implementation of regulation, the delayed (6 years post-privatization) establishment of a sector regulator (and its subsequent capture), lead to questions regarding the efficacy of its sectoral regulator. This is in contrast to Mexico's generalist competition authority, the CFC, which in a 2004 OECD (2004) peer-review was generally well regarded. Competition expertise does not appear to be the issue.

It may well be that due to the manner in which Telmex was packaged to be as attractive to investors as possible, the political will for effective regulation is simply not present. Mariscal and Rivera (2005: 773) conclude:

The significant market power that Telmex enjoys today is a direct consequence of the mode of privatization. The maintenance of a vertically integrated firm introduced consequential costs to regulatory activities; regulating a vertically integrated firm became a difficult task as the regulator lacked comparative information. The delayed creation of governance structures (a telecommunications law and a regulatory agency) and later, the lack of autonomy of the regulatory agency, Cofetel, contributed to increased regulatory uncertainties.

In the circumstances, it may not be far from the truth to suggest that this regulation was designed to fail.

5. CONCLUSION: REGULATING FOR THE TWENTY-FIRST CENTURY

The link between competitive markets and individuals' gains is clear. To the extent that developing economies may wish to encourage such gains, they require some means of ensuring that any gains are not 'expropriated' or are otherwise 'privatized' through anticompetitive practices. To the extent that development is facilitated through trade, the need to prevent such extraction of market gains becomes more pressing. A strong competition agency appears to be the most effective means to preserve such gains.

The lesson here is that the rules chosen for the regime should suit the particular circumstances of the market to be regulated and the society in which it is found. The rules, whether American or European, must reflect these conditions, and not the a priori assumptions of international 'advisors' supplying advice.

Further, the regulators must develop priorities. There is no doubt that international cartels will operate in developing countries. This can be a rational strategy for them. A developing regime may lack investigative ability, hence the probability of the cartel's detection is low. In which case, the collusion is rational. Indeed, the profits from this activity can be used to offset the costs incurred if collusion in other markets is detected (Levenstein and Suslow, 2003).

However, it may not be prudent for a developing regime to invest much of its resources in combatting such cartels. The international dimension will make investigation, particularly with regard to the acquisition of evidence, difficult and expensive. It may perhaps be more advisable in terms of maximizing consumer welfare within the jurisdiction relative to the demands and costs imposed on the agency for that agency to liaise with and assist other agencies in these international investigations.

The Mexican case tells us that effective infrastructure regulation is needed. Given the ubiquity and necessity of mobile telecommunications, an ill-regulated market can serve as the vehicle for significant consumer harm and concurrent stunting of trade-related economic growth. The same conclusion can be drawn with internet access. Likewise shipping infrastructure-ports and airports-are susceptible to similar abuse. If unwatched, industries operating with the modes of shipment-ferries, trucks and railways-can cost the economy. Electrical generation and distribution are also need to make this infrastructure run.

This list is not exhaustive, but it is a suggestion of markets in which where collusive or abusive practices occur, there is a potential for not just loss of consumer surplus but also deadweight loss which would arise through lost trade opportunities as a result of the super-normal prices. Further this list itemizes markets which are somewhat more complex to regulate than, say, a simple (but cartelized) food staples market. To point to a few considerations: mobile telecommunication regulation is characterized by network effects, issues of essential facilities and margin squeeze; electrical regulation is compounded by issues of natural monopoly; and shipping companies may need to coordinate their schedules to operate efficiently.[11]

These factors point to the need for rule formulation and adjudication by specialized agencies. Furthermore, however funded or whatever rules they use, such agencies need to be independent not just from the government which creates them, but also from the industry which they regulate. This specialization has implications for review of their decisions. Generalist courts are unlikely to have the skill set to critically assess the *economic* aspects of the decisions. On the other hand, they may be more likely to be able to adequately assess the *legal* justification provided by such administrative bodies. This points to a great degree of deference in the former case, but less so in the latter.

Key to the success of the regime is political will. This is in many respects a rule of law issue. Independence demands that such agencies operate without the interference of any other arm of the government. [12] This takes a significant degree of political will, particularly when the regulated industry may be politically well connected or when sold off as part of an economic liberalization program. [13]

The increasing complexity of markets in the twenty-first century shows us that it is likely that the old-style generalist courts are unlikely to be adequate to adjudicate these complex issues. Their days of adjudicating such disputes are over. Rather, given that this century should also see the spread of competition regimes into what are classified as developing (and least developed) countries, and with the need for such jurisdictions to carefully regulate their markets, not just to protect consumer welfare, but to facilitate other forms of gains through trade, we should see and facilitate the development of specialized agencies.

Yet, the development of these agencies alone will not suffice. They must be developed in conditions where they are independent, in a system where there is the political will to do so. As the Mexican telecommunications case study shows us, where these agencies are captured, under the control of some political master or hobbled by a dysfunctional legal system, they are unable to make any call at all-never mind the right call. Thus their ability to make the call requires them to be an independent operator.

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[1] Senior Lecturer in Competition Law, School of Law, University of Manchester, M13 9PL e-mail: bruce.wardhaugh@manchester.ac.uk. An earlier version of this paper was presented to the Competition Law Stream at the 2014 Conference of the Society of Legal Scholars in Nottingham. My thanks are to all those who provide comments (and in particular, the anonymous reviewers). The usual disclaimer applies.

[2] The estimates appear to show that a 10% increase in penetration results in a growth rate of between 0.6 and 1.5%. See Aker and Mbiti (2010: 224), citing Roller and Waverman, (2001) and Rosenzweig, et al (2005).

[3] Developing a 'competition culture' is also significant to the success of a developing regime, as argued by e.g. Botta (2009).

[4] As an example, successful criminalization of cartel activity requires an underlying social intolerance to the activity to support the meting out of society's harshest punishment to those who transgress this norm, see e.g. Brisimi and Ioannidou (2011) and Wardhaugh (2014: 265 - 67 and 284 - 86).

[5] The distinction between criminal sanctions directed at individuals and sanctions directed towards firms is clearly a significant difference in competition enforcement.

[6] See e.g. *Hecht v Pro-Football Inc*; *Mid-South Grizzlies v National Football League*; *Fishman v Estate of Wirtz*; *Image Technical Service v Eastman Kodak Co*

[7] 'When setting its enforcement priorities, the Commission starts from the position that, generally speaking, any undertaking, whether dominant or not, should have the right to choose its trading partners and to dispose freely of its property.' (*Guidance*: para 75)

[8] On this point, see also OECD (2004: 44 - 46).

[9] The data are analysed in further detail by Stryszowska (2012).

[10] The OECD (2012: 114) is even more scathing: 'The unsatisfactory performance of telecommunication markets in Mexico is, as noted at the beginning of this report, having a significant negative impact on the Mexican economy and resulting in a welfare loss to its citizens. The performance is due in part to the incessant monopoly behaviour of the fixed and mobile incumbent, which cannot be controlled because of a dysfunctional legal system

which has, de facto, replaced to a large extent the right and responsibility of government to implement economic policy and economic regulation of markets.'

[11] The EU has recognised this, see Commission (2014).

[12] With the exception, of course, of potential judicial review of the agencies' activities

[13] When privatizing a governmentally owned monopoly, it takes some political will not to pre-package it as a 'turn-key monopoly' to attract the best possible bid from investors. Packaging the enterprise as such aids the government in obtaining a greater amount for it- thus giving the government ammunition to disingenuously claim that the sale realized a good 'deal' for the country.