

The Reactions to U.S. Companies in Foreign Telecommunication Auctions

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Abstract

In this study, we examine U.S. companies' activities in foreign telecommunication auctions and analyze the reactions of host countries to these outside bidders. We identify the possible concerns of the host countries. There are two sets of concerns that could drive the behavior of foreign countries: concerns for anti-front-runner/late-comers or concerns for public welfare. The anti-front-runner/late-comers' concerns stem from either host country's fear of the loss of international competitiveness/future economic growth or its fear of the potential loss of revenues. The public welfare concerns stem from an anti-auction sentiment, an anti-monopolistic sentiment, or an anti-foreign and anti-Americanism sentiment within the host country.

Keywords: Telecommunication, Telecom, Telecommunication Auction, Spectrum, Fcc

Introduction

In this study, we examine U.S. companies' activities in foreign telecommunication auctions and analyze the reactions of host countries to these outside bidders. Due to differences in regulatory, economic, social, and cultural perspectives, we argue that foreign governments may be hesitant to accept U.S. bidders in these auctions. We hypothesize that the status of the existing telecommunication infrastructure explains a major part of the differences. This is because governments' telecommunication regulatory policies tend to protect their countries' interests, and the needs for protection and regulation vary depending on the maturity of their telecommunication industry. We expect countries with very developed infrastructure to be more concerned with protecting local infrastructure providers from foreign competition than those that do not have much local interest to protect.

Several telecommunication auctions have been completed in the world. Some of these auctions were more successful than the others. Klemperer (2002a) shows that, although the values of the licenses sold were similar in some cases, there were big differences in the revenues. For example, in the European "third generation" (3G, or "UMTS") mobile-phone license auctions, the revenues ranged from 20 Euros per capita in Switzerland to 650 Euros per capita in the UK. Klemperer (2002a) discusses the reasons of failed auctions. Especially

poor auction designs, have sometimes facilitated collusion between firms which is a problem. Also, some auctions have failed to attract entrants.

Basili and Fontini (2003) compare the aggregate revenue extracted by the UK Government to the aggregate price of licenses paid by winning telecom companies. They show that the government's revenue is lower than the price paid by winning companies. According to Van Damme (2002), the anti-trust laws are too weak to combat anti-competitive behavior. The author argues that in Italian auctions, although contacts between the players were forbidden, there is evidence of communication between players. Van Damme (2002) argues that the governments are in a dilemma: if governments make auctions more restrictive, then this may exclude players from auctions and hurt the revenue.

Klemperer (2002b) discusses the main problem with auctions: preventing collusive, predatory, and entry-detering behavior. According to the author, ascending and uniform-price auctions are particularly vulnerable to these problems. Klemperer (2002b) contends that although effective anti-trust policy is also critical, it is difficult to achieve because there is no single, perfect auction design that works for all countries or all circumstances.

Park, Lee, and Choi (2011) show that spectrum auctions do not negatively affect the mobile communications market. The authors encourage all countries who want to improve the efficiency and transparency of their spectrum assignment to be more open to auctions.

Chattopadhyay and Chatterjee (2014) discuss the problems in telecom auctions in India. According to the authors, the rolling out of services has been very slow; many rules tend to come up once the auction is over, and etc. Chattopadhyay and Chatterjee (2014) point out to the fact that there is much room for improvement in Indian auctions.

As mentioned above, we believe it is useful to categorize the world into three groups according to the amount of existing telecommunication infrastructure: countries with most developed infrastructure (MDI), countries with moderately developed infrastructure (mDI), and countries with least developed infrastructure (LDI). To measure infrastructure development, generally the number of telephone lines per 100 inhabitants (this is referred to as phone penetration rate or teledensity) is used as the base line. This is because this measure is the most available and "widely used (as) indicator of telecommunication well-being" (World Telecommunication Development Report, 75).

We classify countries with a telephone penetration rate above 30¹ in 1992 as the "most developed telecommunication infrastructure" (MDI) countries. They represent about 20% of all countries in the world. Examples of MDI are Taiwan, South Korea, Singapore, Bahamas, Malta, Israel, Martinique, and the OECD² member states, including the U.S., but excluding Mexico and Turkey (their penetration rates in 1992 were 7.54 and 16 respectively).

We classify countries with telecommunication penetration rates above 2 but below 30, or with more than 1 million telephone subscribers in 1992 as "moderately developed infrastructure" (mDI) countries. Examples of countries in this group are Algeria, Mexico, Indonesia, India, China, Pakistan, Turkey, and Eastern European countries. About 50% of the countries belong to this group.

We classify countries having penetration rates less than 2 per 100 inhabitants and less than 1 million subscribers in 1992 as "least developed infrastructure" (LDI) countries. Examples of these countries are Congo, Nigeria, Ethiopia, Albania, Vietnam, Nepal, Kenya, Tanzania, Cambodia, Haiti, and Zaire.

For each of the three groups of countries (i.e. MDI, mDI, and LDI), we attempt to identify the possible concerns of the host countries. In the next section, we will start analyzing the possible reasons for the host countries' reactions to U.S. bidders.

Foreign Reactions to the U.S. Action Vary by Country Types

Foreign negative reactions to further FCC actions could be the result of a blending of traditional negative sentiments about the U.S. and negative perceptions of the many facets of auctions. Figure 1 summarizes, by country type, the possible sources of the fears that contribute to foreign reactions. Some factors identified here may exist with and without auctions but many will be exacerbated by auctions. Some factors may be based on informed analysis as well as on misperceptions but are genuine fears in either case. We outline the sources of the reactions below with a numbering system that corresponds to that in figure 1. The two sets of concerns that could drive the behavior of foreign countries are:

1. Concerns for the costs borne by late-comers, and
2. Concerns for the public welfare of their nations

Informed regulators and service providers outside the U.S. may fear that auctions will succeed in reaching objectives of efficient allocation of satellite spectrum, thereby quickly creating a front-runner and a strong competitor who could provide transnational service and challenge incumbents in foreign markets. In addition, the U.S. government would reap the premium bids from those companies wanting an early foothold and thus potentially deprive other governments of the additional revenue.

Such fears could also serve as a rallying point to arouse the reservations that some citizens and their representatives already may have about the social and political viability of auctions. These people may be more fearful that a U.S. auction winner could sap their countries' economic potential, establish a monopoly, decrease settlement payments³ (and thus decrease subsidies for local loop service), and reduce domestic jobs. Whether those fears are realistic assessments by informed players or not, the fears are genuine. Although once the ability of auctions to accommodate various property rights considerations and public welfare issues are well-recognized, opposition to auctions will diminish, in the interim, such fears may arouse deep-seated mistrust of market mechanisms and the U.S.' historical reliance on the market.

The perception that auctions cater to the materialistic world view of U.S. companies who disdain the public's welfare will make the sale of what is viewed as common property seem particularly egregious. The U.S. use of auctions will be viewed in many governments as inconsistent with the accepted international doctrine that space is a common heritage for all humankind and that space is not the property of any one government to sell. Thus, together with the late-comers' costs, there will be several pillars on which opposition to auctions will stand, leading to the call for increased international "cooperation" in satellite spectrum allocations.

In the absence of cooperation, however, countries may retaliate against U.S. companies. Some may retaliate by using non-auction mechanisms which can easily incorporate anti-foreign or anti-American measures, and under certain circumstances, may yield the host countries' higher prices for spectrum than auctions.⁴ In any case, irrespective of foreign government's decision to auction or not, U.S.' auctioning of satellite spectrum sets the precedent for charging for spectrum - a precedent many governments may gladly accept despite reservations about auctions.

Anti-front-runner/Late-Comers' Concerns

A front-runner is a leading contestant in a rivalry. Any person/company who enters a market after the front-runner has established a position that incurs late-comers' costs.⁵ Though the apprehension of having a front-runner who could sap their economic potential

and decrease settlement payments exists with or without auctions, auctions accentuate the fear and provide the rallying point for alliance with the other concerned parties. We address each of these in more detail below.

The Fear of the Loss of International Competitiveness/Future Economic Growth

The U.S. competitors' fear is reflected in the European Communities' (EC) complaint regarding space-based personal communications that "the U.S. operating systems will dominate this emerging market — precluding the introduction of non-U.S. systems". Competitors believe that the U.S. itself represents a market sufficiently large to sustain a system that provides global services. Any market gained outside the U.S. could be charged for service at marginal costs. This will leave no opportunity for others to develop their systems. Thus, the EC does not want the FCC to license spectrum first to companies that provide worldwide services.

In addition to the potential loss of market share, late comers may have to incur adjustment costs, too. Once the U.S. has established a system, late comers would have to incur higher system coordination and adjustment costs to avoid interference with incumbents. If these costs are borne by late comers, late comers will be in a relatively disadvantaged position. This is especially relevant for the low earth orbit (LEO) systems with many satellites. The potential for coordination costs is high when hundreds to thousands of satellites are proposed by U.S. companies. Therefore, the international community would desire a global agreement on how to allocate orbits and coordinate systems before individual countries license LEO satellite spectrum.

The use of auctions magnifies U.S. competitors' fears because an auction that readily assigns a license to what is assumed to be a wealthy U.S. company could create a strong competitor. Licensees elsewhere, whose licenses may require performing costly social functions, would compete at a disadvantage against the wealthy U.S. winner. Moreover, auctions increase the speed of granting licenses. For instance, the entire licensing process, from the filing to awarding a license, for the broadband PCS auctions took only 83 days for all 99 licenses compared to the average 471 days needed for each authorization for the initial licensing of cellular phone services lotteries and hearings (FCC News Release, June 23, 1995). As a result, the fear of U.S. dominance is intensified when auctions are used in the U.S.

The politicians in LDIs have the same concerns as those in other countries about competitiveness and late-comers' costs, but those are outweighed by the benefits of such a global system. For instance, the benefits and costs of investment in telecommunications and economic growth approached 200:1 for manufacturing industries in Kenya and 85:1 in rural Egypt (Martinez, 35). Thus, investment in telecommunications would enable them to leapfrog stages of economic development.

The Potential Loss of Revenues

This is the second group of concerns. The concern is most relevant to mDI local phone companies and is of moderate concern in MDI and LDI phone companies.

The loss of revenues comes from two sources: the loss of collection charges due to direct competition and the loss of settlement payments due to lower international rates. Businessmen, travelers, and subsidiaries of major corporations that are the markets for a global satellite system also provide local phone companies a high volume of profitable international traffic. The incumbents fear the loss of customer base as well as the lowering of prices from increased

competition. That fear is based on their apparent belief that demand is inelastic.⁶

For the mDI countries, the lowering of charges due to competition could lower local phone companies' revenues from settlement payments, too. Lower international rates will stimulate new demand for outgoing international calls which would reduce the imbalance of incoming and outgoing calls, effectively lowering the lucrative settlement payments that form a major source of telecommunication income.⁷ For instance, in 1992, the U.S. settlement payments to El Salvador⁸, Jamaica, Guyana, and Honduras were approximately 50% of their telecommunication revenues (Jigjuep, 5). Auctions in the U.S. will heighten the anti-front-runner sentiment because auctions will become the rallying point for local phone companies to persuade foreign governments to carry out anti-foreign/pro-domestic policies.⁹

In summary, the first two issues—loss of international competitiveness and loss of current income—are concerns held by many regulators and service providers outside the U.S., but the mDI countries are expected to exhibit much stronger negative reactions to a U.S. auction based on these two issues than are MDI countries. MDI countries' concerns are expected to be focused on the loss of competitiveness, and LDI countries are expected to be less concerned given the benefits that they could receive from new technologies introduced by U.S. companies.

Public Welfare Concerns

Public welfare concerns — concerns that the benefits of telecommunications to society will not be realized or will be negated by harm done to society—are strongest in mDI and are moderate in MDI and LDI countries. The use of auctions will intensify the foreign concerns for protecting the public from negative aspects of auctions, monopolistic powers of telecommunications providers, and foreign exploitation of natural resources. We describe each of these concerns in detail below.

An Anti-Auction Sentiment

This sentiment is rooted in misconceptions about auctions, particularly the perception that auctions rely heavily on wealth as a critical factor in obtaining a license and the perception that auctions cede all property rights to the winner. Anti-auction sentiment is strongest in mDI and LDI. Even some MDI governments are afraid of losing control over selection criteria and the future reassignment of spectrum rights. Such concerns also intensify mDI's desire for *a priori* global planning and coordination.

Wealth-orientation

Wealth seems to be the only criteria used in a simple form of auctions.¹⁰ The concern about "non-public welfare" based auctions is well summarized by a statement made by Canada's Department of Communications: auctions "eliminate our discretion in the selection process and diminish our capabilities as spectrum managers" (McMillan, 196). This fear of heavy wealth reliance is not unfounded. "The weak capital formation mechanism found in the third world countries" and "the significant constraints on access to international capital markets" will lower the ability of local firms in mDI and LDI to compete with international companies on a monetary basis (Samarajiva and Shield, 233).¹¹

Exclusivity and Property Rights

The mDI and LDI are also concerned with the possible loss of reassignment rights that come along with the sale of spectrum. Spectrum managers may fear that they would not be

able to reassign the spectrum later to someone who may provide better services or technologies than the initial licensee. This lack of flexibility would be damaging to developing nations trying to catch up with new technologies.

Some believe that spectrum belongs to the people of the world as a common heritage of humankind. The selling of satellite spectrum implies the violation of a long accepted view in the ITU. Even though some economists may argue that auctioning spectrum is actually selling a lease for spectrum, some politicians may be unwilling to let the U.S. be the first to license and receive a premium on property that belongs to the public.

An Anti-Monopolistic Sentiment

This anti-monopolistic sentiment is strongest in mDI countries. Auctions are thought to have the effect of reinforcing monopoly and lowering competition after auction. Some regulators who are not aware of the different auction alternatives (such as giving multiple licenses¹²) that can be used to tailor auctions to the needs of the public may fear that these powerful companies will undercut prices and create a monopoly. The potential for monopoly is the lowest in MDI because of the competition from other incumbent means of communication. In the LDI, "it may be necessary to guarantee investor/operators that the PTT (or other provider) will have a monopoly for some fixed period" due to their low income to support the telecommunications demands.

An Anti-Foreign and Anti-Americanism Sentiment

There are concerns that local companies are disadvantaged relative to foreign companies and that direct benefits of the economic activities do not flow into the local economies. This anti-foreign/anti-American sentiment is prevalent in MDI and moderately prevalent in mDI. A successful U.S. auction would have the effect of intensifying the fear of foreign dominance in local or international markets. An anti-American sentiment is keen in the EC where the U.S. is their strong competitor.¹³ In mDI countries, the desire of the governments to protect local businesses is strongest even though there is a major trend toward attracting foreign investment. In China, the investment climate is improving, but foreign investors are still only allowed to buy non-voting common stocks in selected companies. In many countries (including U.S.), foreign ownership of a strategic industry or public utility such as telecommunication is a politically sensitive issue.

Conclusion

In this study, we examine U.S. companies' activities in foreign telecommunication auctions and analyze the reactions of host countries to these outside bidders. First, we classify host countries into groups based on their development levels (i.e. "Most Developed Infrastructure", "Moderately Developed Infrastructure", and "Least Developed Infrastructure"). Then, we identify the possible concerns of the host countries.

There are two sets of concerns that could drive the behavior of foreign countries: concerns for anti-front-runner/late-comers or concerns for public welfare. The anti-front-runner/late-comers' concerns stem from either host country's fear of the loss of international competitiveness/future economic growth or its fear of the potential loss of revenues. The public welfare concerns stem from an anti-auction sentiment, an anti-monopolistic sentiment, or an anti-foreign and anti-Americanism sentiment within the host country.

We recommend future studies on telecom auctions to consider host countries' reactions to foreign bidders and especially their underlying reasons for these reactions. Each

host country may have different political or market characteristics that would affect their openness to foreign companies in different ways. We believe that knowing all of these potential problems in advance would benefit both the host country and the auction participants.

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Reactions to US Auction(2)	Types of Countries		
	Most Developed Infrastructure (MDI)	Moderately Developed Infrastructure (mDI)	Least Developed Infrastructure (LDI)
1. Latecomers' Concerns			
a. Future Growth/Loss of International competitiveness(3)	X	X	x
b. Loss of Current Income from International Calls	x	X	x
2. Public Welfare Concerns			
a. Anti-Auction	x	X	X
i. Wealth-Oriented			
ii. Exclusivity & Property Rights	x	X	X
b. Anti-monopolistic(3)		X	
c. Anti-Foreign/ Anti-Americanism(3)	X	x	

Figure 1. Foreign Reactions to US SATCOM Auction (by Sources of Fear and Country Type)

The size of the Xs indicates the relative significance of the factors.

Note:

1. Late comers and public welfare concerns the roots underlying foreign reactions.

- Late Comers' Concerns: This anti-front-runner sentiment is based on the fear that auctions will succeed in reaching objectives of efficient allocation of satellite spectrum, therefore creating a front-runner in the international arena and a strong competitor providing transnational services.
- Public Welfare Concerns: To those that have misconceptions about auctions, the use of auctions to allocate licenses would mean the sale of spectrum to the richest, the loss of control over the selection criteria and the reassignment rights. Some local operators and regulators outside the U.S. may fear that the strong transnational competitor created by a U.S. auction would challenge incumbents in foreign markets and establish monopolistic powers in foreign markets.

2. The blank cells do not indicate the non-existence of that particular factor. They do reflect the relative insignificance of that factor as a handicap to US winners. For instance, the loss of settlement payments, the anti-foreign and anti-monopolistic feeling in the LDI have been subjugated by the positive by-products from having better telecommunication infrastructure. Thus, these two factors pose smaller obstacles to U.S. in LDI. Anti-monopolistic feeling is not strong in MDI as there will be a sufficient number of telecommunications companies to warrant a competitive environment.

Footnotes

1. U.S. had a teledensity of 56.49 in 1992.
2. Members of Organization for Economic Cooperation and Development (OECD) are Australia, Austria, Belgium, Canada, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Japan, Luxembourg, Mexico, Netherlands, New Zealand, Norway, Portugal, Spain, Sweden, Switzerland, Turkey, United Kingdom, and the United States.
3. The telephone companies of the originating parties pay the terminating party a fee based on the accounting rates agreed upon by the PTTs. This termination fee is usually lower than the collection fee charged to the consumers by the originating telephone companies.
4. In countries where conditions for maximum benefits from auctions are not met (such as limited number of bidders, inefficient financial markets), host governments may be able to exercise their power more easily through non-auction mechanisms than auctions.
5. These costs include opportunity costs of foregone market share, adjustment costs for orbital slots, and coordination costs to avoid interfering with existing systems.
6. New services may increase the volume of the international traffic and end up raising rather than lowering collection charges. This would depend on the elasticity of demand. If the demand is elastic enough, the lowering of prices as a result of competition would actually increase the total collection charges received rather than lower them.
7. The telephone companies of the originating parties pay the terminating party a fee based on the accounting rates agreed upon by the PTTs. This termination fee is usually lower than the collection fee charged to the consumers by the originating telephone companies. Within the existing framework, developing nations usually experience more incoming than outgoing calls due to high rates in those developing countries. Telephone companies in those nations usually receive more money from termination fees than they pay out, creating an imbalance of incoming funds.
8. The \$70.5 million U.S. settlement payments to El Salvador in 1992 constituted 57.8% of their telecommunication revenues while another \$96.3 million constituted 56.8% of Jamaica's telecommunication revenues (Jipguep, 5).
9. Ownership of local phone companies may affect the receptiveness of U.S. auctions. Governments are supposed to have a broader social objective than phone companies, so they should favor the new systems more than local phone companies.
10. In the simple form of auctions, licenses will be granted to the highest bidders. This is the concept of auctions that is understood by the majority of the public and foreign governments. Auctions conducted by the FCC, however, are not this common, simple-form of auctions understood by the public at large. The FCC has hired many economists and auction experts to design auctions that, through modified procedures and formats, accommodate particular social welfare concerns.

11. With special provisions such as bidding credits or set aside spectrum, the possibility of excluding local firms from winning licenses will be mitigated.
12. Granting multiple licenses to low earth orbit systems may help to increase competition. However, this method of authorizing multiple operators to use a single orbital position may not be appropriate to geostationary orbits unless several competitors already have a slot and the licenses are for operating in the country. To induce competition in the local market, host countries may authorize companies from neighboring countries to operate in their countries if neighboring satellites' footprints would cover the host countries. Neighboring countries can be as close as U.S. and Mexico or as far apart as the African continent and Europe.
13. The intensity of this sentiment can be illustrated by the following fact. "For the U.S. firms, nearly 85 percent of the potential (European telecommunications and related services market) is closed" to foreign investment. Members of Parliament in France even declared opposition to further deregulation because "it would enable the U.S. operators to penetrate the European markets" (The U.S. Telecommunication Services in European markets, 61).