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## I. INTRODUCTION

On April 7th 2011, the Mexican Competition Commission ("CFC") imposed a historic fine against TELCEL, the largest mobile operator in Mexico and a subsidiary of the Latin American telecommunications giant *America Movil*. The fine was motivated by the identification of allegedly anticompetitive conduct in the market for the "termination" of mobile and fixed calls into TELCEL's mobile network during a period of time that spanned June 2006 to September 2009.[2] In particular, the competition authority argued that TELCEL was engaging in a *margin squeeze* of its fixed and mobile competitors through the combination of high wholesale prices for interconnection and low retail pricing.[3] A margin squeeze represents a violation of Article 10-XI of the Mexican Competition Law since it has the effect of raising the costs of downstream rivals and, hence, reducing their competitiveness in the industry.

The CFC's determination that TELCEL induced a margin squeeze of mobile and fixed operators has been hotly debated in Mexico for different reasons. First, the CFC´s finding led to the largest fine ever imposed in the Mexican competition regime: approximately 12,000 millions of Mexican pesos—roughly, U.S. $1,000,000,000.[4] Second, the fine was released in the context of a polarized vote of the CFC´s Commissioners. And, third, there is a chance that the fine may be reversed as part of the administrative review process of the decision.

As of today, the discussion of this fine in national and international antitrust forums has been dominated by its political implications and, unfortunately, there has not been much analysis on the economic reasoning through which the case was constructed. This paper intends to fill this gap by providing a brief overlook of some of the economic arguments exposed in the analytical core of this antitrust case.

## II. THE RELEVANT MARKET & THE IDENTIFICATION OF MARKET POWER

### *A. Market Definition*

From a product dimension perspective, the relevant market defined by the CFC was the provision of call termination services from fixed and mobile operators into TELCEL's mobile

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[2] "Call Termination" refers to the service that network A provides to network B for the completion of a call each time a user subscribed to network B calls a user subscribed to network A.

[3] Federal Competition Commission, *Resolución del Pleno de la Comisión Federal de Competencia del 7 de Abril de 2011 para Radiomóvil Dipsa, S.A. de C.V; Expediente DE-37-2006 y acumulados*"; Mexico (2011).

[4] The fine is equivalent to 10 percent of the value of TELCEL's assets because, according to the competition authority, the firm had already been fined in the past for the same type of anticompetitive conduct.

network. In terms of its geographical dimension, the relevant market was identified as national, covering the entire geographical extension of TELCEL's network.

### B. Market Power

The CFC argued that TELCEL had market power in the relevant market—in the sense that it could determine *unilaterally* the tariffs associated with the termination of calls into its mobile network—due to the following factors:

1. The large size and the scope of the geographical coverage of TELCEL's network with respect to the dimension of other networks, particularly the networks of other mobile operators;
2. The (significant) economic value that other networks put on the termination of calls into TELCEL's network, given its large size; and
3. The fact that TELCEL is the *only provider* of call termination into its own mobile network, which implies a market share of 100 percent of the relevant market.

Regarding the finding that TELCEL had market power in the relevant market, two comments are worth mentioning. First, the argument that TELCEL is the *only provider* of call termination into its own network is a technological feature that is not exclusive of TELCEL. The condition that only the network in which a particular user is subscribed can provide the facilities to connect a call is a feature shared by all other operators in the market.

This observation is important when discussing whether a particular mobile operator has more bargaining power for the negotiation of interconnection terms and conditions in the industry. A first scenario occurs in the context of symmetric customer bases, in which case all mobile operators, *ceteris paribus*, have the same bargaining power to negotiate interconnection terms. It follows then that the power to dictate interconnection terms and conditions that comes from being the only access provider to a customer is *relative* under conditions of symmetry to network size. A second scenario occurs in the presence of significant asymmetries in the size of customer bases, in which case the largest network usually has higher bargaining power to impose interconnection conditions due to the fact that the economic value it places on terminating calls into other networks is significantly lower than the economic value that its competitors put on call termination into the larger player's network. The bottom line is that, since at the time of the investigation the scenario of network asymmetry was the one that best characterized the Mexican mobile market—at that time TELCEL's market share was approximately 71 percent—the CFC was right to argue that TELCEL was in a better position than its competitors to dictate the interconnection terms and conditions in the industry.

Second, TELCEL has argued that its bargaining power to determine interconnection rates is not different than the power that other operators have. To support this argument, TELCEL argued that, in cases where an interconnection rate may be perceived as abusive, operators always have the option of filing an "interconnection disagreement" at the Federal Telecommunications Commission—this is an administrative procedure through which the telecommunications authority has legal powers to determine the terms and conditions that should govern network interconnection between the conflicting parties. Given the fact that the Federal Telecommunications Commission always determines cost-based interconnection rates, TELCEL

has argued that the imposition of abusive interconnection rates is unfeasible since the "*outside option*" in any disagreement is always cost-based rates determined by the regulator.

In principle, TELCEL's argument is correct in the sense that interconnection rates that either have been voluntarily agreed upon or have been determined by regulation cannot be abusive.[5] However, this argument ignores the fact that the vast majority of the determinations of the Federal Telecommunications Commission in interconnection are contested in tribunals, implying that the terms and conditions determined by the regulator cannot be applied immediately—and, typically, these rates are only implemented after several years. In this context, it is clear that the alleged operator's "outside option" does not really exist, at least as a short- and medium-term binding wholesale pricing mechanism, so that the bargaining power to dictate interconnection rates has always remained, in fact, with the largest operator.

Notwithstanding that this so-called "outside option" was not really operational during the period of the infringement, things have recently changed. On May 3rd 2011, the Mexican Supreme Court of Justice ruled that the interconnection rates determined by the Federal Telecommunications Commission cannot be "suspended" in tribunals.[6] In this new regulatory environment, the "outside option" described by TELCEL represents a real "way out" to an interconnection disagreement and it has the following important implication: that any bargaining power asymmetry that previously existed between TELCEL and its competitors is now reduced. Therefore, the Supreme Court decision in this matter has been fundamental to creating a more symmetric bargaining power among operators for the negotiation of interconnection terms and conditions in Mexico.

## III. THE MARGIN SQUEEZE ALLEGATION

To identify the margin squeeze in the market for the termination of calls into TELCEL's mobile network, the CFC reasoned as follows:

1. The *maximum* rate that TELCEL could charge itself for the provision of *on-net* termination services is roughly equivalent to half the final price charged to its own customers for *on-net* calls. This is because the final price charged by TELCEL to its own customers for an *on-net* call, P(On), is given by:

   $$P(On) = Cost(Or) + Cost(Ter\text{-}On) + Cost(Mark) + Markup$$

   where Cost(Or) is the cost of call origination; Cost(Ter-On) is the cost of *on-net* call termination; Cost(Mark) is the cost associated with the marketing of mobile call services and Markup is just the expected margin of benefit. The above equality implies (after rearranging):

   $$Cost(Ter\text{-}On) = P(On) - Cost(Or) - Cost(Mark) - Markup$$

   To determine the *maximum* rate that TELCEL can charge itself for *on-net* termination, the costs associated with the marketing of call services and the markup are both considered

[5] Note, however, that in other jurisdictions this argument has been contested. In the *Deutsche Telekom* case, for example, one of the issues in discussion was whether wholesale rates approved by the regulator may have led to anticompetitive effects in the market.

[6] This means that, when there is an interconnection disagreement between two operators, the interconnection rates determined by the Federal Telecommunications Commission apply immediately and govern the interconnection conditions between the parties during the whole process of litigation.

equal to zero. Now, since the provision of the services of call termination and call origination use the same network components, then the cost associated with each of these two functions should be identical. From this, it follows that:

$$\text{Cost(Ter-On)} \approx \text{P(On)} / 2$$

which gives the *maximum* rate that TELCEL can charge itself for the provision of *on-net* termination services.

2. The CFC found that the rate that TELCEL charged to other networks for terminating calls into its mobile network, T(Ter-Off), was significantly higher than the calculated cost for on-net call termination in TELCEL's network:[7]

$$\text{T(Ter-Off)} > \text{Cost(Ter-On)}$$

Therefore, the termination rate that TELCEL charges itself is significantly lower than the rate that it charges to its competitors for the provision of the same service.

3. Furthermore, the CFC found that the differential between the rate that TELCEL charged to other networks for terminating calls into its mobile network and the calculated cost for *on-net* call termination in TELCEL's network was so significant that:

$$\text{T(Ter-Off)} > \text{P(On)} > \text{Cost(Ter-On)} \approx \text{P(On)} / 2$$

so that the termination rate charged by TELCEL to other networks was even higher than the retail price charged by TELCEL to its own customers for an *on-net* call.

On the basis of the above reasoning, the competition authority found evidence of a margin squeeze. It is important to observe that the implicit conceptual framework that the CFC used in its analysis of this case was the so-called "*equally efficient test*" of margin squeeze. In the European competition regime, two imputation tests are usually implemented to identify the presence of a margin squeeze in a market.[8] The first is the "equally efficient test," which is satisfied when the downstream division of a vertically integrated firm cannot make a benefit if the division were forced to buy the upstream input at the price charged to downstream competitors. The second evaluation standard is commonly referred as the "*reasonably efficient test*" which, in turn, is satisfied when a "reasonably efficient" downstream competitor that is paying the wholesale input price determined by the vertically integrated firm is unable to earn a reasonable profit margin.[9]

The identification of a margin squeeze in an industry may depend on which of these two tests is implemented. It has been argued, for example, that in recently liberalized network industries it is necessary to apply a reasonably efficient test in order to promote competition. The rationale is that, even in cases where entrants are as efficient as the incumbent, the short-term inability of entrants to make the most of economies of scale and scope—or to exploit learning curve effects or first-mover advantages—forces them to operate with higher cost structures than

[7] An OECD study found that, during 2008, the termination rates in mobile networks in Mexico were 43.5 percent higher than the average termination rate in OECD countries. *See* OECD, *Recomendaciones para Promover un Marco Regulatorio más Favorable a la Competencia en la Interconexión entre Redes de Telecomunicaciones*, (2009), *available at*: http://www.oecd.org.

[8] *See, Notice on the Application of the Competition Rules to Access Agreements in the Telecommunications Sector Framework, Relevant Markets and Principles*", OJ (1998).

[9] C. Veljanovski, *Margin Squeezes in Telecoms*, Working Paper; Case Associates (16 June 2008).

the ones associated with the incumbent. In this context, a margin squeeze test that uses the higher cost structure of entrants may more easily find the existence of a squeeze in the market—since this is evaluated taking as reference a relatively higher cost structure. Given that this test "protects" entrants, this evaluation standard is commonly considered as one that promotes downstream competition.[10]

In general, the use of the equally efficient test for the analysis of margin squeeze cases is considered more appropriate; however, the implementation of a reasonably efficient test may have some merits in a regulatory context, particularly in cases where a regulator may have as an objective promoting entry of (initially) less efficient operators.

In the particular case of the margin squeeze analysis carried out by the CFC, the test implemented was one of an equally efficient competitor since its conclusion was based on the finding that had TELCEL been forced to pay the termination rate it charged to other network operators, it could not have made a profitable margin on its actual calls. Incidentally, also observe that, since the identification of a margin squeeze in the context of the equally efficient test necessarily implies the identification of a margin squeeze in the context of a reasonably efficient test, the CFC's finding was not affected by the type of test selected.

Another interesting aspect of this decision is that the competitive analysis of the CFC also addressed the possible impacts that high termination rates in mobile networks may have in the financial operation of fixed-line networks. In the particular case of TELMEX—the largest Mexican operator of fixed lines—the competition authority found that, notwithstanding that TELCEL's high termination rates affect financially both mobile and fixed operators, the economic impact on TELMEX of this high interconnection rates is just *nominal*, since TELMEX and TELCEL belong to the same economic group, so that TELCEL's high interconnection rates only represented a monetary transfer between two branches of the same corporate structure.

The CFC´s finding of a margin squeeze in the market for call termination into TELCEL´s mobile network raises other technical issues of certain relevance. In my opinion, one of the most important of these issues is related to the economic variables that the competition authority used to identify the margin squeeze. According to the accounting separation methodology, mobile operators should register an *internal cost* of providing mobile service to their customers; at the lowest, this internal cost should be equal to the price charged to other operators for the provision of mobile termination. Hence, according to these accounting rules, the cost associated with the provision of *on-net* calls should be equal, at least, to the cost of call termination that TELCEL charges to other operators. Given that the CFC´s analysis found that TELCEL is not charging itself this cost, then a margin squeeze was identified as a consequence of a low (not cost-based) charge for calls and a high charge for the termination of other networks´ off-net calls.

On the other hand, TELCEL has argued that a proper evaluation of a margin squeeze cannot be constructed under the basis of direct comparisons between specific prices and interconnection rates—say between *on-net* rates (or any other stand-alone retail price) and termination rates charged to third networks. Instead, the firm argued that a proper test should involve a comparison between the (implicit) Weighted Average Tariff ("WAT") associated with a particular service bundle and the interconnection rate. The economic rationale of this argument

[10] S. Clerckx & L. De Muyter, *Price Squeeze Abuse in the EU Telecommunications Sector: A Reasonably or Equally Efficient Test?*, 4(1) CPI ANTITRUST CHRON. (April, 2009).

is that the effective price charged depends on the service bundle consumed, which is intrinsically linked to specific patterns of user's consumption. Since the WAT represents the effective price charged for the consumption of a service bundle in the market, then this is relevant retail price variable to use in a test.

TELCEL's argument has economic sense since is always possible to summarize the multi-part tariff associated with a particular call plan into a weighted average "price" that represents the effective price charged to consumers. On this specific matter, the CFC argued that the Simple Average Tariff ("SAT") between maximum and minimum retail prices is sufficient to show the existence of the margin squeeze since the SAT is *normally* above the WAT.[11] This statement is based on the idea that, because the WAT gives a higher weight to high-consumption users, which typically get lower tariffs per minute, then WAT is below SAT. On the basis of this reasoning, the CFC found that WAT/2 < SAT/2 < IX, so that a margin squeeze was identifiable.[12]

It is important to observe, however, that the CFC's argument that SAT is *normally* above the WAT depends critically on the distribution of total minutes consumed between high-consumption and low-consumption users.[13] In its analysis, the CFC had implicitly assumed a higher weight for the tariffs of high-consumption users than for the tariffs of low-consumption users, which justifies why WAT < SAT. This is correct provided that the *total mass* of call minutes is indeed biased towards high-consumption users—otherwise, the converse is true. In any case, a proper calculation of the WAT seems to be an important aspect of this decision to be resolved.

## IV. FINAL REMARKS

The Competition Commission determination that TELCEL is incurring a margin squeeze of mobile and fixed operators has been a hotly debated topic in Mexico during the last months. The national discussion, however, has been centered (almost) exclusively on the enormous size of the fine imposed and the polarized nature of the Commissioners' votes. Notwithstanding the relevance of these two aspects, there has not been a proper discussion on the economic reasoning over which this case was constructed. In order to correct this shortcoming, this paper has provided a brief overlook of some of the economic arguments involved in this high-profile case.

In order to understand fully this margin squeeze case, there are some economic ideas that need to be stressed. First, even when the nature of call termination services turn all networks into local monopolists, asymmetric bargaining power for the determination of interconnection rates only arises in cases where there are also strong asymmetries in the relative size of networks. This asymmetry in bargaining power to dictate interconnection rates only disappears in cases where there is an effective "outside option" for operators in case of disagreement.

In the Mexican context, this outside option was non-existent *before* May 3rd 2011, when a decision of the National Supreme Court of Justice provided the legal basis for a more symmetric distribution of bargaining power among operators for the negotiation of interconnection terms. However, the Supreme Court decision was made only *after* the investigated period, so that the

[11] The SAT was only one of several retail price measures used by the CFC in its analysis.
[12] IX: Termination rate on TELCEL's mobile network.
[13] The CFC suggested that the WAT should be weighted in terms of used minutes per user.

conclusion that TELCEL had power to dictate interconnection rates during the relevant period of antitrust investigation seems reasonable.

Second, the finding that TELCEL can dictate interconnection terms in the industry is not, by itself, relevant for the analysis of this antitrust case since the final goal of the investigation was to identify, if any, the presence of a margin squeeze. The same can be said with respect to *on-net* and *off-net* pricing discrimination, which clearly is not a central issue of analysis on its own. What really matters in this case is neither the absolute level of the interconnection rate nor the degree of *on-net* and *off-net* price discrimination, but the existing relationship between this wholesale price—say, the termination rate—and the level of prices in retailing.

Third, regarding retail prices, the argument that the WAT is a more precise measure of retail pricing makes economic sense, so that a proper calculation of the WAT is fundamental to obtaining a more accurate approximation of the level of retail pricing that prevails in the downstream market. And fourth, it would be interesting to see a broader economic and legal discussion as to what extent the fact that TELCEL is not necessarily charging itself the fixed-proportion input cost in *all* the retail services that it provides in the downstream market gives enough grounds for the identification of anticompetitive price retailing.