

# THE EVOLUTION OF A METHODOLOGY FOR RELEVANT MARKET DEFINITION: AN ANALYSIS OF CADE'S JURISPRUDENCE ON PRIVATE HIGHER EDUCATIONAL MARKETS

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### ABSTRACT

The implementation of antitrust legislation implies the delimitation of the smaller space in which any excessive market power could be exercised: the “relevant market”. Since 2007 a wave of mergers and acquisitions in the private higher educational market has placed a challenge upon Brazilian antitrust agency (CADE). Several methodologies for accurate definition of higher educational relevant market have been used and tested, also differentiating presence from distance education markets. This paper aims to structure the evolution of CADE's methodologies for relevant market definition in the private higher educational segment, exposing their limitations and advances. Through a qualitative analyses of votes and technical documents regarding all cases from the higher educational that were analyzed by CADE, we found that the methodologies are becoming increasingly more pragmatic and quantitative, departing from a former “reasonability” approach towards a statistical method, in order to cope with newer levels of complexity in the private higher educational market.

Keywords: Relevant market; antitrust regulation; private education.

JEL Code: K22; L41

### RESUMO

A implantação da legislação antitruste implica na delimitação do menor espaço no qual um excessivo poder de mercado poderia se exercido: o “mercado relevante”. Desde 2007, uma onda de integrações horizontais no mercado de ensino superior privado tem desafiado a agência brasileira de defesa da concorrência (CADE). Diversas metodologias para a definição do mercado relevante do ensino superior foram testadas e utilizadas, diferenciando ensino presencial e à distância. Este trabalho busca estruturar a evolução das metodologias aplicadas pelo CADE para a delimitação do mercado relevante no segmento de ensino superior privado, expondo suas limitações e avanços. A partir de uma análise qualitativa dos votos e pareceres técnicos de casos de educação superior submetidos ao CADE, conclui-se que abordagens pautadas em definições “razoáveis” foram substituídas por novos métodos estatísticos e pragmáticos de modo a melhor analisar os novos e mais complexos casos do mercado educacional.

Palavras-chave: Mercado relevante; regulação antitruste; educação privada.

Código JEL: K22; L41

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## 1 INTRODUCTION

What is the competition space affected by horizontal and vertical integrations and therefore subject to abusive conduct by firms with market power? The answer to this question represents the core of antitrust regulation. To enforce antitrust legislation, remarkably on the prevention of the abusive exercise of market power, usually implies the delimitation of the smallest competition and economic space in which such power can be practiced: the “relevant market”. By analyzing technical and economic variables, antitrust agencies attempt to accurately define the “relevant market” where competition actually takes place and economic agents could possibly incur on anticompetitive behavior.

Ever since 2007, a wave of mergers and acquisitions has been observed in Brazilian private higher educational segment, leading to a prominent discussion about its impacts on the national educational system and on how the relevant market should be defined. Central to this convoluted issue, the “Conselho Administrativo de Defesa Econômica”<sup>1</sup> (CADE), Brazilian antitrust agency, evaluates the conditions that may influence competition in such segment. While demand and supply substitutability stir debates on the ‘traditional’ presence educational market, the evolution of technology systems and learning/teaching methods resulted in the ascent of distance higher educational courses and have introduced new features that further complicated relevant market definition. The recent merger between two of the biggest educational groups in Brazil: Anhanguera and Kroton, exemplifies the entanglements faced by CADE. The necessity of an extensive study related with distance courses resulted in CADE’s requirement for a deadline extension in order to more accurately analyze the likely competitive impacts resulting from this merger.

A set of different methodologies has been applied by the “Secretária de Acompanhamento Econômico”<sup>2</sup> (SEAE) and CADE to establish competitive boundaries in the higher educational segment. This paper aims to present and review these methodologies for defining the relevant relevant within the higher educational segment, exposing both their limitations and improvements. This study is based on information collected from CADE’s precedents regarding this segment, which are analyzed quantitatively and qualitatively to expose the Agency’s position regarding antitrust analysis on higher educational market and to identify the most important methods in jurisprudence for relevant market definition.

Aside from this introduction, this paper is divided in four sections. The next section presents a brief summary of the private higher education market’s legal and economic characteristics which justifies CADE’s oversight. Section 3 presents a quantitative summary of all mergers and acquisitions in this market that were analyzed by CADE. Section 4 concisely reviews the concept of “relevant market” and then structures this work’s main contribution: the evolution of CADE’s methodology for relevant market definition in both presence and distance private higher educational market. The fifth and last section concludes and proposes further studies.

## 2 LEGAL AND ECONOMIC BASIS FOR BRAZILIAN PRIVATE HIGHER EDUCATIONAL MARKET

In order to understand the structure of the Brazilian private higher educational market, it is first necessary to establish the legal framework under which the agents compete. Mendonça (2012, p. 3-9) provides the legislative history of such segment in Brazil, which according to him can be summarized by five main legislative events: i) issuance of law 4.024/61, structuring guidelines and basis for Brazilian educational system; ii) 1968 academic reform; iii) 1988 Federal Constitution; iv) issuance of law 9.394/96, replacing the law 4.024/61 and establishing new guidelines and basis for Brazilian education system; and v) issuance of Act 2.306/1997, institutionalizing the profit-based education institution.

In 1961, the Law nº 4.024/1961 (BRAZIL, 1961) established that the service of “higher education” in Brazil would be provided by establishments or universities in cooperation with research or

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<sup>1</sup> “Administrative Council for Economic Defense”.

<sup>2</sup> “Secretariat for Economic Monitoring”.

professional training centers<sup>3</sup>, and such service would be constituted of undergraduate, graduate and specialization courses<sup>4</sup>. Moreover, article 80 dictated that universities would also have administrative, financial, disciplinary, and teaching autonomy. In 1968, law 4.024/61 (BRAZIL, 1968) was complemented by law 5.540/1968, which distinctively determined that high education services could be supplied by both public and private institutions<sup>5</sup>. The 1988 Constitution (BRAZIL, 1988) reaffirmed the legality of private education institutions in its article 209, bounding the permit to two conditions: i) submission and accordance with education national norms; and ii) approval and quality evaluation by the public power. Subsequently, in 1996, the issuance of law 9.394/1996 (BRAZIL, 1996), which revoked law 4.024/61, established that the national education system would be composed by i) institutions administered by the Union; ii) institutions created and administered by private initiative; and iii) federal education agencies<sup>6</sup>. It also postulated that high education institutes should be classified in one of two groups: public (those who were created or incorporated, sustained, and administered by the public power) or private (those sustained and administered by individuals or institutions subject to private law)<sup>7</sup>.

By the end of 1996, previous legislative pieces, including law 9.394/96, granted private institutions the right to provide higher educational services. However, it was only the Act n° 2.306 (BRAZIL, 1997) that allowed private educational institutions to have lucrative purpose, being treated as a 'regular' commercial institutions, including being submitted to the same fiscal, labor and commercial legislations<sup>8</sup>. A second innovation was also introduced by article 12, which granted them the autonomy to create, organize and eliminate higher education courses within its establishments. Finally, the third innovation started an approximation between the education segment and competition concerns, by mandating that high education institutions transfers from one economic group to another should be submitted and validated by the Education Ministry<sup>9 10</sup>.

The legislative evolution that established the figure of the private higher educational institution (private HEI) is important for two main reasons: i) it allowed profit-seeking firms to start operating in Brazilian education segment; and ii) through the issuance of law 9.3964/96 and Act 2.306 (revoked by Act 3.860/2001, which was subsequently revoked by Act 5.773/2006), the higher educational market was legally segmented in two main groups: public and private HEIs, those last divided between for-profit and nonprofit institutions. Especially, the for-profit HEIs adopted the traditional business logic: profit-maximization with their main service being education courses oriented to professionalization and placement in the job market (BRAZIL, 2012b).

There are deeper differences in both supply and demand conditions which justify the segregation between private and public HEIs (Sécca and Leal, 2009; BRAZIL, 2012c). Five characteristics related with supply conditions sustain this dichotomy:

- 1) Academic x Professional orientation: while public HEIs have more professors with graduate degrees and higher research levels; private HEIs are market-oriented, seeking to prepare the student based on a business-approach;
- 2) Flexibility: since public HEIs are bounded by legal restraints, public bureaucracy and government policy, they are more inflexible when it comes to demand-oriented changes and innovation than private HEIs;
- 3) Diurnal x Nocturnal courses: since private HEIs are business-oriented, they supply more than 60% of its courses on nocturnal basis, while public HEIs offer diurnal courses mostly;
- 4) Admissions: public HEIs have limited placements and a more competitive entry examination due to its non-paid, high standard of quality and market recognition characteristic;

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<sup>3</sup> Article 67.

<sup>4</sup> Article 69.

<sup>5</sup> Article 2.

<sup>6</sup> Article 16.

<sup>7</sup> Article 19.

<sup>8</sup> Article 7.

<sup>9</sup> Article 11, § 2°.

<sup>10</sup> In 2001, this Act was revoked by Act 3.860/2001 (BRAZIL, 2001), which was then revoked by Act 5.773/2006 (BRAZIL, 2006), but both maintained the basic features of the private higher educational market which are important for this paper's intent.

5) Capillarity: private HEIs groups tend to have national capillarity due to maintenance of several different universities or centers at the same time. While usually bigger in individual terms, public HEIs have each its own regulations and policies, being regionally located;

As for demand factors, there is a historical condition in which Brazilian public HEIs not only are usually frequented by an economic elite, but also hold the top-ranking positions on quality national rankings, leading to better market acceptance when compared with private HEIs. According to Folha de São Paulo's university ranking (FOLHA, 2014), amongst the top 50 universities in Brazil in 2013, 43 were public while only 7 were private institutions<sup>11</sup>. Private HEIs usually offer its services for low-income students who already have a job and seek professionalization, especially because difference between tuition fees is an important factor for them. With this first distinction among private and public HEIs, it is then justifiable to delimitate the scope of this study to the private higher educational market.

### 3 PRIVATE HIGHER EDUCATIONAL MARKET IN CADE: A QUANTITATIVE SUMMARY

The first merger case in the private education service market was analyzed by CADE in 2007, when “Grupo Estácio de Sá” (Estácio), a national holding of private education centers, acquired the “Instituto Radial de Ensino e Pesquisa” (IREP)<sup>12</sup>. Ever since, a total of 57 horizontal integrations have been reviewed by CADE in the private educational market. As shown in table 1, more than 90% (52 out of 57) of mergers affected the higher educational segment, which makes this segment the most frequent in CADE's jurisprudence:

Table 1 – Quantity of mergers/acquisitions in the private educational market judged by CADE (by type of education; 2007-May/2014).

	Higher education <sup>1</sup>	Primary/Secondary education	Language courses	Other courses <sup>2</sup>	Total <sup>3</sup>
Mergers/Acquisitions	52	4	2	4	57

Elaboration based on data retrieved from CADE (2014).

<sup>1</sup> “Higher educational” comprises the sum of technical, undergraduate, graduate and specialization courses.

<sup>2</sup> “Other courses” comprises preparatory courses for public examinations and professional training courses.

<sup>3</sup> “Total” does not account for the sum of all separate divisions because some cases affected more than one education segment.

The year of 2007 also marks the beginning of several initial public offerings by education groups, such as Anhanguera, Kroton and Estácio, in Brazilian stock market. This trend had a clear reflection in the number of private higher educational market horizontal integrations, estimated to be 150 between 2007 and 2011 (BRAZIL, 2012c). Due to the aim of this paper, only those cases submitted for CADE's approval were considered, and they show a high concentration of mergers in 4 educational groups: Estácio, Laureate, Anhanguera and Kroton, which were responsible for 83% of all horizontal integrations voted by CADE in the private higher educational segment (from 2007 to May/2014) (CADE, 2014). Not only that, graphic 1 evidences a trend in such mergers and acquisitions, with group Estácio being the first to start a horizontal expansion strategy, and only later being followed by the others. More recently, Anhanguera and Kroton have been in evidence, not only because they are responsible for more than 60% of all voted cases in the period 2012-2014, but also because CADE, in May 2014, has judged and approved with restraints the merger between these groups, that now constitute the largest private educational group in the country (merger n° 08700.005447/2013-12).

Notwithstanding the prominence of the 4 aforementioned groups, a closer examination of their acquisitions show that there are idiosyncrasies regarding each strategy for horizontal expansion. As shown in figure 1, groups Estácio and Laureate<sup>13</sup> acquired mainly universities that offered exclusively

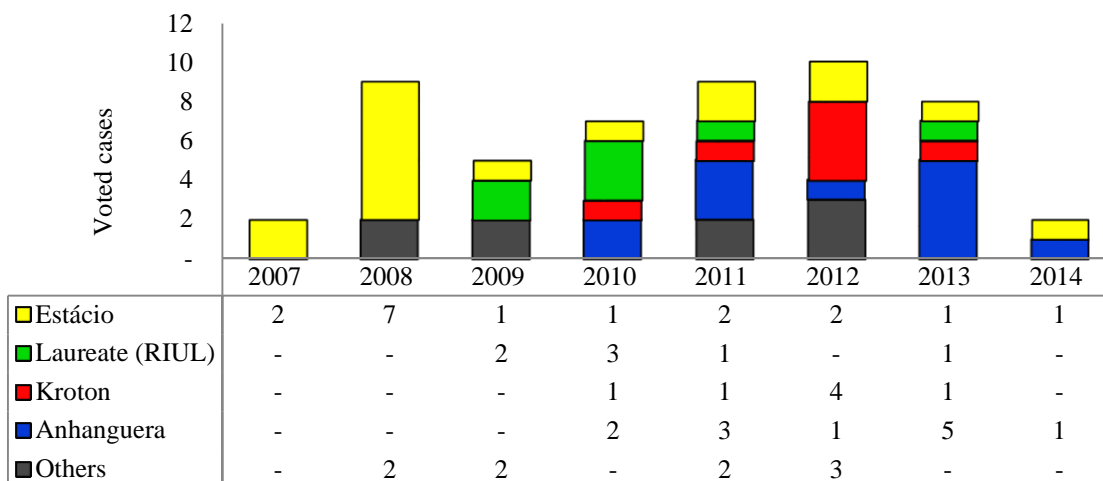
<sup>11</sup> With exception of traditional, and already prestigious private HEIs such as “Pontificie Universidade Católica” (PUC), “Ibemeç”, ESPM, and “Fundação Getúlio Vargas” (FGV).

<sup>12</sup> Case n° 08012.011611/2007-31.

<sup>13</sup> Three of group Laureate's horizontal integrations were solely an increase in its participation on already controlled institutions.

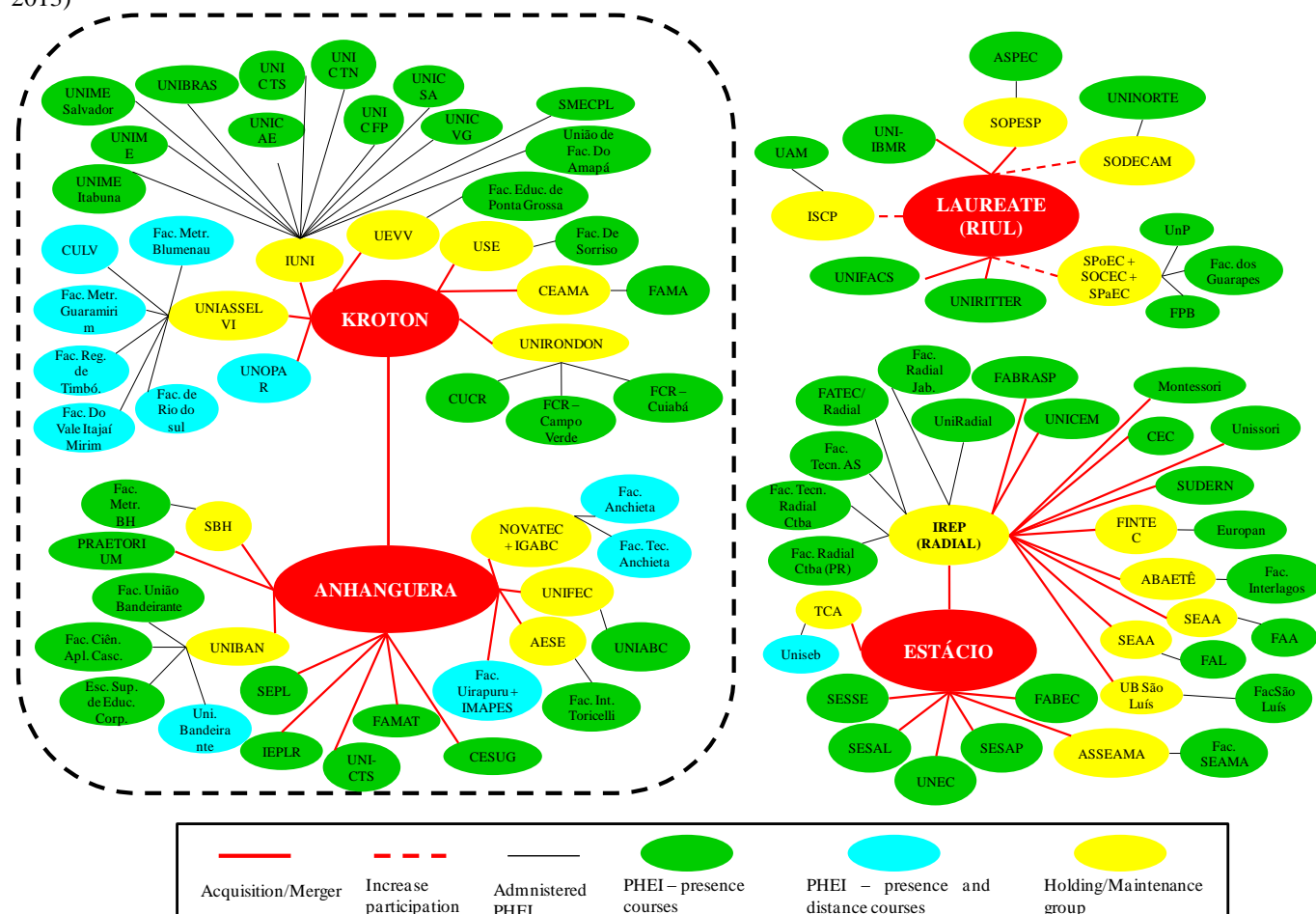
presence high education services in an attempt to expand their capillarity in the North and Northeast states, while increasing their presence in the state of São Paulo. As for Kroton and Anhanguera, not only they tried to expand their services of presence higher educational, they started a trend of buying institutions that also offered distance education courses, enhancing their national capillarity.

Graphic 1 – Evolution of mergers/acquisition cases analyzed and voted by CADE in the private higher educational market (share by economic group; 2007-May/2014)



Elaboration based on data retrieved from CADE (2014).

Figure 1 –Acquisition network of the 4 greatest private higher educational groups (cases analyzed and voted by CADE; 2007-2013)



Elaboration based on data retrieved from CADE (2014).

Since mergers in distance higher education market are a recent trend, CADE's jurisprudence regarding distance *vis-à-vis* presence courses is not yet consolidated. In 2007, the first acquisition concerning this market was analyzed: merger n° 08012.011782/2007-60, a horizontal integration between group Estácio and two universities (EDUCON and FAEL)<sup>14</sup>. SEAE issued a non-binding opinion establishing that distance and presence courses are not in the same relevant market, even if they both offer higher educational services. That would be mainly because a distance higher educational requires different preconditions than presence ones, such as a special register, and are based on a different technological teaching platform (p. 7). However, the claimants dropped the analyzed merger before its approval and the next case that accounted for this division was judged only in 2012 (merger ° 08012.002734/2012-48), then leading to a sequence of cases that divided presence from distance educational markets<sup>15</sup>.

Table 2 summarizes the statistics for all CADE's decision regarding horizontal integration in the private higher educational market. With the exception of merger n° 08012.011782/2007-60 (dropped out by the parts), all mergers were approved, but 14 of them conditioned to restrictions that varied from: i) alteration in non-competition clause; and ii) reaching a settlement which imposes structural or behavioral remedies for Parties, the Merger/Performance Agreement.

Table 2 - Summary of CADE's decision regarding mergers/acquisitions in the private higher educational market (2007-2013)

	<b>Presence education</b>	<b>Distance education</b>	<b>Total (2)<sup>1</sup></b>
<b>Approved</b>	<b>51</b>	<b>8</b>	<b>51</b>
<i>w/o restrictions</i>	38	4	37
<i>with restrictions<sup>2</sup></i>	13	4	14
Alteration in non-competition clause	9	1	9
Merger/Performance Agreement	5	3	6
<b>Non-approved</b>	<b>1</b>	<b>1</b>	<b>1</b>
<b>Total (1)</b>	<b>52</b>	<b>9</b>	<b>52</b>

Elaboration based on data retrieved from CADE (2014).

<sup>1</sup> "Total (2)" does not represent the sum of presence and distance education mergers and acquisitions because there are cases in which the same horizontal integration includes both markets

<sup>2</sup> "Approved with restrictions" does not represent the sum of "alteration in non-competition clause" and "PCT" because there are cases in which both restrictions were imposed by CADE or restrictions in only one market were imposed.

The first type of restriction is related to a common clause in partial acquisition transactions, in which the buyer introduces a non-competition clause in the contract, prohibiting the acquired group of taking advantage of its experience and knowledge regarding the market in which he acted and creating a competitor in that relevant market (AZEVEDO, 2007). Usually CADE determines changes in such clause due to one or more of three factors: i) broad temporal horizon; or ii) clause's geographic/product definition broader than the relevant market affected by the merger. All of them are related with the proper definition of the relevant market and the non-competition clause should be restricted by its boundaries<sup>16</sup>.

The second, signing an Agreement with CADE, is applied to merger and acquisition cases that shall result in potential competition hazards, imposing net welfare loss to consumers. In this sense, in order to avoid CADE's unilateral decisions to impose restrictions or not approve a horizontal integration,

<sup>14</sup> Technical report n° 06538/2007/RJ (BRAZIL, 2007b).

<sup>15</sup> For private distance higher educational analysis, see mergers 08012.002734/2012-48; 08700.004112/2012-04; 08012.000125/2012-54; 08012.009861/2011-97; 08012.001288/2012-54

<sup>16</sup> For non-competition clause restraints, see mergers 08012.011611/2007-31; 08012.006789/2008-41; 08012.004592/2011-72; 08012.008463/2011-53; 08012.002734/2012-48; 08012.006610/2011-51; 08012.004979/2011-29.

the parties agree to certain contractual conditions whose objective is to prevent or minimize economic welfare losses derived from the integration<sup>17</sup>.

An accurate definition of the geographic and product market, along with a study of entry conditions, is usually the first step in CADE's antitrust analysis. Additional challenges rise in properly defining such 'relevant market' in the private higher educational segment, since there are factors as: i) intersection and interaction between presence and distance courses, ii) estimation of potential competition hazards that could arise from an horizontal merger or acquisition, iii) choice between approving, not approving or approving with some restriction, and iv) the increasing complexity in mergers and acquisitions cases, associated with the market consolidation<sup>18</sup>. These challenges can be exemplified by the recent merger between groups Anhanguera and Kroton<sup>19</sup>. Due to the size of the participants, the broad network of institutions involved across the country and the presence in both distance and presence higher educational market, CADE's Commissioner Ana Frazão (BRAZIL, 2013) requested a deadline extension of 240 days for further analysis and better understanding of the impacts of such merger before issuing her vote of approving the merger with restrictions. Supported by this palpable necessity of accurately delimiting the boundaries of the relevant market, to critically analyze and propose new methodologies for such definition comprise a challenging and necessary task.

#### **4 DEFINITION OF RELEVANT MARKETS IN PRIVATE EDUCATION MARKET: EVOLUTION IN CADE'S METHODOLOGY**

The complexity of horizontal integrations in the higher educational market has increased since 2007, and, along with it has CADE's methodology for relevant market definition. This section presents this evolution, as well as the shortcomings and main advances of each methodology. The first section briefly reviews the concept of relevant market. The second section targets the movement of presence higher educational definition from "reasonability" approaches (sub-section 4.2.1) towards an increasingly quantitative analysis (sub-section 4.2.2) for latter achieving a more advanced statistical methodology (sub-section 4.2.3). Finally, the third section attempts to briefly describe how distance higher educational relevant markets have been treated by CADE.

##### **4.1. THE CONCEPT OF RELEVANT MARKET**

To enforce antitrust legislation, remarkably on what concerns the study of potential competitive damage resultant from horizontal integrations, usually is necessary to define the "relevant market"<sup>20</sup>. This concept derives from the notion that a hypothetical firm, within a defined geographic scope of influence and for a single or group of products, could act as if it were a monopolist and consequently extract extraordinary profits by controlling price and/or output due to the absence of competitors. The relevant market's definition is presented in the 1997 US Department of Justice (US DOJ) and Federal Trade Commission (FTC) Horizontal Merger Guidelines:

<sup>17</sup> For Agreements restraints, see mergers 08012.005791/2012-89; 08012.006400/2011-62; 08012.003886/2011-87; 08012.009861/2011-97; 08700.005447/2013-12; 08700.009198/2013-34.

<sup>18</sup> The rise in complexity is illustrated by the evolution on the share cases summarily analyzed by CADE. While between 2007 and 2011, 94% of all private higher education mergers were summarily analyzed (30 out of 32), from 2012 to 2013 this share was reduced to 15% (3 out of 20) (CADE, 2014).

<sup>19</sup> Merger n° 08700.005447/2013-12

<sup>20</sup> According to the 2010 US Department of Justice (DoJ) and Federal Trade Commission (FTC) Horizontal Merger Guidelines (US DOJ; FTC, 2010, p. 7): "the Agencies' analysis need not start with market definition. Some of the analytical tools used by the Agencies to assess competitive effects do not rely on market definition, although evaluation of competitive alternatives available to customers is always necessary at some point in the analysis. Evidence of competitive effects can inform market definition, just as market definition can be informative regarding competitive effects."

A market is defined as a product or group of products and a geographic area in which it is produced or sold such that a hypothetical profit-maximizing firm, not subject to price regulation, that was the only present and future producer or seller of those products in that area likely would impose at least a "small but significant and nontransitory" increase in price, assuming the terms of sale of all other products are held constant. A relevant market is a group of products and a geographic area that is no bigger than necessary to satisfy this test. (US DOJ; FTC, 1997, p. 5)

Thus the relevant market is delimited through a combination of two fundamental dimensions: a **product market** and a **geographic market**, seeking to identify the extension of competition between commercialized substitutable products within a given spatial dimension. While the geographic market delimits the area in which the hypothetical firm acts, the product market identifies a set of specific characteristics responsible for the existence, or absence, of "good substitutes" (POSSAS, 1995). This definition plays two crucial roles in antitrust analysis: i) to specify the line of commerce and section of the country in which the competitive concern arises; and ii) to identify the likely market participants, its respective market shares and the market concentration both *ex ante* and *ex post* the proposed merger or act (US DOJ; FTC, 2010, p. 7).

Whereas these dimensions represent a static competitive arena, to assume that they are enough for a complete analysis would be a mistake. In fact, this "photography" must be combined with a **temporal dimension**, accounting for demand and supply dynamic conditions (SALOMÃO FILHO, 2002, p. 97-98). For the former, analysts address whether companies could adopt a monopolistic price strategy without substantially reducing quantity demanded, either due to actual consumption reduction or demand dislocation to partial substitute products<sup>21</sup>. As for the latter, potential suppliers and potential entrants become the main dynamic aspects incorporated in relevant market analysis. On the one hand, potential suppliers are related with the possibility of an established firm to swiftly raise its production or dislocate its productive resources in order to attend a transitory or unforeseen increase in the quantity demanded, disabling other incumbents' attempts to increase prices for monopolistic levels. On the other hand, it becomes necessary to understand the existing entry and mobility barriers that a firm who is not already in the relevant or in a correlated market would have to surpass in order to enter in the analyzed market, such as sunk costs, legal restraints, and initial investment risk<sup>22 23</sup>. Therefore, a set of structural features associated with barriers to entry and mobility influence the capacity of an allegedly monopolist company to raise prices without being threatened by potential supply or entrants (POSSAS, 1995).

The relevant market can be regarded as the smallest economic space that allows one monopolistic firm to exercise its market power by fixing prices, but such delimitation is specific to the analyzed industry, region, or product (POSSAS, 1995). Cabanellas (1983, apud ROSA; SCHUARTZ, 1995) emphasizes that the theoretical analysis derives from several assumptions which do not fully apply in empirical cases. Hence, the applied definition of a relevant market is not necessarily related to a literal, but rather to a potential concept of competition. Such difference among theoretical and applied definitions is perceptible when one analyzes the reality of Brazilian antitrust practice.

Traditionally, the concept of relevant market has been present in Brazilian antitrust legislation through the texts of laws 8.884/94 and 12.529/11, which structured the former and new Brazilian antitrust

<sup>21</sup> Posner and Landes (1980, p. 939-43) showed that a profit-maximizing firm would consider both price-demand elasticity and market share in order to calculate the optimum price for extract as much "supra-competitive" profit as possible. While the first has a negative relationship regarding increase in prices, the later has a positive relationship. Low price-demand elasticity indicates that a potential monopolist could successfully gain extraordinary profits by overpricing its products, in case of a market with non-regulated prices, due to the lack of good substitutes for the targeted demand. As for high price-demand elasticity value, it implies that if the potential monopolist firm would decide to raise its prices, the quantity demand would diminish more than proportionally in comparison with the price increase, potentially reducing private profits

<sup>22</sup> The study of entry barriers was mainly introduced by theory of "Contestable Markets" introduced by the Chicago School. If a market has low income barriers, the potential monopolist would behave as if it were in a competitive market due to the fear of new entrants entering in the market. For more information, see Baumol (1982) "Contestable Markets: An Uprising in the Theory of Industry Structure".

<sup>23</sup> Mobility barriers complement the analysis of supply conditions because they establish the possibility for already incumbent firms in correlated segments or markets to enter the analyzed relevant markets. For more on mobility barriers, see Caves and Porter (1977) "From entry barriers to mobility barriers: conjunctural decision and contrived deterrence to new competition".



system respectively<sup>24</sup>. Specifically regarding mergers and acquisitions, law 12.529/11 states that mergers which eliminate competition in a “substantial portion” of the relevant market, that may create or reinforce a firm’s dominant position, or that result in complete market domination, shall not be approved<sup>25</sup>. Nevertheless, the legislation introduces, in article 88, §6°, a “rule of reason” clause: the proposed merger or acquisition, even if it may harm competition, will be allowed in case it leads, at the same time, to: i) efficiency gains, higher product/service quality, or economic/ technological development; and ii) a “substantial” part of its benefits are shared with consumers.

The Brazilian Merger Guidelines (BRAZIL, 2001b, p. 9-10) exposes the definition of the relevant market as the first step in merger analysis. In order to do so, CADE considers factors as: i) products technical characteristics; ii) processes technical characteristics; iii) products commercial properties; iv) evolution of relative prices and sales; time and costs related to demand decisions/substitutable products; v) evidences that consumers will or will not move their demand towards potential substitutes.

If CADE uses econometric and statistical analysis in order to define the relevant market, as shown in Neto and Issler (2008), there are also cases in which legislative and regulatory obligations may also be used to establish relevant markets, leading to case-specific methodologies that embrace one market’s specificities and technicalities. This raises the question of whether such methods are more advanced for some markets than for others, and also if they tend to evolve across time. This paper is specifically concerned with the evolution of the methodology that has been applied for mergers and acquisitions within the higher educational markets. Why and how have the analysis and definition of both product market and geographic market evolved over the years?

## 4.2 PRESENCE HIGHER EDUCATIONAL MARKET

### 4.2.1 CADE’s early experiences and definition by “reasonability”

CADE’s first experience analyzing horizontal integrations in the private higher educational market was case n° 08012.011611/2007-37: the acquirement of IREP by group Estácio. At that time, the law n° 8.884/94 stated that SEAE held the competence of issuing a first non-binding opinion of proposed mergers which would be considered in CADE’s final decision. In order to fulfill its role, through the technical report n° 06519/2007/RJ (BRAZIL, 2007a), SEAE proposed the first methodology for delimiting the relevant market in the private higher educational segment.

Estácio, an education holding group, held participation in several private HEIs that were spread across 11 Brazilian states<sup>26</sup>, whereas IREP administered six different private HEIs with campus located in either the state of Paraná or São Paulo. SEAE delimited the product market as the “supply of private higher educational” and the geographic market as the regions in which both institutions conjointly offered their services, namely regions South (states of Paraná, Santa Catarina and Rio Grande do Sul) and Southeast (states of São Paulo, Rio de Janeiro, Espírito Santo and Minas Gerais). This definition was based on a reasonability argument: in spite of stating that a precise definition of the relevant deserved a deeper study, SEAE considered that the amount of competing universities combined with the possibility of student mobility within national regions implied that students who found prices to be exaggerated in its city or state would be able to easily move to another state within the same region (p. 5).

SEAE concluded that the merger would not harm competition. However, the case also involved a non-competition clause among the participants preventing IREP to open new competitors in the higher educational market in Brazil for a period of 3 years. Here, the SEAE judged that the geographic extension was too broadly defined and, because of that, recommended a restriction in the non-competition clause narrowing it to the states in which IREP previously acted (Paraná and São Paulo) (p. 8).

<sup>24</sup> In 2012, the law 8.884/94 was replaced by law 12.529/11, which restructured the Brazilian antitrust system.

<sup>25</sup> Law 12.529/2011, article 88, § 5°.

<sup>26</sup> Paraná, Santa Catarina, São Paulo, Rio de Janeiro, Espírito Santo, Minas Gerais, Mato Grosso do Sul, Goiás, Bahia, Ceará and Pará

SEAE's methodology was not fully adopted by CADE, which agreed with the product market definition but exposed an inherent contradiction in the geographic dimension. The Reporting Commissioner of merger n° 08012.011611/2007-37, Paulo Furquim de Azevedo, argued that whereas SEAE based its competition analysis considering national regions as relevant market boundaries, it also latter considered that the non-competition clause should be changed to only cover the states of São Paulo and Paraná, taking them as the "relevant" spaces in which IREP offered its services prior to the merger. Such distinction represented a blur definition of what was the actual geographic space in which competition concerns could be expected: at national regions or state level?

Commissioner Azevedo defended that a narrow geographic definition of the relevant market would be more adequate, once the affirmation regarding the mobility of private higher educational students between different states seemed unlikely. Following his reasoning, the Commissioner redefined the geographic market, maintaining the product condition, for the state-level: all private HEIs acting inside a same state were seen as potential competitors (AZEVEDO, 2007, p. 5-7)<sup>27 28</sup>.

This particular case has produced one of the most important precedents of CADE's jurisprudence regarding the methodology for defining the relevant market in the private higher educational segment. The intersection of a geographic market defined as the state and the product defined as "private higher educational services" has been replicated by CADE on more than 25 cases, being the single most used methodology for such market (CADE, 2014).

In spite of the precedents' emphasis on the imperfection of the "state level x private higher educational" methodology for market definition, it was understood that deeper analysis would be unnecessary, since the massive number of private HEIs within every state would probably block anticompetitive behaviors (BRAZIL, 2008a; 2008b; 2011). Thus, this definition was also based on **reasonability** and it was used from 2007 until 2011. It must be noted, however, that this specific combination of private higher educational services and state-level market was applied mainly for presence education courses.

#### 4.1.2 A step forward: quantitatively-defined geographic market and undergraduate/graduate dimensions

Until middle 2011, the "state x private higher educational services" relevant market definition represented the core of CADE's analyses regarding mergers and acquisition in the private higher educational segment<sup>29</sup>. It was only through Commissioner Elvino de Carvalho Mendonça's votes regarding mergers 08012.004591/2011-28 and 08012.004592/2011-72 that such this landscape changed (MENDONÇA, 2011a; 2011b). They represented acquisitions by a subsidiary of "Grupo Abril" (Abril), which acted mainly in the publishing market and in São Paulo's market of primary/secondary education, of an institution that offered primary/secondary education, and prep-courses in the state of Rio de Janeiro ("Grupo PH"), and of two institutions that offered professionalization courses in São Paulo ("Grupo ETB", and "Nice Participações"). Even though the higher educational segment was not linked to these cases; Commissioner Mendonça proposed a new concept for defining the geographic market that was incorporated on the analyses of private higher educational mergers: the "radius of influence".

Mendonça's interpretation was that a private HEI would not necessarily be able to mobilize students from an entire state. Instead, every institution was deemed as possessing idiosyncratic characteristics which would directly affect its capacity to attract new students. Sets of location-related elements, such as the available means of transportation, income levels, and cultural differences, would

<sup>27</sup> The methodology for geographic market definition based on national regions was also used in SEAE's analysis of merger 08012.0011782/2007-60 (BRASIL, 2007b), which was issued before the judgment on merger 08012.011611/2007-37.

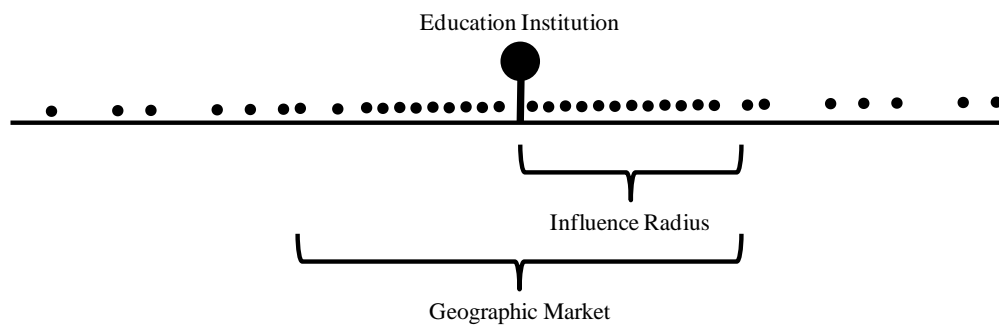
<sup>28</sup> While this methodology narrowed the relevant market down, the Commissioner maintained SEAE's argument that a conservative approach should be preferred for concrete analysis even though deeper studies would be necessary for more accurate definition (AZEVEDO, 2007a p. 7).

<sup>29</sup> An exception can be made for Commissioner César Costa Alves de Mattos' vote regarding merger 08012.011435/2008-18 (MATTOS, 2009a). He accused the product market definition as overall "private higher educational services" as too broad, favoring a more narrow definition, in which every offered course would constitute a different market and also that undergraduate must be separated from graduate education (p. 4; 9). This criticism was not, however, immediately internalized by CADE's decisions, which continued to be based on Azevedo's vote on case 08012.011611/2007-31.

preclude any pre-defined parameters for delimiting the geographic market. Thus, different institutions would not have the same capillarity, but each would possess a unique “radius of influence” which could only be determined on a case-by-case study.

The concept of “radius of influence” (illustrated in figure 2) was defined as the distance, from any private HEI, where the majority of its students resided, that is, the geographic market started to be defined as the dimensional space where the highest concentration of an institution’s students lived. This concept altered the perspective that a generic “state-level” approach was enough for CADE’s decisions. (2011a, p. 4-5; 2011b, p. 4-5). Besides from providing a more accurate method to determine geographic competition boundaries, the concept of radius of influence granted flexibility to the analysis, a trace exemplified by mergers 08012.004591/2011-28 and 08012.004592/2011-72. Notwithstanding the approval of both cases due to absence of competition hazards resulted from the integration *per se*<sup>30</sup>, CADE analyzed the radius of influence due to the existence of a contractual national non-competition clause between the parts.

Figure 2 – Graphical representation of the radius of influence methodology for defining the geographic market<sup>1</sup>



Adapted from Mendonça (2011a, p. 5).

<sup>1</sup> Small dots represent student’s residence location (municipal districts and/or city)

Jurisprudence had always vetoed national non-competition clauses in presence education institution merges, but it also had reset the clause’s geographic dimension to the state in which the acquired part formerly acted. By using the quantitative radius of influence methodology, Mendonça was able to better redefine the area that should be limited by the clause.

For merger n° 08012.004591/2011-28, the analysis established four initial geographic markets by dividing the city of Rio de Janeiro in three separate zones (North; South; and West) representing where the acquired institution offered educational services. Additionally, the city of Niterói was established as a fourth market. Based on this first definition, CADE gathered data on the location in which every student from such institution lived, evidencing that in the first three geographic markets, more than 80% of the students lived in districts within these zones, therefore, reaffirming the existence of three distinct relevant markets in the city of Rio de Janeiro: i) zone North, ii) zone South, and iii) zone West.

As for the city of Niterói, it was considered that its size was not large enough to justify further divisions, so CADE compared the share of students that lived in Niterói against those who lived in “Niterói plus neighboring cities”, and those who lived in any other city for delimiting the geographic market. From this, the city of Niterói was confirmed as a geographic market, once more than 80% of the primary and secondary education students lived within the municipal boundaries. Alternatively, Niterói held no more than 70% of prep-courses students, a threshold that was only achieved by adding the number of students who lived in Niterói to those who lived on any neighboring city. Thus, two different

<sup>30</sup> Prior delimitating the radius of influence, Mendonça considered that neither case resulted in any horizontal or vertical integration within any relevant market. He based his vote on the definition of four distinguished four product market: primary, secondary, prep-courses and professionalization courses. Abril was only present in the first and second product markets and in the state of São Paulo. That being the case, the Commissioner judged mergers 08012.004592/2011-72 and 08012.004591/2011-28 as merely a substitution of market agent. In the first, the acquired parts acted solely in the professionalization market (in which Abril was not present), and in the second the acquired institution acted solely in the city of Rio de Janeiro and Niterói, while Abril was only present in São Paulo (MENDONÇA, 2011a; 2011b).

geographic markets were delimited: i) for primary and secondary education, the city of Niterói; and ii) for prep-courses, the city of Niterói plus its neighboring towns (MENDONÇA, 2011a).

In case 08012.004592/2011-72 the same methodology was applied: Mendonça first compared the share of students who lived in cities where the acquired parts acted (Jundiaí, Sorocaba, Osasco, and Piracicaba) against those who lived in another city. Finding that such shares were approximately 50%, he augmented the geographic market for those cities and its neighboring town, only then finding shares above 80 or 90%. Based on this analysis, four relevant markets of professionalization courses were defined: i) Jundiaí and its neighboring towns; ii) Sorocaba and its neighboring towns; iii) Osasco and its neighboring towns; and iv) Piracicaba and its neighboring towns (Mendonça, 2011b).

Further decisions embraced this methodology when analyzing private higher educational mergers (RAGAZZO, 2011b; LUIS, 2012b; VERÍSSIMO, 2012b). These cases illustrate the flexibility which allowed CADE to define geographic market on different levels (district zones, cities, cities and surrounding towns), and also the passage from a “reasonability” towards a quantitative approach.

The methodology for product market definition was also improved in an attempt to better establish the private higher educational relevant market. In the beginning of 2012, SEAE issued a non bidding report concerning the case nº 08012.009947/2011-10<sup>31</sup> (BRAZIL, 2012b), in which both Parties offered higher educational services in Sorriso, a city inside the state of Mato Grosso. SEAE already adopted the quantitative influence radius methodology for defining the geographic market as the city of Sorriso. However, the major component of this precedent was the discussion regarding what product market should be considered as “relevant”.

As explained in the previous section, CADE’s initially had delimited the “offering of higher educational services” as the product market that should be accounted for in antitrust analyses. According to law nº 9.394/1996, article 44, “higher educational” is comprised by four different levels which were aggregated in CADE’s jurisprudence in a unique product market: i) sequential courses<sup>32</sup>; ii) undergraduate education; iii) graduate education; and iv) extension courses<sup>33</sup> (BRAZIL, 1996).

Questioning the adoption of “higher educational” as a single product market, SEAE attempted to review the methodology based on the legislative differences within the higher educational segment. SEAE observed that the requisition for acquiring the certification and the disciplines covered in each course influenced separately people’s incentives to attend each course. From that, it was proposed the existence of not one “higher educational” market, but instead of three distinct markets: i) undergraduate education and sequential courses; ii) *strictu sensu* graduate courses; and iii) *lato sensu* graduate courses (BRAZIL, 2012b, p. 7-12). This definition was held in CADE’s judgment (VERÍSSIMO, 2012b) and was applied, along with the influence radius method, in future analyses.

The second phase of CADE’s methodology for relevant market definition in the private higher educational sector was marked by two main advances: the quantitative radius of influence and the division of higher education in sub-markets which should be analyzed separately. The “radius of influence” approach introduced a quantitative approach whereas the prior definition based itself upon a “reasonable” interpretation that private HEIs competed among themselves in a state-level space. Mendonça’s new methodology forced the antitrust agency to **quantitatively** calculate appropriate influence radii and relevant markets through georeferenced information. Moreover, while this new methodology was apparently more pragmatic than the former, it also incorporated flexibility to CADE’s analyses by establishing geographic markets on district, municipal, or potentially state levels. The new product market definition proposed a more modest methodological impact, but also represented an evolution towards accurate relevant market delimitation.

<sup>31</sup> Acquirement of “União Sorrisisense de Educação Ltda” (USE) by group Kroton.

<sup>32</sup> Sequential courses comprise a set of systematic activities which corresponds to a higher education course, but that are characterized as complementary, alternative or that provide formation on a narrower/ more specific field of knowledge when compared with undergraduate studies (BRAZIL, 1999)

<sup>33</sup> Extension courses aim to update student’s knowledge and strengthen his professional network. They differ from graduate or undergraduate courses because they do not pose graduate or undergraduate certificates as pre-requisites (BRAZIL, 2012b).

#### 4.2.3 Refining the relevant market: statistical influence radius and course substitution

Although the segregation of higher educational services in different markets based on the specificities of undergraduate and graduate course was only exposed in 2012, the most advanced technique to determine the relevant market in this segment had already been used in the end of 2011. Once again, Commissioner Mendonça held the role of its proponent through a review vote for merger n° 08012.000046/2011-62 and also his vote for case 08012.004447/2011-91, both read on December 07, 2011 (MENDONÇA, 2011c; 2011e), in which he proposed both a new product market definition and a deeper application of the “radius of influence” concept<sup>34</sup>.

First, the Commissioner argued that to consider “the offer of private higher educational” as the product market would be too broad even if graduate and undergraduate educations were considered separately. Such abstraction of reality would disregard important course-specific characteristics that blocks complete substitutability or even reveal absence of substitutability among different courses. To accurately define the product market, both demand and supply condition must be analyzed to determine substitutability between courses. In merger n° 08012.000046/2011-62 (acquisition of “Sociedade Educacional Plínio Leite S.A.” – SEPL - by group Anhanguera), Mendonça analyzed SEPL students’ turnover rates and discovered that less than 2% of all students actually changed courses after entering one, meaning that different courses could not be considered as substitute products. On the supply side, several factors resulted in non-substitutability between courses: i) existence of technical entry barriers (technology and infrastructure especially for courses within the hard sciences); ii) legal entry barriers (register in the Education Ministry, complex bureaucracy); and iii) necessary specialized labor (graduate-level professionals). Concluding that individual courses are not substitutes, neither on supply nor on demand side, the Commissioner established a **course-level product market**. This new product market definition meant that every individual private higher educational course offered by an institution would represent a separate market (MENDONÇA, 2011c, p. 3-6).

Secondly, the proposed methodology for geographic market was an expansion of the “radius of influence” analysis. As was shown in the previous section, attributing influence radii to private HEIs represented a breakthrough in the CADE’s methodology, moving on from a reasonability-based to a quantitative approach. However, this posed a limitation for a more accurate definition of the actual geographic market, once the analyses became dependent from pre-determined administrative divisions (districts, cities, neighboring areas, etc.), that would then support the geographic dimension.

Pointing out that price, existence of scholarships, regional socioeconomic conditions and other idiosyncratic conditions lead to variability in the actual dimension of any private HEI’s influence radius, Mendonça proposed an advance from a merely reasonable or quantitative approach to a **statistically-defined geographic market**. A spatial statistics method, whose goal was to examine systematic or randomized patterns of student dispersion in relation to the private HEI, so as to attribute a specific influence radius in kilometers, was presented for defining the geographic market. The two fundamental concepts were those of “gravitational center” and “standard radius”: the higher educational institutions unities would be gravitational centers associated with specific standard radii that represented the variability in student’s residences in relation with the institution’s locations (2011c, p. 7-8). Based on these concepts, the Commissioner established the following 5-step methodology:

- 1) Gather the number of students per municipal district per course;
- 2) Calculate the Euclidian distance between municipal districts and education institution unity’s location<sup>35</sup>;

<sup>34</sup> “Considero que ambas as definições são insuficientes para garantir o verdadeiro ambiente concorrencial no segmento de ensino superior privado, tendo em vista que a grande diversidade de cursos de graduação e de pós-graduação existentes, cada qual com as suas idiosincrasias, traz elementos distintos para a escolha do consumidor, quer seja em termos de curso quer seja em termos de deslocamento” (MENDONÇA, 2011e, p. 3).

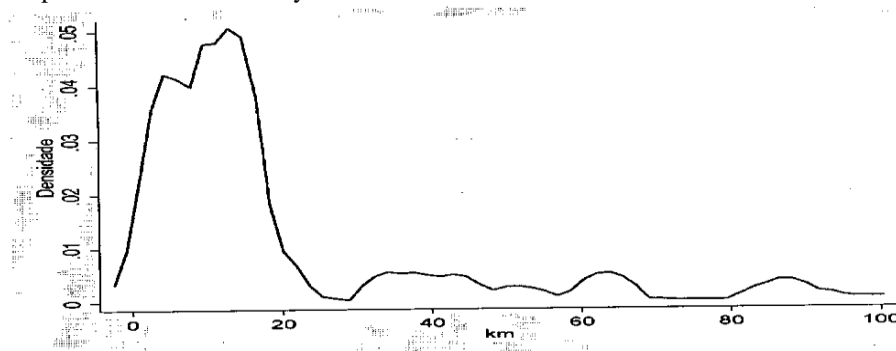
<sup>35</sup> The Euclidian distance is calculated through the geographic coordinates of the student’s residence location and of the higher educational institution unit through the equation:  $\sqrt{(x - x')^2 + (y - y')^2}$ , in which the variables x and x’ correspond to the longitudes of both student’s residence and higher educational institution, while y and y’ correspond to the respective latitudes.

- 3) Calculate the event occurrence intensity measure per unit of area (distance in kilometers) through the Kernel intensity estimator;
- 4) Build the expanded cumulative distribution function;
- 5) Assess the specific criteria to choose the appropriate influence radius.

This new methodology can be better understood through the exposure of Commissioner Mendonça's analysis of merger 08012.000046/2011-62, in which it was exposed for further reference, even though the Commissioner considered that there was no geographic horizontal overlap<sup>36</sup>. For the determination of the product market, information about undergraduate courses offered by SEPL exposed a total of 32 different presence courses. The second step in defining the product market would be to elicit which courses were offered by the involved Parties: overlapping courses were considered product markets. Since Anhanguera did not act in Rio de Janeiro, the commissioner applied the new methodology for the Business Administration undergraduate course solely for exposure purposes (offered by SEPL, Estácio and UCAM in Niterói).

The geographic market was then defined accordingly with the 5-step methodology briefly described above. After constructing a database with both location of student's residences and the Euclidian distance of the municipal districts in which they lived in comparison with the education unit, graphics were drawn to represent the Kernel intensity estimator for SPEL, Estácio, and UCAM students of Business Administration. Graphic 2 illustrates the study for SEPL: the x-axis represents the distance (in kilometers) of a student residence municipal district in relation with the education institution unit; and the y-axis the percentage of students that lives within that distance. This graphic, combined with the respective studies for Estácio and UCAM, evidenced that the distribution of students may vary among institutions, but in all three cases analyzed, most students reside within a distance of 20km between their home and respective universities, indicating a specific influence radius.

Graphic 2 – Kernel Intensity - Business Administration - SEPL



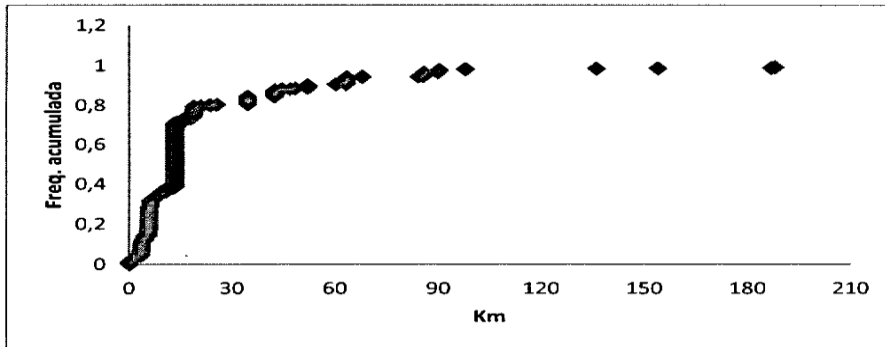
Mendonça (2011c; p. 10-11)

The fourth step is exemplified by graphic 3 (for SEPL). In order to determine the point in which an increase in distance softens the expanded cumulative distribution function, so as marginal changes in distance result in small variations in the quantity of students, the expanded cumulative distribution function is analyzed. Thus, it becomes possible to define the radius that delimits the relevant area supplied by the considered private higher educational.

The analysis of the expanded cumulative distributions enhances the flexibility for defining geographic market. While SEPL presented a function showing that until the distance of 25 km there is still a growing frequency of students that attend Business Administration there, on UCAM and Estácio, this indicator already starts to drop at a distance of 20km. That means that SEPL influence radius is higher than UCAM's and Estácio's, and also that all institutions within a 25 km of SEPL can be considered as in the same geographic market and should be analyzed in order to see if there will be an horizontal overlapping in the product market. Therefore, market concentration should be restricted to the participation within such boundaries.

<sup>36</sup> Anhanguera was not present in Rio de Janeiro's private presence higher educational market, whereas SEPL only had unities in a specific town (Niterói/RJ).

Graphic 3 – Expanded Cumulative Distribution - Business Administration - SEPL



Mendonça (2011c; p. 12-13)

Approaching the relevant market through spatial statistics and course-level discrimination was a method that was well-received in CADE, being nowadays the methodology adopted for private presence higher educational mergers and acquisition analyses. Since Mendonça's vote, 15 other cases have used the combinations of statistically-defined influence radius and course-level discrimination in order to determine the geographic market. It is remarkable that the jurisprudence evidences the achievement of the main goal in using spatial statistics analysis for influence radii determination. Within the 17 cases that have implemented this method, the amplitude in geographic markets dimension varied from 8,5km (RIBEIRO, 2012b) to 40km (VERÍSSIMO, 2012a). In fact, in merger 08012.008694/2011-67, several different influence radii were calculated due to the high number of overlapping courses among the parts (RIBEIRO, 2013a).

While the combination of specific courses with the statistical calculus of the influence radius remains as CADE's 'best-practices', additional considerations should be made regarding the two most recent cases analyzed by the Agency: the notorious merger between groups Anhanguera and Kroton (FRAZÃO, 2014a), and the acquisition of Uniseb by Estácio (FRAZÃO, 2014b). On both cases when analyzing the competitive impacts on the presence higher educational market, Commissioner Ana Frazão referenced Mendonça's methodology for both product and geographic dimensions. However, she considered two additional changes that may now be incorporated in future analyses.

First, regarding the product market, the vote followed a guideline used by Commissioner Marcos Paulo Veríssimo's vote on merger n° 08700.004112/2012-04 (VERÍSSIMO, 2012d), in which instead of considering all higher educational courses as different markets, he made a distinction between undergraduate and graduate courses. If the conditions formerly exposed for segmenting each undergraduate course as individual markets were deemed plausible, the Commissioner argued that the same boundaries were not observable for graduate courses. Stating that the substitutability between graduate courses was higher than for undergraduate courses, both demand and supply sides, the graduate market was divided in 5 broad fields that grouped together courses based on their broad area: Social Sciences and Business; Law; Health and Life Sciences; Education; Science, Math and Computation.

In addition, even though Commissioner Frazão cited the concept of radius of influence, her vote considered that the jurisprudence exposed that most influence radii were between 15km and 25km. From this, it was stated that not only to gauge different radii for every market would consume much effort, but also the limit of 15-25km could be taken to represent the entire cities in which the private HEIs acted. Thus, while both votes made use of the radius of influence methodology, they considered the administrative municipal division as the geographic market.

The evolution in CADE's relevant market methodology for the private presence higher educational market is presented in box 1 evidences a constant evolution from "reasonable" definitions towards more pragmatic and quantitative methods. While the cases have been analyzed under several different lenses for both geographic and product dimensions since 2007, the arrival of statistical methods and a more narrow definition of both product and geographic market have been the dominant method since 2012.

Box 1 - Evolution on CADE's adopted methodology for defining relevant market within the private presence higher educational market

Method	Geographic Market	Product Market	Reference document(s)	Total cases
1	National Regions	Higher education	Brazil (2007a)	2 <sup>37</sup>
2	National States		Azevedo (2007)	27 <sup>38</sup>
3		Specific Courses	Mattos (2009a)	1 <sup>39</sup>
4	Quantitative Influence Radius	Higher education	Mendonça (2011a; 2011b)	2 <sup>40</sup>
5		Undergrad. x Grad.	Brazil (2012c)	1 <sup>41</sup>
6		Specific Courses	Veríssimo (2012d)	2 <sup>42</sup>
7	Statistical Influence Radius		Mendonça (2011c; 2011d)	17 <sup>43</sup>

Elaboration based on data retrieved from CADE (2014).

### 4.3 Distance Higher Educational Market

All methodologies explained so far were applied in private presence higher educational cases. However, as evidenced in section 3, a recent wave of mergers has begun to place a new educational segment in the spotlight. Since 2012, mergers in distance educational segment have increasingly become a current object in CADE's analyses, posing a new challenge related with the creation of methods for market definition while also coping with this segment's specificities. Even though the primary distinction between presence and distance higher educational was delineated in SEAE's analysis of proposed merger 08012.011782/2007-60 (Brazil; 2007a), this integration was in fact abandoned by the parts. After it, the period 2007-2011 represented a jurisprudential vacuum for relevant market methodology for distance higher educational segment<sup>44</sup>, and it was only in 2012 when the next merger in the distance higher educational market was submitted for CADE's review and approval.

The first case in which the distance courses were analyzed as a separate product offered by one of the Parties was merger 08700.004112/2012-04, the acquirement of "Ítala Participações" (Ítala) by group Kroton. At that time, this integration represented a *sui generis* case for CADE because there was no horizontal overlapping in the Parties' activities regarding presence higher educational services, which as

<sup>37</sup> SEAE's technical and non-binding reports concerning cases 08012.011611/2007-31 and 08012.011782/2007-60 (BRAZIL, 2007a; 2007b).

<sup>38</sup> Mergers n° 08012.011611/2007-31; 08012.010741/2008-37 (AZEVEDO, 2007; 2008); 08012.001740/2008-00; 08012.006180/2008-71 (PRADO, 2008a; 2008b); 08012.010747/2008-12; 08012.005387/2009-18; 08012.011705/2010-13 (CARVALHO, 2008; 2009; 2010); 08012.006789/2008-41; 08012.004730/2009-07; 08012.004486/2009-74; 08012.006686/2010-03; 08012.003088/2011-55 (RAGAZZO, 2008; 2009a; 2009b; 2010; 2011a); 08012.001741/2008-46 (VASCONCELLOS, 2008); 08012.010748/2008-59; 08012.009902/2009-31; 08012.006147/2010-66; 08012.003968/2010-41; 08012.011748/2010-91 (FURLAN, 2008; 2010a; 2010b; 2010c; 2011); 08012.006864/2008-73; 08012.010746/2008-60; 08012.009801/2010-93 (CHINAGLIA, 2008a; 2008b; 2010); 08012.007066/2009-40 (MATTOS, 2009b); 08012.003407/2010-41; 08012.002864/2011-08 (RUIZ, 2010; 2011); 08012.003076/2011-21; 08012.012129/2011-02 (LUIS, 2011; 2012a); 08012.008300/2011-71 (MENDONÇA, 2011c).

<sup>39</sup> Merger n° 08012.011435/2008-18 (MATTOS, 2009a).

<sup>40</sup> Merger n° 08012.008463/2011-53 (RAGAZZO, 2011b); 08012.004592/2011-72 (MENDONÇA, 2011a).

<sup>41</sup> Merger n° 08012.009947/2011-10 (LUIS, 2012b)

<sup>42</sup> Mergers n° 08700.004060/2012-68 ; 08700.004112/2012-04 (VERÍSSIMO, 2012b; 2012d).

<sup>43</sup> Mergers n° 08012.000046/2011-62; 08012.004447/2011-91; 08012.001613/2012-89 (MENDONÇA, 2011b; 2011d; 2012); 08012.002734/2012-48; 08012.006610/2011-51; 08012.008694/2011-67; 08012.004979/2011-29; 08012.006400/2011-62; 08012.009861/2011-97 (RIBEIRO, 2012a; 2012b; 2013a; 2013b; 2013c; 2013d); 08012.001288/2012-54; 08012.008706/2011-53; 08012.000125/2012-54; 08012.005791/2012-89 (VERÍSSIMO, 2012a; 2012c; 2012e; 2013); 08012.004503/2011-98; 08012.003886/2011-87 (LUIS, 2013a; 2013b); 08700.004112/2012-04; 08700.009198/2013-34 (FRAZÃO, 2014a; 2014b).

<sup>44</sup> However, it would not be true to state that distance education was completely absent in CADE's analysis. In fact, it was indirectly present on some presence education mergers. Analyses based on the "state-level x higher service offer" commonly aggregated distance education students as parts of the overall "higher educational" market. For an example, see Brazil (2008b).



alternatively observed in distance courses (VERÍSSIMO, 2012d). For this merger, CADE's superintendence general (structured by the text of law 12.529/2011) issued the non-binding technical report n° 172 (Brazil, 2012a), which established the first parameters for differentiating distance from presence higher educational market. In it, three distinguishing factors were presented as arguments:

- 1) Access regulation: Act 5622/2005, article 9, mandates a separate accrediting and legalization process for an educational institution that already offers presence services to also offer distance education;
- 2) Geographic market: perhaps the most substantial factor that differentiates presence from distance education. A private HEI can apply for a distance course register at a national level, whereas there is a state limitation for presence courses related to the location off its unit. Moreover, since classes are taken through video-classes, the student studies at home with the sole assistance of a computer with internet access, and only 10% of all lessons must be classrooms activities, the geographic scope would be national<sup>45</sup>.
- 3) Student profile: since infrastructure is less costly for this segment, prices tend to be to 30% to 50% lower in comparison with presence courses. Being that the case, usually those who seek distance education come from lower income classes. (p. 4-9).

Such characteristics have been used to both to adopt a product market that differentiates presence from distance educational services as to determine the geographic market of private distance higher educational mergers as **national**. Moreover, on this report SEAE transposed the product market definition from the presence educational segment to the distance educational segment, following the parameters exposed in the previous section: while each specific undergraduate course was considered a singular product market, graduate courses were grouped based on their respective knowledge area (as delimited in Veríssimo, 2012d). Following these prescriptions, not only merger 08012.004112/2012-04 but also mergers 08012.001288/2012-54 (VERÍSSIMO, 2012a); 08012.000125/2012-54 (VERÍSSIMO, 2012e); 08012.003886/2011-87 (LUIS, 2013b); and 08012.009861/2011-97 (RIBEIRO, 2013d) have considered a national geographic market and a separate course-based (for undergraduate) or broad knowledge area (for graduate) product market for private distance higher educational antitrust analyses.

In spite of the sequential use of such methodology, the recent merger between Anhanguera and Kroton was responsible for changing the analytical paradigm concerning CADE's interpretation of distance private educational relevant markets. The size of the Parties (which after merger are now the largest national educational group) and their broad network of distance educational centers lead Commissioner Ana Frazão to request an extension in the judgment deadline in order to better comprehend and assess the resulting competitive impacts (BRAZIL, 2013). With the assistance of CADE's Department of Economic Studies, the Commissioner was issues a vote (FRAZÃO, 2014a) which exposed a new methodology and interpretation for defining distance higher educational relevant markets.

If the product dimension remained the same, still accounting for different undergraduate courses and graduate knowledge areas, major changes were bestowed upon the geographical dimension for undergraduate services. Instead of following the jurisprudential use of national dimensions, differences between structural (supply) and functional (demand) conditions justified a **double segmentation** in local (municipal) and national levels. On the one hand, it was explained that private HEIs usually adopt a singular national pricing, service and marketing strategy, in which the same service (standardized course) is offered to all consumers "students". Thus, structural conditions connected with supply characteristics would justify the adoption of a national relevant market. Nevertheless, the Commissioner emphasized that the demand side exposed a local characteristics (which was deemed as municipal, accordingly to the jurisprudential 'average radius of influence' of 15-25km), mainly due to: complexity and sluggishness of the accrediting process; *in loco* evaluation rules; and mainly a regulatory component which forces, even for distance courses, the offer of a minimum of 10% of presence educational activities for undergraduate courses. In addition, it was argued that private HEIs usually increases the number of presence activities as

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<sup>45</sup> Commissioner Eduardo Pontual Ribeiro considered, however, when analyzing merger 08012.002734/2012-48, that the existence of obligatory classroom activities would restrict the geographic market to a regional level similar to the influence radius methodology (Ribeiro, 2012a).

a strategy of market segmentation. Thus, it was stated that both local and national levels must be conjointly analyzed as geographical dimensions for CADE's assessment of the merger's likely competitive impacts (p. 40-46)<sup>46</sup>. As for the graduate market, the Commissioner maintained solely the national definition, once the presence activities were not as strict as those on the undergraduate market and the students also presented characteristics.

The 'double segmentation' method was also used by Commissioner Frazão when analyzing merger n° 08700.009198/2013-34 (FRAZÃO, 2014b). Even though the analysis of distance higher educational market is still relatively new, this new methodology represents the current state of affairs and its future impact and use on CADE's decisions present an interesting topic for future studies.

## 5. CONCLUSION

Ever since 2007, the evolution in CADE's methodology for defining private higher educational markets has been remarkable. Fostered by a wave of increasingly complex mergers and acquisition in this segment, Brazilian antitrust agency has developed several different methods in order to overcome the technical challenge of accurately defining the space in which competition among education institutions actually take place.

Product market definition became increasingly narrower by acknowledging specificities associated with every different level of higher educational which represent technical non-substitutability among different courses, thus culminating in market delimitation at a course-level. Additionally, a growing emphasis on quantitative methods drove geographic market delimitation from a reasonability approach towards a statistical method based upon the concept of "influence radius". Those recent methodologies are seen as both more pragmatic and accurate *vis-à-vis* the "state-level x higher educational" definition firstly proposed by Commissioner Paulo Furquim de Azevedo.

Notwithstanding these developments, several shortcomings are still present in CADE's methodology, giving room for further improvements. First, while a course-level product substitutability is capable of pinning a very specific market, it can be too limiting as well. Such narrow definition can ignore demand and supply conditions that evidence similarities among courses within a given field of knowledge, such as engineering courses, which would then obscure partial substitutability among different courses.

Secondly, whereas the methodology for presence market has already been established and moved towards a quantitative approach, distance education is still a relatively new object in CADE's analysis, resulting in a large space for methodology improvements. This novelty was recently faced in the analysis of case 08700.005447/2013-12, giving opportunity for the development of a new methodology that considered not one, but two different geographical dimensions simultaneously in order to cope with the complexities associated with competition in the distance higher education market, from both supply and demand sides. Moreover, further inquiries on the potential substitutability among distance and presence education have not been addressed by the regulatory agency, providing an opportunity for extension on the current market definition.

Finally, the current method considers only students that are already signed on specific education institutions and through their residence the geographic market is analyzes. However, present studies have not yet considered the potential competitive hazards that mergers within the higher educational market affect those who are still deciding which university to attend, mainly those people finishing secondary education. While such shortcomings must be faced in future time, emphasis should be granted to the evolution in CADE's analysis, which has become more based on data analysis, instead of reasonability approaches, therefore evolving into more capable evaluation of horizontal integrations' potential competitive impacts on higher educational relevant markets.

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<sup>46</sup> Through this methodology, on the national level 11 relevant markets with activities intersection were analyzed. On the local (municipal) level, 341 different relevant markets were analyzed across 78 cities (FRAZÃO, 2014a).

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