

Competition on paper: artifacts of visualization in antitrust policy

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“No concept in economics – or elsewhere – is ever defined fully, in the sense that its meaning under every conceivable circumstance is clear. [...] And of course a word like ‘competition’ which is shared with the whole population, is even less likely to be loaded with restrictions or elaborations to forestall unfelt ambiguities.”

George Stigler (1957, p. 1)

In April 2013, while I was undertaking fieldwork at the Brazilian antitrust authority – the Administrative Council for Economic Defense (CADE) – I had lunch with one of the advisors who was responsible for analyzing corporate requests for authorization of mergers and acquisitions. The reports she prepared were used as the basis for the final ruling by a member of the panel of the six CADE commissioners who decide whether or not the merger can go ahead.

Just before entering the restaurant, the advisor excused herself for a few minutes to go and photograph shelves in a nearby pharmacy. The photographs were for a report she was drafting for a case involving the potential merger of two major producers of condoms. The report was favorable to the merger. She told me that she was also asking friends and family located in various states in Brazil to take similar photos of pharmacy stands, which she then intended to use in support of her line of argument.

While she was searching for the correct shelf she explained that condom production required a very low level of investment – in other words it was inexpensive for a company to build a factory and start production. In her view, even if the proposed merger were to create a competitor with a high market concentration, the antitrust agency should not restrict the acquisition. The low “entry barriers” in this market, or in other words the strong possibility of new entrants, prevented this company with a high market share from sharply increasing the price of its products. She concluded that the “operation” (merger) was unlikely to be prejudicial to other competitors or consumers. Noting that I was somewhat puzzled by the inclusion of photographs in the report, she showed me some of the images she had taken on the cellphone and said: “Look! This is competition!” Her point was that there was competition in the market, and that market conditions would remain sufficiently competitive notwithstanding the merger.

The photographs were a means of clearly expressing her practical view of competition and, for her, constituted clear evidence with which to persuade other commissioners that the market truly was competitive.¹ In fact, photographs are a constant feature of the various procedures before the antitrust body, particularly in merger review cases, in which an analysis of competition calls for self-explanatory visual and graphic artifacts and techniques that are easily assimilated and shared and make it possible to identify the differences and similarities between competitors, products, and services. The photographs she used in this particular case included images of six shelves at pharmacies in different locations, each shelf bearing five types of items. Each of the brands in question had the same line of products. The fact that there was such a broad range of products, easily perceptible from the variety of packaging colors and styles, indicated to the antitrust analyst that consumers had choice on that market.

The above episode is an illustration of the theme of this paper. Based on an ethnography conducted at the Brazilian antitrust agency, this article considers the role that certain techniques and graphic artifacts, i.e., documents and the forms/images embedded in them, play in the conceptualization and regulation of market competition.² Antitrust regulation involves several administrative and investigative practices aimed at producing knowledge about specific markets, sectors, companies, and consumers. This knowledge is fundamental for the regulators to be able to decide whether or not to authorize a merger between two companies or to enable them to identify and penalize an anticompetitive practice such as a cartel. In the first case, the information gathered enables the analysts to

draw conclusions as to the probability of the merger altering competitive conditions in a market or causing a future “competition problem” to the detriment of other participants.

“Competition problem” is a phrase that is very commonly used by antitrust analysts. It is therefore important to consider how a competition “problem” or “issue” is actually identified during an investigation. How are complex mergers analyzed and evaluated in practice, based on the very wide range of information that is usually available? In this paper, I describe how particular artifacts used in antitrust regulatory contexts, such as photographs, maps, indexes, charts and visual representation of statistical findings such as numerical percentages, which are included in the legal and administrative documents that make up the case files, assist analysts in identifying and substantiating competition problems in order to evaluate mergers. In the following section, I introduce the specific ethnographic perspective I draw on to describe antitrust regulation. I then analyze the use made of market share charts, which are an essential artifact in merger review practices, to depict present and future competition in a market. Finally, I conclude with some considerations regarding the notion of competition in bureaucratic knowledge practices.

From formal expertise to everyday antitrust artifacts

In most countries, antitrust, or competition policy, consists mainly in repressing anticompetitive conduct by companies and controlling the risks of corporate mergers. This policy has been addressed only infrequently in sociological literature, with a few notable exceptions (e.g., Berman 2017; Davies 2010; Dobbin and Dowd 2000; Fligstein 1990). Taking (in almost all instances) a historical and institutional approach, these studies have demonstrated the strong influence of specific political economy paradigms on antitrust regulation during the twentieth century in the Global North. By focusing on the relationship between fields of professionals – economists and lawyers – and policy fields, sociological research has been able to explain relevant variations in antitrust enforcement: from the social emergence of trust-busting activity in the United States to the influence of Harvard economists and, more recently, the predominance of Chicago economics and game theory in shaping governmental antitrust decisions.

Social scientists who are committed to understanding “how politics is structured by expertise”

(Berman 2017) have also begun to examine antitrust bodies in emerging economies (Miola 2014; Türem 2010). They describe the manner in which legal doctrines and economic theories are transplanted to national contexts with very different policy and regulatory traditions. While making an essential contribution to the understanding of the recent transformations in antitrust policy, including the increasing

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influence of neoliberal economic expertise and the consequent standardization of policies between nations, social studies on antitrust have been somewhat limited in scope. They have focused almost entirely on the role and decisions of high-ranking officials at national level, or on the arguments employed by legal and economic experts in high-profile cases, as reported in official communications. In many ways, antitrust bodies are still a “black box” to social scientists, who have little contact with the day-to-day work of the considerable number of public employees responsible for analyzing and investigating cases or writing reports.

From an ethnographic perspective, the emphasis on formal expertise – economics and legal knowledge – and the way it is embedded in policy decisions through rationalized written arguments gives the false impression that antitrust analysis is undertaken by relatively few individuals who base their decisions on purely esoteric concepts and knowledge. While that may be true of certain antitrust enforcement agencies, it is highly unlikely to be the case for most of the world’s competition bodies. In Brazil, the antitrust authority, which is renowned for its technical expertise, is staffed by over three hundred individuals from various professional backgrounds. These individuals draw on federal competition law, organizational rules, accounting practices, bureaucratic procedures, economic theories, legal doctrine, graphic artifacts, mapping software, case law databases, and many other forms of knowledge in their conduct of the dozens of cases that are analyzed every month.

Regulators must be able to make sense of stacks of documents on market characteristics, industry trends, and corporate activities and deal with them attentively but rapidly, leaving enough time to grasp the most complex cases. In order to be able to visualize, infer, and assess market competition when faced with a merger review, for example, they meet with lawyers

and corporate representatives, make telephone calls, research internet websites, and usually draw on personal life experiences as a way of assessing how markets work or how consumers behave (Onto 2014). During the investigations, analysts, interns, advisors, or commissioners normally visit establishments they are investigating. These local visits help to identify competitors and the manner in which the products are sold, distributed, and consumed. Hence the analyst's evidence-gathering visit to a pharmacy in Brasilia.

Antitrust regulators also rely heavily on common artifacts of visualization that can be understood and accepted both by formal experts in competition law or antitrust economics and also by less experienced civil servants as a means of distinguishing complex mergers from unproblematic ones. Many of these standardized artifacts relate to transnational legal and economic forms of expertise known to the antitrust community worldwide. They are nevertheless to a certain extent part of local institutional or organizational historical trajectories that define more or less common working practices and procedures. In other words, the abovementioned schools of economics establish a framework for antitrust analytical procedures. However, they should also be understood as particular modes of justification (Boltanski and Thévenot 1991) that can be added *a posteriori* in official communications, when the decision to approve or reject a corporate merger has already been taken using other forms of practical knowledge.

The focus on types of bureaucratic artifacts such as documents, tables, forms, graphs, charts, and the practices associated with them has been a productive source of inquiry in anthropological literature.³ More than mere instruments of rationalization, ethnographies emphasize how material forms of documentation or communication, and the related practices, constitute relations, subjectivities, hierarchies, emotions, and meanings, as well as the objects and subjects the organizations aim to administer or govern (Hull 2012b; Riles 2006). Artifacts (or graphic artifacts) such as documents are relevant because they shape the perception of the limits of regulatory action as well as the boundaries of the objects of regulation.⁴ They are built-in decision-making processes, acting as mediators between ideological perspectives, political conflicts and interests that pervade any organization.

In economic anthropology and sociology, some works have recorded the way in which documental practices are essential to the construction of economic objects, subjects, and organizations such as markets. Recent research has described, for example, how central bank technical reports and communications are able to generate stability in markets (Holmes 2014), how evaluation questionnaires produce certain ser-

vices and consumers (Callon 2002), and how scorecards constitute a consumer credit risk (Poon 2007). According to Annelise Riles, who studied legal documents in the financial markets, these artifacts "are crucial technologies to [...] format or standardize the market because of their unique ability to travel across boundaries – cultural boundaries, forms of expertise, institutions, physical distances by virtue of their material or aesthetic form. [...] standardization, in this understanding, is both a conceptual project and a material project" (Riles 2011, p. 59).

Antitrust regulation is a particularly interesting field in terms of understanding the various modes of engagement with documental artifacts and their role in economic governance. From an ethnographic perspective, antitrust consists of several practices involving document production, circulation, and distribution among and between governmental agencies, companies, and their legal representatives. It is through these documents and charts, forms, graphs, photos, maps and the indexes inscribed in them that companies try to defend their practices or develop an argument for merging with another entity. It is also mainly through these artifacts – or "inscription devices" (Latour 1999) – that regulators build the necessary knowledge and legal evidence to decide their cases, and shape certain practical understandings about the competitive context in different markets.

Solving through shares

Under the Brazilian competition legislation that was enacted in 2012, all requests for mergers and acquisitions are to be referred to the Superintendent-General's office at CADE. The analysts in this area perform a triage of the proceedings and draft reports. They forward the more complex cases to the "Administrative Tribunal for Economic Defense" for more detailed analysis. These more complex cases are examined by six experienced commissioners and by the president of the agency, all of whom have a background in law or economics. These are the merger cases that run a greater risk of being rejected or restricted by the antitrust body. Approximately 30% of the total number of cases that arose during my research were referred to the Tribunal. The remainder were usually dealt with more quickly at the Superintendent's office, in that they did not represent a risk to market competition.

In early 2013, while I was accompanying the work of analysts from this sector, one of the team coordinators approached a member of staff and asked: "So, this shopping mall case, is it possible to 'solve' it on the basis of *share*?" (*Então, esse processo sobre os shoppings, será que dá pra sair pelo share?*). The analyst

replied: “I think so, I’ll just pick up the table presented by the applicants and include that other company we found, then I’ll drop by your office so we can talk about it” (*Acho que sim, vou pegar aqui a tabela apresentada pelas requerentes e incluir aquela outra empresa que encontramos, e já passo na sua sala para conversarmos*). This brief exchange demonstrates a simple analytical procedure that is commonly applied to all merger reviews at the antitrust agency. These merger reviews follow on from the filing of a petition by companies requesting approval for the merger or acquisition. The initial petition, which is usually drafted by lawyers, is accompanied by detailed information on the companies involved in the proposed operation and the markets in which they are active. CADE employees use this information as the basis for their investigation and start by assembling a specific graphic representation of the issue.

The graphic artifact they produce (or reproduce) is the market share chart or table, which includes a percentage calculation of the participation of each competitor in relevant (affected) markets, estimated through the quantity of products sold by each company in a market or through their revenues. Frequently, the regulators gather this information from the first document (initial petition) sent by the company requesting approval for the merger. They then confirm the data by checking with estimates made by the market competitors that are identified in the investigation. The representation of market share is usually set out in a very simple table similar to the one below, which was presented by commissioner Antônio Fonseca (CADE 1995, p. 2945) when examining the takeover of the Brazilian company Kolynos by the North American corporation Colgate in 1996:

	Toothpaste	Toothbrush	Dental Floss	Mouthwash
Kolynos	50.9%	26.7%	7.9%	–
Colgate	26.6%	8.4%	2.3%	14.5%
Kolynos + Colgate	77.5%	35.1%	10.2%	14.5%
Gessy-Lever	22.4%	2.6%	–	–
Johnson & Johnson	–	25.8%	56.3%	5.4%
Augusto Klimmek	–	16.9%	–	–
Merrel Lepetit	–	–	–	39.4%
Oral B (Gillette)	–	9.5%	12.8%	2.5%

Chart 1: Market shares of competitors in relevant markets defined for the Kolynos-Colgate merger case (in terms of physical volume sold in the previous year)

In this Kolynos-Colgate case, which was analyzed and approved in 1996, the antitrust authority concluded that four product markets would be affected by the merger – toothpaste, toothbrushes, dental floss, and mouthwash. Each product is indicated in a column in the chart above. In the fourth line, marked “Kolynos + Colgate,” the table indicates the market share the new company would have if the acquisition were to be ap-

proved, shown as the sum of the shares of the two companies requesting approval to unify their operations. According to the Brazilian administrative criteria as defined in the Horizontal Merger Guidelines published by antitrust agencies in 2001, if the market share of the future company is higher than 20%, this might indicate a possible competition problem in the future. Since the toothpaste and toothbrush markets were clearly above this threshold, they received more analytical attention in the following steps of the investigation (Salgado 2003). In these markets, the reporting commissioner assigned to the case decided to prohibit the use of the brand Kolynos, ensuring that other companies could enter those markets, thereby maintaining a certain degree of competition. Analysis of the market share of the competitors in a market enabled the analysts to identify which markets would be most affected by the merger, thus prompting the antitrust body to take preventive measures.

A table such as this is quite useful for analysts in that it clearly represents certain legal and economic units of observation that might otherwise be difficult for the regulators to assimilate. It also sets out a relatively straightforward decision-making criterion, based on consolidated perspectives of economic theory. The percentage figures also relate to a particular fairness ethic. Firstly, the market share chart presupposes (and advances) a definition of the competitors in the markets as well as identifying the markets in which these two companies simultaneously operate. These definitions are an arduous task that frequently takes up most of the investigative time allocated to the regulators. The competitors are represented here as separate economic units, not simply distinct corporate legal entities, that, by definition, act independently of one another. Being listed in the table means that the companies in question do not have close ties of ownership or administrative control that could amount to their being members of the same economic group. If they were members of a group, it would be even more difficult to assess and account for their market share.

The markets under scrutiny in cases such as this are also considered to be completely separate even though the connections between products like those listed above are known to be strong. The absence of any geographic reference to the market in this table indicates that the markets listed cover the entire Brazilian national territory.⁵

Apart from facilitating comprehension of the case under investigation, the market share table also adds a new layer of assumptions and effects that are related to the way it represents competition as a struc-

tural phenomenon and a quantifiable matter. As economists and social scientists that have studied antitrust know, the market share perspective is reminiscent of the influence the Harvard School of Industrial Organization had on North American antitrust policy from the 1930s onwards (Hovenkamp, 2005). For this particular school, the notion of “market concentration,” that is, the number of companies operating in a market, is an effective indication of the probability that any company in a market has the potential to alter competition and harm other companies and consumers. The more concentrated a market is, the more “power” companies have to impose abusive prices. This perspective emphasizes the so-called structural conditions of competition, leading to antitrust decisions that favor maintaining or increasing the number of participants in a market. Even though the Chicago School in the 1970s questioned this notion, arguing that fewer companies in a market may lead to more efficient outcomes for the economy, the representation of “competition” as being a substantial number of participants is embedded in charts like the one above and has a very straightforward appeal to regulators in different branches of the agency.

It is worth noting that the guidelines for merger reviews adopted by the Brazilian antitrust agency are based on the U.S. Federal Trade Commission model. They stipulate estimation of market shares as a fundamental step in merger analysis, permitting regulators to construct indices of market concentration (such as the C4 Index or the Herfindahl-Hirschman Index) that provide a quantitative forecast of future market scenarios. The guidelines also recommend other procedures, such as estimating present and future “entry barriers” to a market, evaluation of the potential gains and losses for consumers and competitors, or assessment of the “economic efficiencies” that can be generated by the operation. In practice, however, simple market share charts provide a straightforward means of filtering out the more complex cases and eliminating the need for more sophisticated and complex calculation in cases that are relatively unproblematic.

Representation as numerical percentages also brings to the market share chart a very traditional (pre-modern) way of comprehending realities. As the anthropologist Jane Guyer (2016) explains, the use of percentages is particularly interesting if we accept that they are not simply regular numbers that impose a form of counting from “one to many,” but rather represent a “part to whole” system. In this sense, the market is considered a whole that can be divided into preferably equal parts. As she puts it, the percentage always involves a very specific form of ethics, which in the case of Brazilian antitrust is represented by the

20% threshold: more a quality than a quantity, it indicates a possible risk or elevated “market power” in the future.⁶ Furthermore, the percentage “is one mathematical formulation whose mechanics anyone with a basic education can understand, and it carries the potential of converting transparency in the public domain, persuasive ethical and philosophical allusions (...)” (Guyer 2016, p. 156; see also Ballestero 2014). Consequently, the market share chart incorporates a very straightforward and easily grasped means of visualizing competition and also a means of connecting ideas about how competition should be organized and in which possible markets problems might emerge. Several cases at the Brazilian antitrust authority are approved (“solved” or “resolved,” as regulators say) on the basis that the merger will not cross the 20% threshold, and this is always visualized in a chart like that above.

Final considerations

Graphic artifacts like the one described above permeate the antitrust knowledge practices used to ascertain which products or services are the object of competition, as well as who is competing, and where competition is being affected. Produced in circulation between the antitrust authority and the companies facing regulation, these artifacts are devices used to facilitate the work of the analysts. They are commonly shared and employed within the agency. They assist the analysis because they standardize and fix the meaning of the categories and information needed to make a decision. It is no accident that the regulators I observed spent a lot of time reflecting on the best way to format new charts and tables, which categories to include, and how to pose questions with fewer ambiguities. For regulators, the precision of the information or data received is no more important than the need for the data to be readily comparable and organized in a single frame. Otherwise, it is impossible to effectively put together data from different sources.

The artifacts mentioned here are also important because they enable the exchange of data with people from different educational backgrounds and experience, who may be required to reply to requests for information by the analyst. Even though most companies that deal with the antitrust authority have lawyers and economic consultants who can easily answer questions and fill out forms produced by CADE, many small companies, especially third parties involved in the case, rarely engage legal or economic advisors to assist them with antitrust issues. General managers inside a company may be assigned to deal with CADE’s inquiries, even if they do not know precisely what a

“barrier of entry” or a “relevant market” is. For this reason, forms, charts, and other graphic means of displaying information are designed to be more readily understood and self-explanatory.

Above all, graphic artifacts are, to use economist George Stigler’s expression, capable of “forestalling ambiguities,” allowing for certain perceptions of competition that are recognized by regulators and companies as legitimate. Curiously enough, antitrust regulators hardly ever formulate clearly what they mean by the notion of competition. It is usually referred to by its opposites or negatives: “non-competitive,” “lack of

competition,” or “competition problem.” Nonetheless, from the point of view of daily bureaucratic practices, competition meanings are made explicit through documents, charts, maps, forms, numbers, percentages, and photographs that are circulated among regulators and companies. These regulatory visualization artifacts foreground a particular notion of competition, which cannot simply be subsumed under theoretical notions (i.e., those familiar to economists), and they bring distinct cultures of calculation (Guyer 2016) to antitrust decision-making processes.

Endnotes

- 1 Unlike in the United States, antitrust regulation in Brazil is not dealt with by the judiciary. A single body, CADE, which is an executive body operating under the auspices of the Ministry of Justice, analyzes, investigates, and judges administrative proceedings and may prohibit corporate mergers and acquisitions. It also has powers to impose heavy fines for cartel practices and other anti-competitive conduct.
- 2 This article is based on ethnographic research carried out between March 2012 and August 2013 at the Brazilian antitrust agency and focusing on its knowledge practices and bureaucratic artifacts. The research resulted in a PhD dissertation, defended in February 2016, on the Graduate Program in Social Anthropology at the National Museum, Federal University of Rio de Janeiro, Brazil. I would like to thank Tomás Undurraga, André Vereta-Nahoum, Eugênia Motta, Tomás Ariztia, Mariana Heredia, Federico Neiburg, and Benoît de L’Estoile for comments on a previous version of this article.
- 3 The role of documents in bureaucracies has a long trajectory of reflection in the social sciences. See Hull (2012a).
- 4 Matthew Hull (2012b, p. 259) uses the term graphic artifacts for the following reasons: “First, many of the ongoing semiotic processes that involve artifacts are not well enough defined to be characterized as ‘texts’. Second, I wish to define a certain class of artifacts, written materials, and to emphasize the non- and para-linguistic semiotic functions of this type of artifact. One last point about this term: the word ‘artifact’ sometimes has the connotation of a second byproduct of some prior or primary process [...] I don’t use it in this sense.”
- 5 The photograph of the product shelf taken by the advisor can also be compared to a market share chart that made clear the distinction between competitors by showing the difference between the various shelves. In this case, the merger affected only one product, and photographs from other pharmacies in other regions of Brazil, assuming they were of the same products of the same companies and brands, would lead to the conclusion that the market for the products was nationwide.
- 6 “This part/whole logic, then, invokes and provokes the idea of shares, which in ethics and politics moves into the increasingly invoked domain of ‘fairness’” (Guyer 2016, p. 154).

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