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CORPORATE INTEREST IN ANTITRUST ENFORCEMENT

Abstract:

Antitrust enforcement is beneficial for consumers as long as they face lower prices, more alternatives to choose from, and get valid information about products and services. But what about the competing firms? Why is it good, or is it good at all for them if they are not allowed to form cartels, not allowed to become a monopoly, or not allowed to use their market power? The first part of the paper aims to answer questions like these. If we look beyond the idea of a welfare-maximizing social planner that creates competition policy in order to promote competition and put restraint on firms willing to monopolize markets, we might ask why such institutions emerge and who really benefits from them? Apart from the evident answer of consumers benefiting from lower prices, we consider the possibility of companies, or rather industries, benefiting from antitrust enforcement. In such a setting, preventing monopolization can be viewed as a service delivered by the regulating body. This service might be valuable for particular firms, but normally cannot be purchased on the market. Our paper presents a game theoretic model showing that such an effect exists under certain, sufficiently general conditions. Firms in an oligopolistic setting, prone to competitive escalation, would be willing to pay for the maintenance of an authority controlling business practices that are (considered) anti-competitive and thus preserving the status quo on the market. Finally, we test our results empirically, based on the practice of the competition authorities of the United Kingdom and the Netherlands. The data support the interest group theory of regulation and they match the predictions of our model.

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Introduction

Competition policy is designed to enhance economic efficiency. It aims to prevent anticompetitive behavior such as fraud or abuse of dominant position. Its impact is usually assessed in terms of consumer welfare, suggesting that competition policy is only destined to benefit consumers. This seems misleading. However, some authors argue that competition policy should be aimed to promote broader effects, such as reducing inequality (see e.g. Davies, 2018 on this argument). Different theories of regulation explain the existence of competition policy in different ways. Empirical evidence is still scarce, but growing. This paper is intended to contribute to the insights on the role and the beneficiaries of antitrust enforcement.

There are several rival theories concerning the emergence of regulation. In current European market economies, we are surrounded by the government almost everywhere. We often do not even realize it. We may find its intervention natural – from providing public schools through the determining of the price of natural gas to the regulation of competitive markets. Why is it needed to coordinate the markets (where there are natural competitors, so this is not about natural monopoly), if the market itself is known as a coordination mechanism? What type of regulation will emerge and how will the government choose among the different possible alternatives? Our ideas concerning the government's role could strongly influence our judgement on antitrust enforcement.

The purpose of this paper is to point out that in certain cases antitrust enforcement¹ is also beneficial for the firms affected by it. Firms in an oligopolistic setting prone to competitive escalation would be willing to pay for the maintenance of an authority controlling anticompetitive behavior and thus preserving the status quo on the market. We demonstrate this argument with a game theoretic model. Our model shows that such effect exists under certain, sufficiently general conditions.

Finally, we test our results empirically, based on the practice of the competition authorities of the United Kingdom and the Netherlands. The data support the interest group theory of regulation and they match the predictions of our model.

1 Theories of regulation

Intense competition induces efficiency on the supply side and leads to lower prices and a broader variety of products on the demand side. These effects increase social welfare, but the way it is realized also matters. The exploitation of customers, fraud, the exclusion of competitors or forcing disadvantageous terms of contract are not socially desirable means of competition. Competition policy is aimed to prevent such behavior. It is clear that consumers benefit from lower prices and a wider selection of products and services. On the contrary, firms often complain about excessive competition (Stucke, 2013: 164.).

Is competition policy only in the interest of consumers? Šaljanin (2017) argues that public enforcement of antitrust laws (i.e. setting up an agency) can serve as a signal of the

¹ The paper does not distinguish between private and public enforcement of competition laws. For simplicity, we refer to the whole system of competition law enforcement as "competition authority".

government's commitment to fair competition and thus encourage firms' investments. Is it possible that the maintenance of an organization which prevents unfair competition, monopolization, predation or collusion is also in the interest of the competitors themselves? The paper intends to answer this question. We will show that – under sufficiently general conditions – there exist industries where competitors find it desirable (i.e. would sacrifice part of their profits) to deter everyone from the violation of the "status quo" on the market.

The normative theory of regulation indicates that government regulation is necessary where market failures exist.¹ The aim of regulation is to improve economic efficiency and social welfare.² Furthermore, the *public interest view* suggests that regulators shall be "motivated by the duty to protect consumers from monopolistic abuse" (Dal Bó, 2006: 204.). However, it is questionable on what extent can the regulator control those circumstances which cause the market failure. It is not sure at all whether a regulator has the proper information in order to overcome informational asymmetry, whether it can wind up a monopoly, or whether a better outcome could be achieved by the internalization of a specific economic externality. On the top of it the "faults" of the regulators may favor some well-defined interest groups (Posner, 1974). Based on the normative theory what justifies antitrust enforcement? A market failure has to exist which necessitates the protection of competition. If fair competition has the characteristics of public goods, it would be reasonable to found an institution for the protection of competition.³ Considering the traditional definition of public goods, competition itself can be interpreted as a good, which is equally available for the market participants after it had been "produced", and its advantages are enjoyed by everyone. The externalities related to competition may cause that the intensity of competition will be too low compared to its socially optimal level. For instance, on an individual level, all participants of the demand-side of a market are beneficially affected by the growing intensity of supply-side competition (they face lower prices). Nevertheless, because they form a large group, it could happen that they are not able to organize the protection of their interests, i.e. the production of the public good (Olson, 1971). It is not worth bothering with the enforcement of competition individually, so finally it will not happen due to free-riding.

Although antitrust enforcement can be explained with the existence of market failures, the normative theory of regulation does not treat the mistakes of regulation endogenously. If a measure failed to improve social welfare, there must be an external reason for that: the objective (for example the protection of national interests by the use of customs or quotas) has a price, there was some hidden information, or the regulators made bad decisions in spite of their intentions (Stigler, 1971: 3.). Empirical results indicate that there is no strong correlation between the existence of regulation in an industry and the existence of externalities, or monopolistic market structure (Posner, 1974: 336.).

Public choice theory is the extension of self-interest-driven behavior for the examination of nonmarket circumstances (for instance for examining public sector decisions). Stigler (1971) studies

¹ For detailed arguments see: Tirole (2003), Cullis – Jones (2009).

² We do not discuss the problems related to the definition and measurement of welfare here.

³ "Is a competitive market really a public good, and therefore underproduced in the absence of antitrust legislation?" (DiLorenzo, 1985: 74.)

the existence of regulation through the concept of supply and demand. He assumes that market outcomes are not "accidental", but the result of certain rational actions. Government has something which other agents in the economy do not have: the power of enforcement. The demand for regulation emerges from rent-seeking: the possibility of acquiring public resources or economic advantages which can be exploited with the help of the government (for example the reduction of competition through making import more difficult).

Firms will benefit from antitrust enforcement if it does not allow (and sanctions) behaviors like the abuse of dominant position or predatory pricing. The effect of regulation is similar to the effect of a cartel in its most important features (e.g. rising the price above the competitive level by restricting entry to the market). So for the firms of an industry, these can be regarded as substitutes. Peltzman's formalized model (1976: 11.) also indicates that substitution is not perfect: the "political" cartel provides less profit for each firm of the industry than the "free market" cartel. We expect that those markets, where the price of forming a cartel is high, will have a larger demand for regulation. The success of influencing regulation also depends on the ability of the industry concerning political influence, which does not coincide certainly with the high costs of forming cartels – these factors jointly form the actual demand for regulation. Regulation becomes mostly a public good for the corporations of the industry, thus during the lobby for it the free-rider problem also occurs. The closer the firms' interests are to each other, the more successful the lobby will become (see also Olson, 1971). Generally, specific groups of firms and customers influence regulation together. So, there is no obvious relation between the size of an industry, the number of employees and the probability of regulation (Posner, 1974: 344-346.).

It is hard to decide which industry benefits from the introduction of competition policy, and which one "suffers" from it. Regulatory agencies may be captured by an industry, but capture is "neither absolute, nor uni-dimensional" (Carpenter - Moss, 2013: 451.). As Dal Bó (2006: 220.) notes, "empirical evidence on the causes and consequences of regulatory capture is scarce". The problem can be illustrated by the attempts analyzing the effect of the Sherman Antitrust Act introduced in the United States in 1890, which led to different conclusions. Delorme et al. (1997) compared the production data of nine different "trust" industries. The authors found that during the decade after 1890, relative prices declined only in one industry and increased in three. The results suggest that the Sherman Act did not have any effect on the functioning of the trust industries, either because it was unenforced or because it was not necessary at all (Delome et al. 1997: 331). The relative output rose slower after the law had been introduced. This suggests that regulation was too broad (also penalizing efficient competitors), or that the introduction of the law has started a corporate merger wave which finally led to the reduction of competition (ibid.). Also in 1890, a significant increase in tariffs has taken place, which could have compensated firms even if the Sherman Act would have affected them negatively. So, in case of the Sherman Act, the argument has still not been closed. The empirical results seem to strengthen the interest group theory of regulation, but the evidence revealed is not obvious. It is not clear if the effects of regulation were in favor of a specified group.

In the next section we introduce a model which also seems to support the interest group theory of regulation. We consider an industry where there exists a (costly) possibility for the firms to increase their market power. We examine the outcomes of two possible states of the world: with

and without competition policy. In this way the actual role of antitrust enforcement can be identified, and its effect on the competitors (and on the market structure) can be examined.

2 The model

Let us consider a market with n similar firms, which produce almost the same product (close substitutes). Suppose that it is possible to increase the market share (and profits) with the expenses of C (C > 0). The latter can be, for instance, an expenditure appropriated to research, or technological development, or new marketing techniques from which the firm expects the increase of profits. For simplicity's sake let us call this opportunity "innovation". Innovation makes it possible for the innovating firm to raise its profits compared to its competitors. The more companies spend on innovation, the less the acquired advantage will be. In an extreme situation, if all companies invest, market shares remain unchanged. Every firm can decide whether it wants to spend C on innovation, and thus it can get the chance to earn profit π_2 , higher than its current profit π_1 . If it decides not to spend, it can earn profit π_1 at best. (Those who innovate will grow typically on the expense of those who do not. So the latter, who are not necessarily squeezed out from the market, will realize a lower "normal" profit, like e.g. in perfect competition.) If none of the firms innovate, profits remain the same. The more companies innovate, the less advantage they can acquire, i.e. if a number of companies x decide to innovate, the expected profit will be $(1/x)\pi_2$. Firms are the same, so they face the same decision. A firm will decide to spend C on innovation if the expected profit is positive, that is $(1/x)\pi_2 \ge C$. The greater the expected increase in profits, the more firms will decide to innovate. Competition will increase until the expected profit diminishes to zero in the end. (As long as the expected profit is positive, new companies will decide to innovate, because they can only lose profits if they do not.) This is the logic of competition (see e.g. the model of perfect competition).

The "competitive escalation paradigm" described by Bazerman – Moore (2009: 105.) refers to similar situations. Sometimes the rules of the game are such that although all agents act in an individually rational way, the process leads to the elimination of potential gains (which were present at the beginning) and competition escalates until parties are worse off. This is because the situation itself is a trap and you can be best off if you do not enter it (the dollar auction of Shubik (1971) is a common example). Bazerman – Moore (2009: 108.) bring several examples of bidding wars in company acquisitions where the escalatory process was clearly present. Management science suggests that the phenomena can be exacerbated if managers tend to be irrationally competitive. That is, they do not mind sacrificing profits in order to harm a competitor (which they consider a "referent"). In different experiments, 46 to 60% of managers chose to make irrationally competitive pricing decisions in order to harm competitors (Arnett – Hunt, 2002). Focusing on the position of their company instead of profits may prevent managers from avoiding traps of competitive escalation. This usually leads to price wars, highly overpriced corporate acquisitions or failure to cooperate although it would be mutually advantageous.

Hereinafter we focus on industries where the above situation holds: π_2/C is high enough so that in equilibrium every firm spends on innovation with positive probability. That means, competition is expected to mop up extra profits. Suppose that this industry faces competition policy, i.e. a competition authority is destined to prevent, discover and punish any behavior that is considered anticompetitive. The possible strategies of firms to earn a higher market share and higher profits

become limited: they will not be allowed to deceive consumers, abuse their dominant position, impose predatory pricing etc. Mergers and acquisitions will also be under control. Can such a guarantee of fair competition be valuable for the firms themselves? Under what circumstances is competition policy a "service" for companies that they would be willing to pay for? The following extension of the model shows that firms might be interested in the enforcement of competition policy, i.e. they would be willing to sacrifice part of their profits for it. An "effective" competition authority reduces expected profits in a dominant position. It deters firms from entering situations characterized by competitive escalation, so they can preserve the original market structure.

Suppose that beside having to decide if they will spend C on innovation, firms also have an opportunity to spend on antitrust enforcement. Let us assume that for the creation of the competition authority an $n \cdot V$ value of contribution is needed from the side of the industry. The firms being equal, supporting the authority with the value of V is a reasonable expenditure from everyone.¹ There are two possible outcomes. If it is worth spending the value of V on antitrust enforcement on an individual level, everyone will support it and the authority comes into being. If it is not worth supporting, the agency does not come into being. Hereinafter the question can be simplified to a situation in which every firm decides to contribute the same value $V < \pi_1$, where π_1 is the currently available profit in the oligopoly without innovation. First, all firms have to decide if they want to contribute to antitrust enforcement with the amount of V. If it does not contribute, there will be no competition authority, and the expected profit depends on how many firms will innovate. If it contributes, the authority comes into existence, but the achievable profit declines with V. Then all firms can decide whether they want to innovate at a cost of C or not. If not, the highest obtainable profit will be $\pi_1 - V$. If the firm proceeds to innovation, then it has to expect the intervention of the competition authority when it starts to increase its market share. The competition authority works the following way: anyone who tries to grow at the cost of others² will be levied with the fine of T.³ In this case, expected profit is $(1/y)/(\pi_3 - T) - C - V$, where y is the number of firms innovating under the operation of the competition authority, and π_3 is the obtainable profit with innovation. The possible outcomes for the firm can be illustrated with the

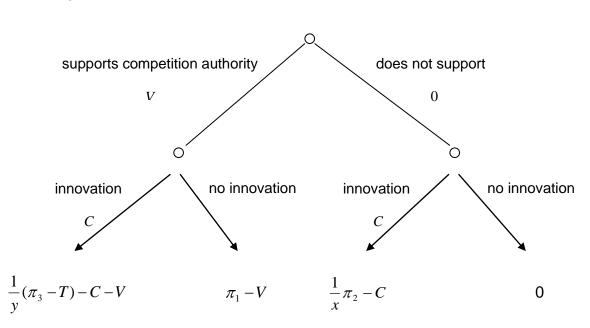
¹ More precisely, if it is worth creating the authority, then for no one it is worth supporting it with a value which is bigger than *V*. Because if it is worth spending the value of *V* on it, then it is worth doing this for every corporation. If everyone puts *V* in it, then the authority exactly comes into existence. No one will spend a bigger amount on it, because it would not be beneficial, it would only prosper others (they cannot be excluded from "consumption"). Similarly, if it is worth giving *V* (creating the authority on an amount of money referred to as *V*), then it does not worth spending less than that, because the others will not give more, and the authority cannot be created by less than *nV*.

² The ground for increasing market share is not necessarily illegal, it is enough if the authority can label it anticompetitive, e.g. excessive pricing.

³ The operation of the competition authority can be given by the relationship T(V), where $\partial T(V)/\partial V > 0$. That is, the more the industry supports the competition authority, the more it can increase the costs of a dominant position. For simplicity's sake it is assumed that the support is provided in money. In reality however, it can be another kind of help as well, for example information given to the authority about the planned steps of the competitors, or their use of their connections in order to promote cases pending. As an OECD survey points it out, "most competition authorities do not have the power to request information from market players" (OECD, 2013: 33.). Thus, the firms' willingness to cooperate with the agency can be crucial in assessing the impact of a certain decision. "Implicit quid pro quos" are the most typical forms of influencing regulators in the United States, "whether through campaign contributions or the revolving door" (Carpenter – Moss, 2013: 452.).

following figure.

Figure 1. Decision tree of a firm.



Which is the equilibrium outcome? For this, we have to examine whether the firm innovates in specific subgames (with and without competition authority). Then it has to be examined which case is more profitable for the firm. If it does not support the competition authority, then the previously mentioned situation draws up. It is worth to spend *C* on innovation with a probability of $\pi_2(n/C)$. We call a competition authority "effective" if it uses detection and setting fines to such extent that the expected profits of innovating will be lower than $\pi_1 - V$. That means, effective competition policy deters firms from the escalating competition for a higher market share, and "no innovation" will be the dominant strategy in the "supports competition authority" subgame.

When does a firm support antitrust enforcement? Of course only if the profit that can be obtained with it is higher than what is expected in the other case. Because of the fact that firms do not fight in case of effective competition policy, and they fight without it, the condition of supporting is the

following: $\frac{1}{x}\pi_2 - C < \pi_1 - V$. Firms are willing to spend only a part of their profits on antitrust

enforcement, thus the right-hand side of the inequality will be positive. The expected value of the left-hand side will be zero.¹ And this means that it is worth spending money on effective competition policy, because it helps to preserve the status quo on the market.

3 Validity of the model

The predictions of the model hold if two important conditions are fulfilled. First, the circumstances and incentives for competitive escalation have to be present. Companies could avoid escalating competition if they could organize monitoring and punishing those who want to depart form the

¹ The expected value of *x* is π_2/C .

status quo. So we expect these to be markets where collusion (forming or maintaining a cartel) is hard. Second, competition policy has to be effective in order to prevent companies from "harmful competition". Firms themselves are not able to enforce an agreement "not to innovate". So they have to hire an agent to provide a credible threat of reducing profits in case someone would break the "status quo". This is similar to taking out an insurance.

At the same time effective competition policy also fulfils the requirements expected by other stakeholders: it serves the maintenance of fair competition. This could provide an explanation for the generally high acceptance of competition authorities: their activity is beneficial for everyone, for the consumers, the government and the industry as well. Our findings at this point correspond with the normative theory of regulation. Nevertheless, they seem to support the interest group theory. Within the frames of this model there is a group (the firms of the industry), which is not only interested in the enforcement of competition policy, but also willing to pay for it.

4 Empirical findings

To test for the implications of the model, we need to look at real cases in competition policy. We will examine the practice of two competition authorities, the British and the Dutch. The method is the following. First, based on the findings of industrial organization, we select those industries that seem to be "prone to anticompetitive behavior". Second, we collect those industries which were actually examined by the competition authorities. Third, we compare the list of "problematic" markets with the list of examined ones for each country.

Two hypotheses are going to be tested. The first is that competition authorities (in a significant proportion of the cases) deal with those markets that economic theory predicts to be problematic. Thus, we expect that the two lists of industries have a lot of elements in common. This hypothesis corresponds to a public interest notion of competition policy. The second is that we expect competition authorities to deal with the same industries repeatedly. This hypothesis corresponds to the implication of the above model. Those industries that benefit from the deterring activity of a competition authority have to be examined regularly.

An OFT (2004) study aims to screen industries in order to identify "problem markets" in terms of effective competition and consumer protection. The authors used several indicators to select industries in a top-down way. The study ranks the industries (data applied to the United Kingdom) according to indicators such as concentration, barriers to entry, productivity etc. that suggest that competition is not satisfactory. The 515 industries were identified using 4-digit SIC codes. The authors use a Borda method for ranking. Based on 8 indices¹, the overall ranking of the worst 15 UK industries is shown in Appendix A. Economic theory suggests that these markets are the most problematic. If regulation is aimed to increase welfare, we can expect competition policy to deal frequently with these 15 sectors, because of the high risk of restricting competition.

We reviewed the key cases of OFT in order to compare theory with practice. The whole list of markets can be found in Appendix B. Data indicates that during the examined period the competition authority dealt with roof contractors several times, with newspaper editing,

¹ The indices used were the following: (i) Concentration (C3), (ii) Profitability, (iii) Import Penetration, (iv) Concentration Volatility, (v) Churn Rate, (vi) TFP Growth, (vii) LP Growth, (viii) Cost Disadvantage Ratio.

medication/chemical production, road transportation, aviation, television broadcasting, private schools, and the wholesale trade of toys.

From among the sectors predicted as the worst 15 however, the key cases of the OFT include only passenger land transport (7th), the retail sale of books, newspapers and stationery (8th), and gambling and betting activities (11th).

A few years later the Dutch competition authority (NMa) developed a "competition index" (CI) based on a similar top-down method in order to identify "problematic" markets. Nine indicators¹ were selected to rank the 502 4-digit Dutch industries. According to Petit (2012: 29.) the top industries prone to anticompetitive behavior included the manufacture of malt, manufacture of lime, manufacture of other non-distilled fermented beverages, manufacture of plaster, manufacture of basic iron and steel and of ferro-alloys, transport via pipelines, production of mineral waters and soft drinks, manufacture of cement, manufacture of beer, air transport, youth hostels, transport via railways, ship renting and the manufacture of leather clothing.

Reviewing the cases of NMa between 2008-2011², it seems that the Dutch authority dealt repeatedly with the construction industry, telecommunications, rail transport, the wholesale of natural gas, supermarkets and local transport. However, among the industries most prone to anticompetitive behavior based on the CI were only the production of soft drinks (6th), the manufacture of beer (7th), transport via railways (8th) and national post services (16th), with one case each during the 4 years of observation. Although NMa "developed the Competition Index (CI) for its cartel detection and deterrence objective" (Petit, 2012: 8.), they only dealt with a few of the detected industries.

As for our hypotheses, the empirical results suggest that the first one is not valid. We found that both competition authorities deal with only a few of those industries that are expected to be prone to anticompetitive behavior. The second one seems to be valid as we found that both competition authorities deal with the same industries repeatedly.

These findings, however, have to be interpreted carefully. We have observed only two of the many competition authorities, and only the key cases of the OFT. The data used to identify problematic markets have also limitations. Classification systems are not the same as relevant markets. Substitute goods made of different raw materials (metal, timber, plastic etc.) can easily get different sector classifications, whilst categories like "pipeline transport" obviously do not stand for one specific market.

5 Conclusion

The existence of competition policy can be explained in different ways. The paper describes the main theories of regulation and shows why effective antitrust enforcement can be advantageous for consumers, the government or certain industries. The latter is usually studied as "capture". But

¹ The indicators were the following: (i) number of trade associations, (ii) price index (NL vs. EU Prices), (iii) number of firms, (iv) HHI, (v) import rate, (vi) churn rate (vii) survival rate, (viii) R&D rate, (ix) market growth. Data refer to year 2008.

² The data stem from the Annual Reports of the NMa. Because cases might be pending for several years, we included the three subsequent years after 2008.

these influences are not exclusive and their co-existence provides that competition authorities are widely supported institutions in developed economies.

Our model shows that under sufficiently general conditions (an oligopolistic market with incentives for competitive escalation) the firms of the industry are not only interested in the enforcement of competition policy, but also willing to pay for it.

The empirical findings show that the British and Dutch competition authorities deal with only a few of those markets, which were identified as "problematic" regarding anticompetitive behavior. This seems to support the interest group theory of regulation. We also found that competition authorities dealt with the same industries repeatedly. This seems to support the predictions of our model.

It can be stated that the conclusion of the above described model (i.e. there are markets where firms would be willing to pay for antitrust enforcement) supports the interest group theory of regulation. However, on the empirical level (as competition authorities detect anticompetitive behavior) it does not contradict the normative theory either. The empirical findings of our investigation seem to strengthen the interest group theory (competition authorities do not necessarily focus on those sectors which can be identified as problematic based on economic theory) and our model as well (authorities deal with the same markets repeatedly). Based on all of these findings it can be said that the model demonstrated above supports the interest group theory of regulation, and the empirical results do not contradict its conclusions.

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Appendix A. Empirical results of OFT (2004) show that economic theory predicts the following industries to be the most prone to anticompetitive behavior in the UK:

- 1. Processing of nuclear fuel
- 2. Retail sale of cosmetic and toilet articles
- 3. Wholesale of tobacco products
- 4. Other supporting land transport activities
- 5. Wholesale of mining, construction and civil engineering machinery
- 6. Manufacture of sugar
- 7. Other scheduled passenger land transport
- 8. Retail sale of books, newspapers and stationery
- 9. Retail sale of bread, cakes, flour confectionery and sugar confectionery
- 10. Youth hostels and mountain refuges
- 11. Gambling and betting activities
- 12. Retail sale of medical and orthopedic goods
- 13. Manufacture of other machine tools not elsewhere classified
- 14. Repair of electrical household goods
- 15. Wholesale of sugar and chocolate and sugar confectionery

Appendix B.Examining the key cases of the OFT in the three subsequent years¹ after the period examined in OFT (2004), ² the British competition authority dealt with the following markets:

2002-2003:

¹ 1 April 2002 – 31 March 2005.

 $^{^2}$ Data from the annual reports of the OFT (2002-2003, 2003-2004, 2004-2005). We considered only the key cases highlighted in the reports (which are considered significant from the OFT's point of view), and only cases that are concerned with the restriction of competition.

Toy wholesale trade, television broadcasting, car parts trade, sound recording and reproduction (CDs), livestock wholesale trade, china production.

2003-2004:

Nursing services, newspaper editing, roofing contractors, film production, stock exchange, insurance.

2004-2005:

Distribution of white rum, roofing contractors, road transportation (bus), television broadcasting, horse racing, online services.