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Hotelling competition and political differentiation with more than two newspapers

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ABSTRACT

We analyse a market where newspaper publishers compete for advertising as well as for readership. Publishers first choose the political position of their newspaper then set cover prices and advertising tariffs. We build on the duopoly model of Gabszewicz et al. (2001, 2002) who show that advertising financing can lead to minimum political differentiation of the newspapers and hence a lack of plurality of political views or *pensée unique.* We extend their model to more than two newspapers and show that, contrary popular belief in competition policy, concern for such lack of plurality may diminish but does not disappear as the number of firms increases.

1. Introduction

Most media outlets finance themselves by selling advertising. Newspaper publishers, in particular, sell their products to two different categories of buyers, namely readers and advertisers. Readers are interested in news while advertisers aim at reaching potential consumers by buying advertising space in the newspaper. Newspaper publishers know that the more readers their newspaper has the higher the willingness to pay of advertisers for an advertising slot. Publishers therefore make their strategic decisions taking into account this link between the two demands they face. This feature has been recognized in the economic literature ever since the first studies of the industry, see e.g. Corden (1953) and Reddaway (1963).[1] The newspaper market shares this feature with both traditional and new media markets, and more generally, with all two-sided markets Anderson and Gabszewicz (2006).[2]

However, while most of the literature on two-sided markets has focused on the effects of the interdependency of demands on the pricing strategies of two-sided platforms and has considered product differentiation as exogenous, e.g. Armstrong (2006), the early studies of the media market already addressed the question of whether more concentration in the market reduces the variety of content (and thus also the diversity of views) provided by the market, e.g. Steiner (1952), Beebe (1977), Spence and Owen (1977).

Most rules regarding ownership of media outlets around the world are based on the assumption that lower concentration leads to more pluralism, i.e. more diversity

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[1] More recently, but still before the theory of two-sided markets was developed, see Blair and Romano (1993) and Chaundri (1998).

[2] The seminal papers on two-sided markets are those by Caillaud and Jullien (2001, 2003), Rochet and Tirole (2003, 2006), Evans (2003), Parker and van Alstyne (2005) and Armstrong (2006). For a recent survey see Evans and Schmalensee (2015).

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of views, see e.g. Polo (2007). It turns out that this may not be true when media outlets are mainly financed through advertising. While Gentzkow et al. (2006) and Petrova (2011) show that, in the US, the advent of advertising financing contributed to the emergence of non-partisan and more informative newspapers that put more weight on readers' preferences, earlier literature has argued instead that competition might lead to putting too much weight on some readers' preferences in order to secure advertising revenues. Steiner (1952) has shown that duplication of content may arise, in competition but not in monopoly, if consumer preferences are such that fixed costs are covered more than twice by advertising revenues generated by those consumers who have a preference for that content. Whereas Beebe (1977) challenged the generality of these findings, Spence and Owen (1977) investigate the extent to which a pay-per-view system in television (at the time explicitly forbidden by FCC rules) would perform better than advertising financing.

Building on this strand of literature, which assumes that each channel broadcasts only one program type, Anderson and Coate (2005) relax the assumption that programs carry an exogenously fixed number of advertisements and the revenue from each advertisement equals the number of viewers times a fixed per viewer price. They show that the impact of monopoly on programming is ambiguous: monopoly internalizes business stealing (which discourages programming), but increases the amount of advertisements so that each programme earns more revenue than under competition (which encourages programming). Only when the first effect outweighs the second effect, which was ignored by previous analyses, does monopoly ownership provide less programming than duopoly. Such a result is more likely when the nuisance cost of advertising is small.

A parallel strand of literature models the choice of content as a choice of spatial location. Gabszewicz et al. (2001, 2002) develop a model of duopolistic competition among publishers who choose first political position, then cover prices and advertising tariffs. Under the assumption that readers are indifferent to advertising, they show that advertising financing can lead to minimum product differentiation, or a *pensée unique*. A similar result was obtained, under the assumptions that viewers dislike advertising and advertising is informative, by Gal-Or and Dukes (2003) in a model of duopolistic competition among advertising-financed broadcasters that bargain over advertising tariffs with two firms competing in a differentiated product market. Again Gabszewicz et al. (2004) obtain the same result in a model of duopolistic competition among broadcasters who choose first their program mix, then advertising tariffs, under the assumption that viewers dislike advertising.

Very recently, Garcia Pires (2014) analyses how advertising affects media diversity when news firms can choose to give voice to more than one political view. He extends the model of Gabszewicz et al. (2001, 2002) by allowing media firms to choose between a single- and a multi-ideology strategy (a point on the Hotelling line and a line segment, respectively). When the advertising market is small, news firms maximally differentiate their political offers and follow a single-ideology strategy; when the advertising market is large, news firms minimally differentiate their political offers and follow a multi-ideology strategy. Hence, a larger advertising market does not necessarily lead to lower media diversity.

The above theoretical work however has either argued using specific examples, e.g. Steiner (1952) and Beebe (1977), or limited the analysis of the effect of competition on product differentiation to the case of duopoly. We analyse instead the choice of political position when there are more than two competing newspapers.

Another strand of theoretical literature has looked at the related issue of media bias rather than at pluralism. Whereas the pluralism approach focuses on whether media firms provide different opinions of the same story, the media bias approach generally assumes that there exists an objective state of the world and explores reasons why in equilibrium we may not observe media firms reporting truthfully on that state of the world. Reasons put forward in the literature for the existence of media bias range from (readers) demand side factors, as in Mullainathan and Shleifer (2005), Gentzkow and Shapiro (2006) and Xiang and Sarvary (2007), to supply side factors, like in Baron (2006). There are also models where media bias is due to the preferences of the advertising side, as in Ellman and Germano (2009). Gentzkow and Shapiro (2008) provide a discussion of the relationship between competition and media bias and conclude that competition reduces media bias.

We take here the pluralism approach and analyse whether competition increases or reduces media diversity (i.e. pluralism) rather than media bias. In fact, more pluralism may reduce media bias, since different views and pieces of information find their way into media outlets, but this is not always necessarily the case, see Gentzkow and Shapiro (2008).

Quite a few empirical studies have focused instead on the effects of mergers among (partly) advertising financed media outlets on the variety of content offered. Berry and Waldfogel (2001) find that consolidation in the radio broadcasting industry in the US increased product variety, at least relative to the number of stations in a market. Using data on US newspapers, George (2007) shows that differentiation increases with ownership concentration. Sweeting (2010) use US data to show that firms that buy competing radio stations tend to differentiate them more but reposition them closer to the remaining competitors.

However, as noted by George (2007), two relocation effects may be present in a merger: one due to joint ownership of more than one media outlet (if no media outlet is shut down because of the merger) and another one due to the reduction in the number of media outlets (if some media outlet is shut down as a result of the merger). While the empirical studies above identify either the former effect or both effects jointly, we focus instead on the latter effect alone.

Whereas these empirical studies do not feature an explicit theoretical model, Fan (2013) develops a structural econometric model to analyse the effects of mergers among US newspapers. Differently from earlier structural econometric work on the newspaper market, such as Kaiser and Wright (2006), Argentesi and Filistrucchi (2007), Fan (2013) endogenizes also the choice of newspaper quality and shows that ignoring adjustments of quality causes substantial differences in estimated effects of merg-