Comments on “Vertical Contracts and Endogenous Product Selections: An Empirical Analysis of Vendor Allowance Contracts” by Sylvia Hristakeva

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I am honored to have been invited to comment on this very interesting and ambitious paper. Hristakeva connects the empirical literatures on vertical contracting and endogenous product assortments in order to assess the effects of vendor allowances, that is, fixed payments from manufacturers to retailers, on market outcomes. In doing so, the paper makes contributions on multiple fronts. Methodologically, the paper develops a novel framework that permits the identification of wholesale prices and vendor allowances in a multi-manufacturer multi-retailer setting with endogenous product assortments. Substantively, the paper answers questions of great relevance for competition policy and managers alike.

The paper addresses two main research questions. First, how large are (unobserved) vendor allowances? Second, what would be the effects of banning vendor allowances on wholesale price and product assortments? In answer to the first question, the paper finds that vendor allowances amount to about 4% of retailer revenues, a reasonable number given available evidence from other sources. In answer to the second question, a counterfactual analysis reveals that the feasibility of vendor allowances affects not only wholesale prices but also product assortments. Perhaps most notably, fewer “niche” products find their way onto supermarket shelves when vendor allowances are banned.

The questions that Hristakeva addresses are highly relevant for managers and public policy alike. Economic theory has suggested anti- and pro-competitive rationales for fixed payments from suppliers to retailers, but there is little empirical guidance for competition authorities to rely on. Competition authorities are therefore grappling to understand the competitive effects of vendor allowances, which has resulted in heterogeneous treatment across jurisdictions. By simulating the effects of a ban on vendor allowances, the paper thus fills an important gap in the literature and provides much-needed guidance for public policy.

My discussion will focus on two main topics. First, the vertical contracting approach adopted by Hristakeva, which represents the paper’s main methodological contribution. Second, the economic explanations for vendor allowances that the paper proposes and how they fit into the wider literature and policy context.
Vertical contracting approach. — A major challenge for structural empirical work that involves multiple layers of the supply chain is how to model the negotiations between upstream and downstream firms, here manufacturers and retailers. In Hristakeva’s paper, the challenge is compounded by at least two features of the environment and the research question. First, the paper seeks to determine not just wholesale prices but also vendor allowances and assortments. Second, the contracting setting is multilateral, i.e., it involves multiple competing upstream firms dealing with multiple competing downstream firms. Supply contracts, on the other hand, are determined through bilateral negotiations (which are assumed to occur at the level of the individual product line). Each contract thus has competitive externalities on the same brand offered at other retailers and on competing brands offered at the same and at rival retailers.

Existing modeling approaches can be divided into two categories. A first approach is to find the equilibria of a fully-specified non-cooperative contracting game. While such models have clean game-theoretical foundations, equilibrium outcomes are highly sensitive to the exact assumptions about contract observability, the bargaining protocol, the class of feasible tariffs, and so forth. Models of this type can also be plagued with issues of equilibrium multiplicity and existence, making them hard to use in empirical work. An alternative approach, which has gained some popularity in applied empirical work in recent years, is to use a Nash-in-Nash bargaining solution, where the wholesale price of each product maximizes the bilateral profit of the retailer and the supplier given all other contracts. The network structure is taken as given with this approach, unlike in a fully-specified non-cooperative bargaining game.

Hristakeva uses a new approach that is tailored to her paper’s research environment and questions, and that combines features of the two approaches just described with some clever simplifying assumptions. The vertical contracting game is assumed to proceed in two steps. In the first step, the retailers choose which products to carry and solicit offers from the

\footnote{Miklós-Thal et al. (2010) provide an overview of some of the modeling challenges.}
suppliers of the chosen products. This first step determines the network structure (who sells what). In the second step, suppliers set wholesale prices and slotting fees for the products they were asked to supply in the first step. Crucially, a retailer can still deviate by replacing a previously selected products with an outside product (at a non-negotiated wholesale price) at this stage, although it cannot switch multiple products at the same time or change its total number of products in the category. This clever approach allows Hristakeva to pin down slotting fees – through the threat of single product replacements by retailers in the second step – while keeping product assortments endogenous.

Let me offer a couple of thoughts on Hristakeva’s approach and its relation to the two leading approaches in the literature. First, although Hristakeva’s approach yields contracts and assortments that do not represent the equilibrium of a fully-specified non-cooperative game in the paper, my guess is they would under some additional assumptions, namely (i) publicly observable take-it-or-leave-it offers from the selected supplier in the second stage, and (ii) a market breakdown assumption specifying that if a retailer rejects multiple offers, then no product is distributed. Second, a potential avenue for future work could be to analyze Nash-in-Nash bargaining with replacement outside options, possibly focusing (for comparison purposes) on the limit case in which supplier have full bargaining power. With Nash-in-Nash bargaining each bargaining pair treats all other contracts as given, thus a supplier internalizes only the upstream margin on its other products when setting each wholesale price. In contrast, with the current approach each supplier internalizes the full margins on all its other products when setting wholesale prices. I would therefore expect the two approaches to lead to different wholesale prices, and thus different vendor allowances.

The economics of vendor allowances. — My remaining comments revolve around the question why supplier pay vendor allowances to retailers. While the paper focuses on the empirics, it also provides a stylized example that illustrates why vendor allowances

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2While the market breakdown assumption may appear extreme, previous research has relied on similar assumptions to make progress in the analysis of multi-seller multi-buyer vertical contracting models – see Rey and Vergé (2010) and Bonnet and Dubois (2010).
arise. My understanding of the economic mechanism is as follows. Suppose a single supplier makes publicly observable take-it-or-leave-it offers to two competing retailers. Furthermore suppose, for now, that the retailers’ outside options are zero. Tariffs can consist of a fixed fee and a wholesale price. The supplier will then offer each retailer a wholesale price above upstream marginal cost in order to dampen intra-brand competition at the retail level and use the fixed fees to extract downstream variable profits.

Now suppose one of the retailers, say retailer 1, has access to an alternative product provided by a competitive fringe at a wholesale price $w_C$. Due to shelf space constraints, retailer 1 can carry either the supplier’s product or the alternative product, but not both. In this case, provided $w_C$ is not too low, the supplier still wants to offer contracts that induce both retailers to carry its brand. However, retailer 1 has a positive outside option now, hence the supplier must leave a greater surplus to retailer 1 in order to gain contract acceptance. Relative to the benchmark with a zero outside option, surplus can be transferred from the supplier to retailer 1 in two ways: either through a lower wholesale price or through a lower (potentially negative) fixed fee. The supplier prefers the latter, because reducing the wholesale price would intensify intra-brand competition and thereby reduce total industry profit, unlike changing the fixed fee. A ban on vendor allowances, i.e., on negative fixed fees, limits the extent to which surplus can be transferred via fixed fees, which may (for low $w_C$) force the supplier to decrease retailer 1’s wholesale price instead. A ban on vendor allowances can thus lead to lower wholesale and retail prices without changing assortment decisions.

A related reason why a ban on vendor allowances can affect market outcomes in this simple setting is through product assortments. As just discussed, a common supplier internalizes the externalities of retailer 1’s decisions on retailer 2’s profits. The supplier therefore has an incentive to exclude the competitive fringe not just to keep on selling through retailer 1, but also in order to protect the profits derived from retailer 2. In fact, the supplier may

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The paper restricts attention to tariffs in which fixed fees can only flow from suppliers to retailers, but allowing fixed fees to take on either sign makes it easier to illustrate the key mechanisms in my view.
find it profitable to sign up retailer 1 even if $w_C$ lies below the supplier’s marginal cost of production. When vendor allowances are banned, however, the supplier can attract retailer 1 only through a lower wholesale price, which makes exclusion of the competitive fringe less profitable. A ban on vendor allowances can thus affect assortment decisions and intensify inter-brand competition.

While I find these mechanisms convincing, I thought that the connection between the stylized example and the empirical findings, as well as their relations to existing theories, could be worked out more clearly in the paper. As mentioned above, the literature has proposed numerous theories about the effects of fixed payments from suppliers to retailers on competition. Pro-competitive explanations include signaling, screening, and risk-sharing; competitively-neutral theories include surplus transfer to retailers, the allocation of premium shelf space, and enhanced distribution; anti-competitive theories include exclusion of an upstream rival, exclusion of downstream rival, dampening of retail competition, tacit collusion between retailers, or limiting shelf space for rent-shifting. Positioning the stylized example and the empirical findings clearly relative to these existing theories and elaborating further on the potential economic explanations for the findings would enhance readers’ understanding of vendor allowances and help the paper achieve maximum impact.

References

