

BEFORE THE
POSTAL REGULATORY COMMISSION
WASHINGTON, DC 20268-0001

Price Elasticities and)
Internet Diversion) Docket No. RM2014-5
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**VALPAK DIRECT MARKETING SYSTEMS, INC. AND
VALPAK DEALERS' ASSOCIATION, INC.
RESPONSE TO NOTICE OF INQUIRY NO. 1
(August 28, 2015)**

On June 12, 2015, the Commission issued Notice of Inquiry No. 1 in the above-captioned docket. To assist the Commission, Valpak Direct Marketing Systems, Inc. and Valpak Dealers' Association, Inc. ("Valpak") jointly submit the following Statement of John Haldi, Ph.D. as its response to NOI No. 1.

Respectfully submitted,

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**Docket No. RM2014-5
Response to NOI No. 1**

**STATEMENT OF JOHN HALDI, Ph.D.
August 28, 2015**

I. Introduction

There is no question that the Postal Service needs good volume forecasts based on the best information available so that it can adjust its operations in an economic and efficient manner with respect to ongoing changes within the communication environment in which it necessarily must function. Toward that end, it is important that the Postal Service continue to control its costs and streamline its operations so that mail will continue to be a viable option for Valpak and other advertisers.

NOI No. 1 poses questions and requests data and information pertaining to:

- Elasticity of demand for postal products (Questions 1-3).
- Diversion of demand for postal products to alternatives to the mail, *i.e.*, to non-postal alternatives (Questions 4 and 5); and

Although diversion and elasticity of demand each relate to demand for postal products, they are different concepts.

Diversion from the mail stream occurs whenever an alternative channel of communication is substituted for hard copy mail. Reasons for such substitution could be many — *e.g.*, security (for money transfers), rapidity (when mail transmission is too slow), or convenience (transmission of anything already in electronic format, such as typed correspondence, personal pictures on cell phones, or articles on the Internet). Although a

change in price could be a factor in diversion of mail to an alternate electronic means of communication, such changes often have little relation to the price of mail, *i.e.*, postage rates.¹

On the other hand, elasticity of demand exhibits symmetry because, theoretically, elasticity of demand (for postal products) is a two-way phenomenon. For instance:

- Increase the price and demand falls; and
- Decrease the price and demand increases.²

Electronic diversion, by contrast, is not asserted to exhibit any such symmetry. Once customers (mailers or addressees) divert from using the mail in favor of some electronic means of communication, few are known to revert back to using and relying on the mail.

Much of the decline that has occurred in First-Class Mail volume generally is considered to reflect diversion not caused by price elasticity, *i.e.*, the Postal Service would be unlikely to see a return of the lost First-Class Mail volume even if, hypothetically, prices were to be reduced substantially.³ Diversion thus appears to be a one-way phenomenon.⁴ What the

¹ Should diversion to an alternate channel of communication occur because of an increase in price, it would be statistically confounded with elasticity.

² As a practical matter, of course, postal prices have not declined, either absolutely or relatively, by an amount sufficient to illustrate this point.

³ Electronic money transfers illustrate the irreversible nature of shifts to a non-mail alternative. Reversion to widespread use of mailed paper checks seems highly unlikely. The Federal Reserve presumably has data on money transactions via the Federal Funds wire, and regional bank clearing houses also may have pertinent data pertaining to the volume of electronic money transfers. Such data might help “explain” statistically a portion of the diversion from First-Class Mail that has occurred.

⁴ In textbook economic terms, elasticity deals with *endogenous movement along* a demand curve, whereas diversion represents *exogenous shifts* in the demand curve. The Branching AIDS Model is more concerned with the former than the latter. This emphasis reflects the general bias of economics to focus attention on endogenous price-related factors.

Postal Service might do (if anything) to recapture First-Class Mail volume lost to diversion is not clear.⁵

Time series data that exhibit a decline in mail volume may reflect both elasticity of demand and diversion concurrently. As between the two, Postal Service finances are more likely to be threatened by continued non-price diversion of profitable volume than by any elasticity-related changes in volume. Diversion could have a much stronger effect on volume forecasts than elasticity. Hence non-price factors causing diversion and a permanent shift in mail volume are in need of further study and incorporation in the Branching AIDS Model.

II. Diversion

Postal Service comments submitted on September 19, 2014, state that “the primary purpose of demand analysis is to forecast mail volumes going forward.” *Id.*, p. 2. Reliable volume forecasts require better understanding of diversion. As discussed below, a major source of future diversion of advertising matter could come from exogenous developments that

From a business perspective, however, shifts in demand would appear to be more substantial, more important, and equally amenable to study.

⁵ The demand curve for First-Class Mail already has *shifted* monumentally. Electronic transmission of communications, including but not limited to the Internet, has been a disrupting force in several sectors of the economy such as music and publishing. The Postal Service could be gravitating slowly to the position of (i) passenger railroads trying to hold on to and recapture lost volume following introduction of the DC-3 and later models of passenger aircraft, or (ii) horseshoe manufacturers trying to recapture lost volume following introduction of the automobile.

are not incorporated in the Branching AIDS Model (and may not be adequately incorporated in the Postal Service Model either).⁶

The following discussion is restricted to potential diversion of Standard Mail to electronic media.⁷ Standard Mail now constitutes the largest class by volume, and is a major contributor to Postal Service overhead. Consequently, a substantial diversion of profitable advertising mail to existing and emerging forms of electronic media, should that occur, could presage the next major restructuring of the Postal Service.

The Branching AIDS Model, with its emphasis on elasticity, cross-elasticity, and substitution between postal products, appears to pay comparatively little attention to non-postal alternatives. Mark Roberts alluded to this possible shortcoming in comments submitted by the Public Representative on September 19, 2014:

Advertisers. This group of customers uses Standard Mail with the option of nonautomated, automated, and ECR categories. Internet advertising, radio, and television are all alternative advertising mediums. ... To estimate a demand curve for each class we need to identify the set of products that the mail customer is choosing among **and the important non-postal alternatives**. [*Id.*, p. 8 (emphasis added).]

⁶ For a non-quantitative example of information available on current research efforts to improve mobile advertising, see “Mobile-Minded: The Small Screen Isn’t So Small,” available at <http://insights.fb.com/2015/06/24/mobile-minded/>.

⁷ This is a partial response to Question 6 of NOI No. 1. Within Standard Mail, the “consumer group” consists of mailers, not recipients, and mailers constitute 100 percent of the consumer group. As most Standard Mail generally is unsolicited, the chief “demand” by recipients is their response to advertised offers.

PostCom also offered a similar comment concerning the comparatively narrow scope of the Branching AIDS Model⁸:

Similarly, and perhaps more fundamentally, the assumption that mailers have “an aggregate budget for domestic mail,” **rather than a budget for communication via any media**, is unduly reductive of mailers’ decisions. ... Clearly, the most significant difference today from 30 years ago is the more diverse methods by which communication and business can be conducted with the rise of **a multiplicity of electronic communication alternatives**. Consequently, for any postal demand based model to have value, it must be sensitive to and accurately predict a business’ decision regarding the use of a mail-based channel **as opposed to alternative business communications and transactional media**. [*Id.*, pp. 2-3 (emphasis added).]

Designers of the Branching AIDS Model seem to have relegated all forms of electronic advertising to an almost irrelevant role as regards demand for Standard Mail.⁹ A variety of current developmental efforts (discussed below) seek to encourage substantial diversion of advertising revenues to electronic media. Advertisers do not regard electronic advertising as irrelevant. They appear to have been experimenting increasingly with electronic alternatives. Failure to give adequate consideration to non-postal alternatives could be the biggest weakness of the Branching AIDS Model. Although Standard Mail has not yet suffered a permanent monumental decline in volume, it could occur.

To elaborate, most individuals (and organizations) today have two (or more) addresses:

⁸ Prior comments by the PR and PostCom are pertinent to Question 1b of NOI No. 1.

⁹ A “branching model” for how advertisers allocate their budget on various alternatives available to them would have to include as branches not only Standard Mail, but also electronic media, television, radio, and other advertising mediums.

- An e-mail address, and
- A physical postal address (*e.g.*, street, city, state, zip code).

A tremendous amount of detailed personal data now are being accumulated in files that identify individuals by their e-mail address. Such information includes items purchased or searched for on the Internet, an individual's personal likes and dislikes, personal information voluntarily posted on social media web sites, etc. The scope and size of these files coincide with the rise of Big Data, which usually applies to non-postal areas. A number of companies are spending big money in hopes of obtaining big results from analyzing and using their trove of personalized data. If current development efforts succeed, as their sponsors hope, a tipping point could ensue, with mass migration of advertising dollars flowing away from Standard Mail to electronic media in a relatively short time.¹⁰ The \$16+ billion spent annually on postage for Standard Mail will continue to incentivize providers of electronic advertising services.

Firms that possess these personal data files (*e.g.*, Amazon, Facebook, Google, LinkedIn, Twitter) are endeavoring to use their accumulated data to personalize and target direct advertising in ways not heretofore available to advertisers. Their premise is that people will be more receptive to advertising for products and services which conform better to their preferences and interests. As yet, however, comparatively little is known about the extent to which recipients in fact will be receptive to such "refined" information.

¹⁰ As described in footnote 3, *supra*, this would be a *shift* in the traditional demand curve, not a *movement along* the curve.

Targeted electronic advertising that utilizes detailed personal data is still in a comparatively early developmental stage.¹¹ As PostCom stated in its September 14, 2014 comments, “In today’s market ... **the big commercial move is to mobile.**”¹² *Id.*, p. 3 (emphasis added). Pedestrians are known to have disregarded automobile traffic while focusing on their mobile device.¹³ Some electronic advertising has yet to be reformatted for mobile, hence its full impact has yet to be felt.

This new highly personalized and targeted advertising clearly lends itself to delivery via electronic media. An interesting question is whether highly personalized advertising campaigns based on Big Data could be the basis for a **direct mail** campaign. To a substantial degree, that would depend on the ability to link electronic addresses with physical addresses.

- Firms such as Amazon doubtless have the capability to link physical and e-mail addresses. After all, they ship products to each purchaser’s physical address and communicate via each purchaser’s e-mail address.

¹¹ The Postal Service should monitor as closely as feasible exogenous technological developments that pose a potential disruptive threat to direct mail advertising. The Postal Service might want to consider new data collection, as suggested by comments of Mark Roberts for the PR. *Id.*, p. 17.

¹² PostCom’s statement continues to reflect the current environment. In response to Question 4 of NOI No. 1, pertinent data include: (i) annual sales of mobile electronic devices, broken down by type (*e.g.*, smart phones, tablets, etc.); (ii) revenues from consumer use of mobile devices; and (iii) annual expenditures for advertising on mobile devices and all other electronic media. The Postal Service might want to commission a survey of data sources pertaining to electronic advertising. For example, see <http://www.businessinsider.com/mobile-is-growing-faster-than-all-other-ad-formats-2014-10>.

¹³ For example, see <http://abcnews.go.com/US/distracted-walking-petextrians-endangering-streets/story?id=32990067>.

- Whether social media firms such as Google, Facebook, or Twitter have the capability to link e-mail addresses with physical addresses on a large scale is not known.

The point is, in the absence of linkage between e-mail and physical addresses, direct mail as it exists today could be at a distinct disadvantage if these emerging data files become a critical source for personalized advertising.¹⁴

Within Standard Mail, advertisers are vitally interested in results from each medium that they use. Typical metrics used to evaluate media are (i) sales per dollar spent on advertising, or (ii) for each thousand dollars spent on advertising, the number of positive responses (*e.g.*, new subscribers, new credit card users, etc.). Data on such metrics typically are not published and generally are considered proprietary, which is understandable but unfortunate as regards an econometric demand study.

Advertisers' focus is on ascertaining and going with those media that provide the "biggest bang for the buck." If the returns per dollar spent on direct mail advertising become significantly less than from electronic media, then:

- A large amount of current expenditures on direct mail could divert rapidly from Standard Mail to electronic media, in an exogenous shift akin to a "tipping effect."
- Direct mail may be unable to compete at any price that would be economic for the Postal Service.

Whether electronic advertising can deliver consistently superior results that would lead to a rapid decline in direct mail is still unknown. Early warning signs portending any such

¹⁴ The Postal Service might want to consider commissioning a study to ascertain the possibility of using personal data available in an e-mail address list as the basis for a hard copy mailing.

major upheaval almost always exist, but whether those signs are likely to be found in data used by and relied on by the Branching AIDS Model seems doubtful.¹⁵ Still, as Milton Friedman was fond of saying, “the proof of the pudding is in the eating.” For that reason alone the Commission should use the Branching AIDS Model to generate forecasts and compare them with those from the current Postal Service model.

III. Elasticity of Demand

On September 14, 2014, PostCom submitted comments in this docket stating:

mailers are left to question whether this importance [of elasticity estimates and demand models] **carries over to decision-making within the Postal Service.** [*Id.*, p. 5 (emphasis added).]

Enactment of PAEA gave the Postal Service substantially increased pricing flexibility. The Postal Service, however, has declined to use its flexibility to implement significant changes in relative prices based on differences in elasticity estimates. In fact, virtually all evidence indicates that in CPI rate adjustments the Postal Service chooses to ignore almost completely the elasticity estimates published separately each January. Further, although the Postal Service routinely publishes updated elasticity estimates (as required by the Commission), there is little transparency into the Postal Service’s rationale for its selected rate changes. It has yet to publish a pricing model or articulate principles that explicitly incorporate elasticity of demand in any meaningful manner.

¹⁵ Both the Postal Service forecasting model and the Branching AIDS Model rely heavily on historic data to project emerging changes. Whether either model has the capability to predict with reasonable accuracy the onset of such a rapid paradigm shift could be in doubt. Should such a forecasting failure occur, however, under no circumstances should any resulting financial crisis, no matter how dire, be allowed to qualify as an “exigent” event.

Moreover, when faced with imposition of a major non-CPI price change in the Exigent Rate Case, the Postal Service opted for an across-the-board increase, which obviously made all differences in elasticity irrelevant.

PostCom further observed that:

While it is of course useful for the Commission to understand how mailers make their decisions and what influences changes in postal prices can have on those decisions, it is **not clear what practical impact**—from a regulatory or market perspective—**updated demand and elasticity models will have.** ... While improved demand models could be theoretically useful in this context, to help understand the impact of such rates on mailer volumes and behavior, the practical utility of the models is limited in terms of their ability to assist the Commission in its decisions to approve or reject such rates. ... **In the price cap environment established by the PAEA, the role of demand and elasticity models in the Commission’s decision making is unclear.** [*Id.*, p. 5 (emphasis added).]

The Commission’s review of proposed rate adjustments, including all discounts, has been from the perspective of minimal compliance with a few statutory requirements, and any reference to elasticity in the statute is overridden by other considerations.

Regardless of a product’s elasticity of demand, workshare discounts should be based on the Efficient Component Pricing (“ECP”) principle, which principle neither incorporates nor depends on the product’s elasticity. And when workshare discounts vary from ECP (as they sometimes do), elasticity is never cited as a reason or justification for such deviation. Finally, if the Commission contemplates an enhanced role for elasticity estimates in its deliberations, some indication of that would be a service to mailers.

IV. Conclusion

To conclude, the likelihood that improved elasticity estimates will be put to any practical use in pricing, either by the Postal Service or the Commission, appears to be nil. At the same time, since diversion continues apace in First-Class Mail and could increase markedly in Standard Mail, it would appear that any available research effort concerned with demand for mail products would be better directed to study evolving exogenous factors that risk further diversion away from the mail.