The Languishing of Lydiametrics: The Ineffectiveness of Econometric Research on Advertising Effects

Richard W. Pollay, University of British Columbia
Lessons from Video Games and Media
The Languishing of "Lydiametrics": The Ineffectiveness of Econometric Research on Advertising Effects

by Richard W. Pollay

In two decades of the econometric analysis of the presumably "ideal" case study of effects, methodological approaches have proliferated, but results are at best inconclusive and at worst irrelevant.

One of the more elusive problems in the study of advertising has been the determination of whether it has other than ephemeral effects. This question is of particular interest to researchers in communications and in the social history of business, since most criticisms of advertising, and its presumed social importance, stem from its posited long-term cultural impact. If advertising cannot be shown to have any enduring effect on sales—its principal design function and purpose—then it becomes a more awkward, even if still plausible, argument to assert that it plays a serious role in shaping the evolution of a commercial culture (14).

At another level, knowing the magnitudes and durations of longer-term effects—assuming that these might be isolated—would allow for more nearly optimal campaign strategies, media scheduling, and costing for advertising, whether commercial or public service (1, 11, 29). In terms of public policy, if advertising is found to have long-term effects, a change in its tax status could be justified and advertisers forced to capitalize and depreciate the cost of advertising over the duration of its effectiveness, rather than having the luxury of expensing it completely at the time the money is spent (5, 26).

Richard W. Pollay is Curator, History of Advertising Archives, University of British Columbia, B.C. He thanks Chuck Weinberg and many of the authors cited for their comments on an earlier draft. These various helpful referees are not responsible for the views expressed, and some may hasten to point this out. Some of this material appeared in the Journal of Advertising History.
The successful measurement of the duration of advertising effectiveness therefore holds a great deal of promise for both academic and pragmatic purposes. The relatively recent development of econometric techniques provided the measurement and estimation tools that both authors and their audiences assumed might fulfill this promise. For nearly two decades, there has been a particularly concerted analytic effort, known as "lydiametrics," that focuses upon the data base from the advertising campaign for Lydia E. Pinkham products (see 23). The accomplishments of this methodological approach are reviewed here and compared to more conventional historical studies of advertising management, in order to identify the relative value of econometrics in providing inference and insights.

The history of advertising for the Lydia E. Pinkham Company\(^1\) is an interesting one, not only because its advertising records exist over a long time span, but also because the firm relied heavily on advertising as a major marketing strategy. The firm's principal product was its Vegetable Compound, a patent medicine sold since 1873 "for all those ills so

---

\(^1\) The original data covered the period 1908–1935 and were reported in *Printer's Ink*, December 10, 1936. Since then, the firm has cooperated with researchers by providing additional data, and archival records are now on deposit at the Schlesinger Library, Radcliffe-Harvard, Cambridge, Mass. The detailed history of this firm is described in chapter 3 of Falda (20), a Harvard Business School case (6), and a scholarly history (27).
common to our best female population.” The compound changed very little over its history, despite Federal Trade Commission and Food and Drug Administration attempts in that direction. The firm was virtually a one-product enterprise, with few dramatic changes in its pricing structure, competitive market, or distribution policies. The only major changes that have taken place involve advertising, either in copy strategy or amount spent. Thus, the history of the firm can serve as a relatively uncomplicated case, in contrast to the challenge posed by the multidimensional complexities and variabilities of modern or more typical case histories. The potential of this data base was perceived early, and in 1943 the National Bureau of Economic Research recommended that the Pinkham data be subjected to thorough analysis.

The first serious examination of the Pinkham data, done by Palda, proved to be seminal in stimulating continued research into both the Pinkham experience and into the question of the duration of advertising’s effect in general.

Palda’s study (20) sparked subsequent research because it seemed to demonstrate in a conclusive manner the existence of a substantial carryover effect of advertising. Palda chose to work with the Lydia Pinkham data because from all appearances it could be modeled with very few variables. Factors like price, product formulation, and competition were unchanging or were held to be so trivial in comparative impact that they could be ignored. Other potential variables, such as the volatile mix of media bought with the advertising dollars, the total volume of advertising in the country, the number of physicians in the land, and the per capita expenditures on medical care, were excluded when the calculation of simple correlation statistics failed to show the suggestion of a relationship.

As a result, the final set of variables deemed worthy of inclusion was small. Sales were seen as a function of disposable personal income, total company advertising expenditures, and some dummy variables included to represent discrete changes in the advertising copy that resulted from regulatory activity.

Some of this seems to be in the service of making the analysis more tractable rather than to reflect the historical realities. Palda (20) argued that the product had no close substitutes, despite the fact that the early history of the firm occurred in the heyday of the patent medicine industry, with many pills, potions, and palliatives being sold as good for whatever ailed you. Several of these were sold more specifically as “female regulators,” including the best known, Wine of Cardui. This product succeeded long into the twentieth century, was sold extensively in the South (one of Lydia Pinkham’s principal markets), and even “fought Lydia Pinkham on her home ground” of New England (35, p. 99).
Palda decided to use annual data despite the fact that he possessed monthly data, a decision since challenged as biasing the analysis. At the time, however, the decision seemed defensible for a number of reasons. Exogenous variables (disposable income, in this case) were not available on a monthly basis. The use of annual data finessed the problems of seasonality and reduced the sample size and computer time required. It also eliminated the existence of some negative values for advertising expenditures that appear in the monthly data series as artifacts resulting from advertising “credits” being received from overpaid media. Moreover, the interpretation of short-term data would have been difficult, since observed variations might be artifacts of the lags between an advertisement’s appearance in a medium and the appearance of the associated expense on the company books, or alternatively the lags in the movement of stock through the distribution channels. Finally, “a regression analysis of monthly data during a sample period (1954–1960) did not support the use of such data” (21, p. 168).

A large number of alternative model formulations were tried for fit, with the various formulations run for the subperiods 1908–1940, 1908–1934, and 1926–1960, as well as for the entire time span. The best of each family of models was kept as a “finalist” and presented for discussion. On the basis of several criteria (such as standard deviation of regression residuals, autocorrelation among residuals, magnitude of standard errors of regression coefficients, and stability of results over time), the best fit to the Pinkham data was given by a Koyck distributed lag model. “It was chosen from among several hundred regression estimates and thus represents the outcome of exhaustive elimination” (21, p. 175). This formulation also met other criteria of being consistent with both theory and a priori evidence and having apparent predictive as well as retrospective power.

The conclusions of Palda’s analysis and the contributions of the study were several. Advertising, at least in this case, was shown to have an investment effect. According to Palda’s estimates, it took almost seven years for the advertising dollar to exhaust 95 percent of its sales-generating power. He also showed the usefulness of the Koyck models in “explaining” advertising phenomena and hence gave credence to the notion that advertising has an exponentially decaying effect. By finding that the best model was one based on the logarithm of advertising, he reinforced the notion that there are diminishing returns to scale.

Clarke and McCann (10) were the first to directly contradict Palda’s results; some of their criticisms, in fairness to Palda, reflected advances in econometric techniques. The principal challenges were that Palda had misspecified the process, that his results were biased by his aggregation over time, and that as a result he significantly overestimated
the duration of advertising's effects. While they accepted the forecasting power of Palda's formulation, they doubted that it was a valid description of the process, a doubt stimulated by an observation of negative regression coefficient signs reported by Palda. They proposed an alternative specification, known as a "current effects" model, by supposing that the carry-over from period-to-period sales cannot be solely attributed to advertising but is also due to factors like brand loyalty.

Clarke and McCann employed a "frequency domain regression," a technique which, unlike the Palda-Koyck assumption of exponential decay, does not require the researcher to make a priori assumptions about the form of the lag structure. Because the computer programming effort required was considerable, the analysis was performed excluding dummy seasonal and copy variables. In examining the annual data used by Palda, Clarke and McCann found that only the current year and the year immediately past had significant effects, which contradicted Palda's estimates of less current effects and a longer carry-over.

Given the short duration estimated for the annual data and the support for the current effects model from some preliminary testing, Clarke and McCann also performed their analysis on the monthly data from 1954–1960 and found that the effect of advertising was confined to the first three months. In addition, they found that the effect did not exponentially decrease, as the Koyck model hypothesizes, but had its greatest effect one month after the advertising expenditure. Most significantly, their change in the model specification and the adoption of a spectral analysis technique revised the estimate for the duration of advertising's effect for the Lydia Pinkham Company from several years to three months!

Such discrepant results in the projection of short-term or long-term advertising effects invited further analysis and discussion, and several more econometricians contributed their voices to the choir of confusion.

In the first of these works to be published, Houston and Weiss (16) introduced a more general carry-over model that does not assume exponential decay of advertising, but that has special cases whose reduced forms are equivalent to both previous models. This more general model separates the carry-over from the serial correlation. Since the models are "nested," one being a special case of the other, the two can be compared by means of a maximum likelihood estimator. In so doing on the monthly data, the Clarke-McCann model was rejected in favor of the more general specification.

The Houston and Weiss study partially defends Palda's findings. The authors note that, "when properly estimated...the coefficient of current
advertising...is substantially lower than that originally reported by Clarke and McCann" and "suggests a current effect from advertising quite similar to that reported from Palda." But here the harmony ended. Houston and Weiss estimated a much faster rate of sales decay and argued that the "previously higher estimates for [the critical parameter] appear to result from a confounding of the decay effects and the effects of serial correlation." They concluded that Palda was correct in noting a cumulative effect attributable to advertising: "One might question the quality of his estimates, but his general conclusion holds."

Mann (18), after noting that the assumption of exponential decay was "not only theoretically unappealing, but also empirically dubious," specified three optimal-theoretical models that are modal-delayed, meaning that some time elapses between the advertising and its maximal response (as the Clarke-McCann spectral analytic results suggest). His analysis of the Pinkham monthly data (647 observations) estimated one parameter for each of ten assumed levels of the second parameter that jointly specify the negative-binomial distribution. The best such pair, judged by the sum of squared errors, described a distribution whose mode is delayed in time about ten months from the date of advertising expenditure. The worst pair, with an error factor over 1,300 times as large as that of the best pair, was purely geometric—the discrete equivalent of the exponential assumed in earlier research.

Barksdale et al. (3), arguing that spectral analysis allows for the maximum model flexibility, or conversely runs the minimum risk of misspecifying the model a priori, conducted an empirical investigation for the 1938–1966 monthly history of Pinkham’s advertising, sales, and profits. After processing the data so that they had properties consistent with the stationarity assumptions of their technique, the authors witnessed a "very complicated lag structure between sales and advertising. Certainly it is meaningless to attempt to infer a simple delay relationship."

Clarke (9) reanalyzed some of the Lydia Pinkham data and, more important, surveyed some 68 studies in which econometric tools had been used to estimate the duration of advertising’s effects on sales. He argued that the results of such analyses were highly dependent on the data base employed. Although there are many problems of comparability of the various studies Clarke synthesized in his cross-sectional review, and although his work has itself been criticized (30, 31, 32), his observation is striking and seriously shakes one’s confidence in a number of the studies reported in the literature. He notes that "the average implied duration interval derived from annual data is more than 17 times as long as the average implied duration interval derived from monthly data!" Looking at the annual data specifically and performing a test to discriminate between the Koyck model and the current effects
model, he concluded that the “long implied duration interval associated with the annual estimates is the result of data interval bias and should be rejected.”

Despite these disclosures, the struggle to develop unambiguous measurement methods continued. Helmer and Johansson (15) and Kyle (17) studied the annual Pinkham data with Box-Jenkins transfer function analysis. The former found a marginal preference for the Koyck formulation, while the latter comments on the persistent complexity of the problem “which, if nothing else, this particular example shows.” Eriksson (13) generates longer duration estimates using ridge regression and analyzing both annual and a subset of the monthly data. Once again, divergent results were provided by different estimation procedures.

Similarly, Windal and Weiss (33) report that the annual Lydia Pinkham data apparently substantiate quite different estimates, depending on the time base presumed in the “true-model,” thereby creating “results” that are conditional upon expectations. The authors point to the need for “clear cut evidence of what is the appropriate data interval.” Theory is inadequately formulated to provide dependable presumptions on this issue, and because empirical results depend upon these presumptions, it cannot supply unambiguous estimates of the data interval and the model specification generally. It is ironic that this tradition now finds it needs what it has long promised—a good basis for knowing the duration of advertising’s impact.

**Other analyses of the Lydia Pinkham data have attempted to understand the effectiveness of advertising changes during the life cycle of a product.**

Beckwith (4) analyzed the Lydia Pinkham annual data looking for patterns of change in the coefficient of advertising over time. One of his analyses yielded estimates which imply that Pinkham’s advertising effectiveness was reduced by the 1914 regulatory activity but increased by the 1925 regulations and further increased by the ad copy changes in 1941, although the apparent changes in advertising effectiveness may be functions of the product life cycle and not just the change in advertising copy. Unfortunately, none of the several attempted models with time-varying parameters fits the observations noticeably better than does a naive model which simply assumes that this period’s sales will equal last period’s sales.³

³ Suggestions as to the relationship between stages in the product life cycle and elasticities with respect to advertising, as well as other marketing variables, are common in the literature and have been most formally articulated by Mickwitz (19).
The estimation of time-varying coefficients has also been approached by Winer (34) with a relatively new estimation procedure—varying parameter regression—applied to the annual data. Arguing that Beckwith's separate regressions do not utilize all the information available and that his effective sample sizes were unnecessarily small as a result, Winer proposed an alternative that would permit estimation of movement of the parameters that might be occurring within the various copy eras, as well as fluctuations that might be transitory in nature. All of the several model variations that Winer reported showed a coefficient of advertising response that increased over time, particularly during the period from 1941 to 1960. Amalgamating the estimates with the Dorfman and Steiner (12) criteria for optimal advertising leads to the conclusion that the firm was overspending on advertising until 1940 but acted optimally for its last twenty years (a conclusion that would be difficult to sell to the stockholders of the firm witnessing its demise).

What are we to conclude from the substantial analytic efforts of the presumably ideal case of Lydia E. Pinkham? Various model specification and estimation techniques seem to interact to produce highly variable estimates. Even with most of the effort focused on the single issue of the duration of advertising effectiveness, little convergence of expert opinion is forthcoming. But before concluding that this is either a tolerable result or a reason for dismissing the whole intellectual approach, we should consider some alternative research strategies. Since some of the difficulties with "lydiametrics" stem from the extent to which the models successfully encapsulate the reality, let us look at alternative approaches to understanding the role of advertising in the history of a product.

*Probably no clearer contrast exists between the relative contributions made to the understanding of advertising by traditional and econometric analyses than between two studies that examined the sales and advertising history of Sapolio soap from 1885 to 1915.*

The more traditional of the two studies examined a wealth of source material and managerial decision variables to paint a picture of the changing market conditions and to suggest the inadequacies of the managerial responses and the reasons for the product's steady decline. In the process, numerical data were treated casually, with tables interpreted by inspection and the numerical analysis restricted to calculation of percentage shifts over time and regional breakdowns of aggregate data. The second study took the same data (and only the numerical data) and fit it to a model in a search not for the reasons for the product's
decline, but for demonstration that the elasticity of demand with respect to advertising changed over the life cycle of the product. A comparison between these two studies evidences both the relative power of the methodologies to draw inferences and the kinds of questions for which the methodologies are best suited.

The older, more traditional of the two studies is Tull's (28) "Re-examination of the Causes of the Decline in Sales of Sapolio," in which he examined and challenged the conventional wisdom of the advertising trade that it was management's reduction in advertising activity that precipitated the dramatic decline in sales for Sapolio soap at the turn of the century. Drawing upon numerous secondary sources, as well as archival records, Tull began by sketching the history of the firm and the product from 1869, the date of the first concentrated promotional effort for Sapolio. He commented on early attitudes toward advertising, the firm's advertising policy of honesty and integrity, financial difficulties in the 1870s, the hiring in 1884 of the ingenious Artemes Ward as advertising manager, the growth of competitive firms and their advertising, the introduction of powdered cleansers, and the reaction of the firm to each of these developments.

For much of this history precise data were not available, but shortly following Ward's appointment detailed records of advertising and sales were started, allowing a closer examination of the advertising history from 1885 to 1915. The first tabulation of these records offered annual sales for hand and cake Sapolio and annual aggregate advertising expenses, the breakdown of these expenses for the two products being unknown. From this table Tull noted by inspection that sales of both products individually and in the aggregate began their decline in 1906 and fell substantially in 1907, although advertising was reduced only slightly. Advertising expenditures stabilized from 1909 to 1913, while sales continued their decline, falling more than 40 percent during an eight-year period. Major reductions in aggregate advertising were not evident until 1914, years after the downturn in sales had begun.

Having cast doubt on the conventional wisdom that a loss of faith in advertising per se was the cause of the downturn, Tull presented a table of advertising expenditures by medium for the year 1885 and the period 1895–1915 inclusive and noted, by inspection of the percent allocation to various media, that no major shift in the media mix occurred during the critical period from 1904 to 1908. This finding argued against the hypothesis that a less efficient media allocation policy was the precipitating cause of the downturn.

Tull's examination of the advertising scrapbooks of the company showed that hand Sapolio was the subject of an intensive print media campaign from 1902 to 1904, during which time its sales increased some thirtyfold from the 1901 levels, only to decline as advertising for hand Sapolio was reduced to a sustaining (inadequate?) level. Even at its
peak, however, this product never accounted for more than 15 percent of the firm's sales, so even if this campaign strategy failed to sustain sales for hand Sapolio, it does not explain the magnitude of the total sales drop.

Having found no reason to blame the promotional policy in his cursory examination of the data, Tull turned to discussion of the other major elements of the marketing mix: the product, price, and distribution policies. By examining company records, reading contemporary trade journals, interviewing former sales managers, and corresponding with executives in competitive firms, Tull discovered that powdered cleansers were advertised heavily and enjoyed substantial sales growth throughout the 1890s. By 1905, all three of the major meat-packing houses—Armour, Swift, and Cudahy—had entered the cleanser market, and each had entered with a powdered cleanser rather than a cake cleanser like Sapolio. This policy was followed by the forerunner to Bab-O in 1910 and Bon-Ami in 1913.4 The Sapolio management was convinced that the trend to powdered cleansers was ephemeral and that

4 It seems likely that Armour, Swift, and Cudahy would constitute quite serious competition, having substantial financial reserves, marketing organizations, and managerial sophistication, even if not much experience yet in packaged consumer goods. Their entry by 1905, especially if supported by consumer advertising, could well be the reason Sapolio never again reached its 1905 peak in sales. Tull does not make much of a case around the specific competitors, preferring to fault the management for not recognizing the underlying trend upon which these competitors were capitalizing—the consumer preference for the convenience of powders over the economy of caked cleansers. While his point is the more important and generalizable historical lesson, the entry of specific powerful competitors serves better to explain the timing of Sapolio's demise. Tull's comparison of the regional percentage breakdowns for sales of Sapolio in 1905 and 1915 shows that, while sales were declining in all regions, the loss was concentrated in the midwestern states easily served by the Chicago meat-packing firms.
housewives would return to the economy of cake soap. They encouraged this with an "economy" advertising campaign from 1910 to 1914 and refused during this period to introduce a powdered cleanser. The campaign failed, and the convenient powdered cleansers continued their penetration of the cleanser market. Throughout this critical period the firm maintained a conservative posture in other ways as well as in its product policy. It utilized traditional distribution through agents to grocery wholesalers, refusing to deal with chains until 1922, long after chains had established their importance. Their pricing was also stable over this era, and retail price levels were enforced through agency contracts until 1911.

In sum, then, Tull attributed the decline of Sapolio not to a reduction in advertising expenditures, but to a failure on the part of management to recognize the shift in consumer preference from caked soaps to powders, compounded by a distribution policy that excluded the increasingly important chain stores. This conclusion was reached by examination of the variety of information sources upon which historians have traditionally relied: company archives, including letters, minutes, policy documents, and scrapbooks, as well as financial reports and internal data documents. External sources included correspondence with competitors, trade journals, contemporary magazines, and miscellaneous secondary sources and reference works. From this collection of bits of information, Tull faced the problem of finding a scenario consistent with the diverse evidence. As part of the analysis, he drew observations from tabularized data that simple transformations, like annual differences or percentage calculations, would make obvious.

Compare Tull's approach to that taken by Parsons (22), who examined the data provided by Tull for sales and advertising over the thirty-year period from 1885 to 1915, and only that data. His purpose was more narrow: to search for the relationship between the elasticity of advertising and the stage of life cycle of the product. He estimated the elasticity of sales with respect to advertising not just once, as an average over the time span, but for every year covered by the data series.

As in virtually all econometric studies, there were several problems with the basic data. As Parsons noted, there were only thirty annual observations, and the series captured only a portion of the product's life cycle. The series began sixteen years after Sapolio was first the subject of a promotional campaign, and the product had been in the firm's product line well before that. While advertising expenditures were deflated by dividing by a general price index to eliminate the spurious suggestion of changing elasticities that inflation or deflation would cause, it would have been preferable had an index of the price of advertising existed that could be used as a deflator. The sales figures used are for cake Sapolio
alone, while the advertising data are for the aggregate of both hand and cake. The problems of data validity, and the fact that the data are from a short time period, reduce the a priori probability of detecting significant results even if the phenomenon exists.

More serious concerns arise when one looks closely at the model specification. Marketing variables likely to be influencing the pattern of sales were not included at all in the specification. It can be argued from Tull's observations that both price and the channels of distribution were relatively invariant, but this does not imply that they can be ignored. While company policy may have changed little, the market and competitive conditions changed substantially. Competition, channel usage, consumer preferences, and especially the advertising copy changed dramatically, with the "Spotless Town" campaign started in 1900 and the "economy" campaign in 1910.\footnote{The "Spotless Town" campaign featured clever verse and cartooning that caught the popular fancy of young and old alike: "Allusions to Spotless Town became common on the stage, in newspaper text and cartoon, in public speeches and in political controversies, until the phrase got into the language as a synonym for cleanliness, order, and perfection. . . . With the exception of the Ford automobile, no commercial product ever received so much secondary and free advertising as Sapolio got from . . . this campaign" (24, pp. 378–379). The entry of an advertising idea into the popular culture is no guarantee, however, of its sales effectiveness ("ask the man who owns one").}

The studies of Sapolio contrast in terms of the different types of hypotheses the methods are capable of addressing, the breadth of the information from which inferences are drawn, and the subtlety of the inferences of the two methodologies. It would be tempting to conclude that these two different analytic methodologies have each produced insights of value. This conclusion would permit the mutual coexistence of both methodological approaches, despite the tendency for new esoteric methods to displace conventional research techniques which seem more laborious and pedestrian, even if they produce results of greater historical validity. On the other hand, in Clarke's (8, p. 15) words, "it is tempting to reject the whole [econometric] research tradition since it has not led to reasonably consistent results."

As these studies illustrate, a host of problems confronts the analyst in both specifying an appropriate model and finding and processing the data to verify the specification.

The available data may be plagued with a number of difficulties. Discontinuities in the data may result from loss of records, changes in record-keeping procedures, and different aggregation policies. The
available data may be from inappropriate time frames. For example, advertising expenditures are likely to be recorded as the bills are received from the agency and not in correspondence with the media placement of the advertising itself. Corporate promotional and selling expenses cannot easily be broken down and allocated to various brands or products. Data are often aggregated on different bases. For example, sales force records and media placement records may use different geographical definitions in their territorial breakdowns. The identification of competition may change from territory to territory or over time, and the aggregation and weighting of various competitors’ prices into a single variable involve questionable assumptions.

On top of this sort of difficulty with data is the problem of model specification. Unfortunately for the analyst, markets seem to respond to various promotional efforts in ways that are certainly nonlinear. Some may show threshold effects, requiring a minimal promotional effort before any market response is noted. Interaction effects may also be problematic, as would be the case if a successful advertising campaign depended in part on the success of the field sales force in getting shelf space for a new product. The specification of an appropriate model is by no means easy, and “on the whole these decisions rest on a mixture of theory, intuition, previous experience, introspection, and causal empiricism. It does not seem possible to explain precisely the genesis of these decisions” (25, p. 52). Certainly, data availability plays a significant role in determining the (mis)specification.

The attraction of the Lydia Pinkham data for econometric analysts is easy to understand. The marketing strategy of that firm greatly simplified the analytic task and provided, it seemed, an opportunity for the demonstration of the capacity of the analytic methods to identify relatively unconfounded consequences of advertising efforts. But even with a nearly ideal brand history on which to show the capacity of the methodology, data availability still constrains the modeling effort and tempts assumptions of dubious historical accuracy. Never has the original data base been seriously expanded. Never have traditional sources of information been gathered to validate the basic model structure or suggest revisions. Dramatic results might override one’s fastidiousness with the accuracy of the analytic presumptions, but unfortunately such results have not been forthcoming.

If one feels that the best empirical research evolves out of theory providing both verification and modification and that the best empirical research is oriented toward substantive rather than methodological issues, then the research tradition to date must be judged disappointing. “Unfortunately, many studies reverse the above procedure and infer a theory from the estimated model” (2, p. 473). A wide variety of tech-
niques has been brought to bear on the Lydia Pinkham data, but this battery of techniques has not yielded a corresponding wealth of insight. The typical researcher adds little in the way of new information and seems content with trying to draw new inferences from the existing information. These new inferences are not often well reconciled with previously reported results, and many authors are critical of previous efforts in a way which implicitly suggests that previous results ought to be ignored: "Too much of our attention and effort has been spent in finding fault with individual efforts, and our focus has too often been to tear down rather than to build upon the work of others" (9, p. 348).

There is an even more compelling reason to lack confidence in the results. It is characteristic of an academic discipline or research tradition to witness a convergence as it matures. In the literature reviewed here, there is little consensus on matters of either method or substance. New and varied analytic tools have been applied to the Lydia Pinkham data with little evidence that the latest technique employed is superior to its predecessors and with little likelihood that other researchers in the area will adopt any particular methodological innovation.

Perhaps, given the diversity of analytic tools employed, the diversity of results reported is more understandable, but it is no more acceptable, and it is entirely destructive of the confidence one would like to maintain in the ability of "lydiametrics" to generate findings of substance. The various authors still disagree on whether advertising effectiveness for Lydia Pinkham decays exponentially, or if there is a delayed mode in the effectiveness response curve. Estimates of the duration of effectiveness range from three months to seven years and show no sign of converging.

Many of the distinctions debated by the analysts in this tradition are of sufficient subtlety to have virtually no impact upon the profit optimality of the advertising allocation decision (7, 18). This implies that, even under the best of conditions, and blessed with hindsight, an analyst could not convincingly compare actual advertising practice with some normative standard. This raises serious doubt as to whether analysis of this type will ever be very helpful in understanding or evaluating the effectiveness of advertising, especially in more complex situations and even if a miraculous unanimity of analysis emerged.

Given that the Lydia Pinkham history provided analysts with ample opportunity for the demonstration of the power of their methodologies, and given the apparent sophistication of the econometric methodologies, it is discomforting to note the inconsistencies of the conclusions of various analysts, the severe and long-unnoticed bias that may result from analyzing annual data, and the pragmatic and public irrelevance of the findings.
What at first appeared sophisticated now seems like sophistry. This unfortunately parallels the worst of advertising, where the promise far exceeds the product.

REFERENCES

Contents

3 Intercom

8 The Languishing of "Lydiametrics": The Ineffectiveness of Econometric Research on Advertising Effects by Richard W. Pollay

24 Mass Media and Language Planning: Singapore's "Speak Mandarin" Campaign by Eddie C. Y. Kuo

36 Alternatives for Local and Regional Radio: Three Nordic Solutions by Donald R. Browne

56 Home Video Recorders and the Transience of Television Broadcasts by Mark R. Levy and Edward L. Fink

72 Lessons from Videogames and Media: Effects on the Young

73 • Family Patterns and Television Viewing as Predictors of Children's Beliefs and Aggression by Jerome L. Singer, Dorothy G. Singer, and Wanda S. Rapaczynski

90 • Children's Fear Responses to Mass Media: Testing Some Piagetian Predictions by Joanne Cantor and Glenn G. Sparks

104 • Television Viewing and School Achievement by Mark Fetler

119 • Predispositions about Learning from Print and Television by Gavriel Salomon and Tamar Leigh

(continued on p. 2)