

Underestimating Advertising: Innovation and Unpriced Entertainment

BY LEONARD NAKAMURA

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lthough advertising is often the object of much disrespect, it nonetheless plays a significant role in the economy. For one thing, it helps consumers find out about new products, and new products have been rising in economic importance. Therefore, this relationship between new products and advertising makes it worthwhile to revisit the economics of advertising. In this article, Len Nakamura discusses advertising's role as a productive economic activity as well as its value as a long-term investment and its role in subsidizing entertainment, such as TV and radio broadcasts.

It's easy to disrespect advertising. Ads interrupt football games, impede news reports, and slow Internet searches. It should be no surprise, then, if the social usefulness of advertising is underestimated. Even economists, usually so mindful of the benefits of free markets, have often been unaware of the multiple benefits advertising provides.

Consider its role in new product development, the source of so much economic progress. If potential users

don't find out about new products so that they can buy them, firms will have little incentive to create them. That's where advertising comes in: It helps consumers learn more quickly about the existence and properties of new products, so they can buy them, thereby making themselves, as well as the firms that made the products, better off.

Advertising thus helps firms and users benefit more from creativity. Larger returns increase the expected rewards to creativity, encouraging new product development and productivity gains. Since new products have been rising in economic importance, this nexus between new products and advertising makes it worthwhile to revisit the economics of advertising. Advertising — although widely disrespected — can be an unusually productive

economic activity. Two other aspects of advertising are often overlooked: its value as a long-term investment and its role in subsidizing entertainment such as TV and radio broadcasts.

ADVERTISING: HOW IT WORKS AND HOW WE VIEW IT

Advertising has been derided as being, on its face, a creator of wasteful monopoly. In this view, advertising creates an artificial monopoly that, in turn, compensates the maker of the advertised product for the expense of advertising. Consumers would be better off without advertising. The additional price paid for the advertised product may waste economic resources if it does nothing to enhance the product. The British economist Nicholas Kaldor worried about this aspect of advertising in his seminal article. Can advertising do anything to enhance a product? It is only words and images, smoke and mirrors.

Advertising Reduces Search Costs. Is it so obvious that words really do nothing? Perhaps advertising makes a product more valuable to consumers. To see how it can do so, we begin by recognizing that advertising is a form of communication, of transmitting information. The systematic study of information transmission dates from University of Chicago economist George Stigler's classic 1961 article on information. In that article, he directly addressed advertising, arguing that it can be defined as communicating with consumers about products.

Stigler focused on the simple case of consumers who know a product exists but not where to buy it, and who might have to expend time and energy



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to locate it. In this case, advertising that lets consumers know where to buy a product (or its price) can lower the consumers' search costs. A bird in hand being worth more than *one* in the bush, advertising raises the price a consumer will pay at a given location.

Advertising New Products.

Another type of informative advertising tells consumers about the qualities of new products. New products are protected from competition by patents and copyrights, but these protections do not inform consumers about the existence of the new products and their attributes. This is the job of advertising; advertising helps consumers adopt new products faster, speeding profits for the new product's developers. Since the developer's monopoly is only temporary, speed is crucial. For example, the now-familiar silhouette iPod dancers have been used to help create awareness of the Apple iPod and induce millions of new consumers to participate in the legal downloading of music. In turn, Apple reaped large rewards for this more convenient method of obtaining music.

Persuasion to Change Consumer Preferences. Advertising of well-known products that doesn't provide price or seller locations does not appear to be informative. Consumers know that beers and colas exist. How then does advertising create value? One answer is that advertising persuades. The industrial economist Richard Caves wrote in 1967, "[Advertising] seeks to change our preference patterns and create wants which our private introspection would deny.... Where advertising departs from its function of informing us and seeks to persuade or deceive us, it tends to become a waste of resources."

In this view, persuasion is seen as a distortion of desire. Consumers don't know their true desires in the wake of advertising or possibly didn't

know their true desires before the advertising. But can we use the tools of economic analysis to study consumers who have a distorted view of their wants, either before or after a change in preferences? Economists Avinash Dixit and Victor Norman in their 1978 article argued that we should not include distorted preferences in welfare analysis, but they note that we can analyze how the consumer is affected if we use either criterion consistently: the

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consumer's pre-advertising preferences or post-advertising preferences.

To understand what this means, consider an alternative mechanism for a change in preferences. For example, a hot summer may boost consumers' purchases of air conditioners. We judge the new quantities as being right for the consumer, given that the hot summer has occurred — we don't use the purchases from a cool summer to argue that consumers have been fooled. With persuasive advertising, however, demand has changed, but without anything concrete to point to as the cause of the change. In this view, consumers have been fooled. But if consumers can be fooled, they can also wise up — they can be "unfooled." For any specific piece of advertising, you don't know which has occurred. So what to do?

Dixit and Norman argued that if you obtain the same results using either criterion, you have a convincing analysis. And once you consider both, they argue that under either standard, most persuasive advertising is likely to be excessive from society's point of view. They point out that if advertising raises the consumer's demand for a product, two effects raise the advertiser's profit. One is that consumers are willing to buy more of a product at any given price, making themselves and the advertiser better off. To this extent, consumers' and advertisers' interests are aligned, and advertising may be a good thing.

But a second effect is that advertising may either raise or lower the price of the product. If the price rises, all consumers of this good pay more for each unit of the good; the advertiser is made better off without any corresponding benefit to consumers. To that extent, the advertiser has an incentive to spend money on advertising without benefit to consumers; advertising is a pure cost — what economists call a deadweight loss. Furthermore, Dixit and Norman show that as long as this second incentive exists, firms with market power will spend too much on advertising. They show that as advertising approaches the level that maximizes the advertiser's profit, the last dollar spent is entirely this pure cost. This analysis does not imply that society would be better off banning advertising, but it does imply that in these cases, we would certainly be better off with a little less advertising. One way of getting advertisers to reduce their spending would be to apply a small tax to advertising expenditures.

On the other hand, it is possible that the price to consumers could fall as a result of advertising, for example, if having a larger market could result in lower per unit costs. In this case, consumers are better off, according to

the post-advertising tastes, although it is possible they could still be worse off under pre-advertising tastes.

This analysis is valid whether we choose the consumer's preferences before or after the advertising as the valid criterion, but it assumes that advertising has no impact on the product's *true* value to the consumer. The last dollar of advertising gets the consumer to buy a tiny bit more of a product, so that the marginal benefit to the consumer is, at best, very small and fully offset by what the consumer is paying for the product. But what if advertising affects the true value of customers, e.g., suppose advertising is informative. Then the last advertising dollar reaches a consumer who wouldn't otherwise buy the advertised product, and this transmission of information can potentially have a large benefit.

Thus, when advertising is informative, the last consumer is made better off from the last dollar of expenditure.

Advertising to Change the Product and Not Preferences. Stigler and Gary Becker argue that as a general methodological principle, economists should think first of changes in tastes as reflecting a change in the *product* itself, rather than as a distortion of consumer preferences. In this view, advertising can make *any* product a new product. As a consequence, advertising generally has large benefits for consumers. Is this argument reasonable? Can this "new product" view of advertising be extended to examples that appear to be persuasion?

One easy example is that an existing product might be advertised because a new use has been found for it. For example, aspirin acts as a blood thinner to reduce the risk of heart attacks. This raises the demand for aspirin because of information gleaned from studies of aspirin.

A less scientific example of a new use for an existing product is fast food. Fast food was once seen mainly as a summertime treat, but McDonald's pioneered the idea that fast food could be eaten in the winter, as a cheap break from the routine of home cooking. In the late 1960s, McDonald's used advertising on Macy's Thanksgiving Day parade and the Super Bowl to

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suggest to consumers that they didn't need to wait until summer to enjoy a Big Mac. In the wake of the advertisements, winter sales rose dramatically — and seasonal patterns were permanently affected. Similarly, consumers once thought long-distance phone calls were too expensive for chatting. As long-distance prices fell, AT&T's "Reach Out and Touch Someone" commercials, which urged consumers to call their relatives and friends long distance on Sundays, changed consumer phone habits permanently.

Commercials may provide information through images that are an indirect or highly abbreviated form of communication. For example, an Apple iPod permits a consumer to carry around a lot of songs, effectively freeing the listener from having to carry a stack of CDs and a comparatively bulky player, and to move freely without the music skipping. All of this freedom is suggested by the hip/silly motions of the iPod silhouette dancers; this image would then lead a potential buyer of an iPod to engage in additional investigation before actually buying an iPod.

Also, the fact that a product exists doesn't mean we remember to buy it. In that case, advertising may act like a Post-it® note to remind us of products we have forgotten to buy recently. After all, habit is a tricky business. As consumers, we value both familiarity and variety. But because we have limited memory, it is hard to keep these in balance. We replace items we like with new items as we seek variety, but we may forget how much pleasure we got from the old item, until an advertisement reminds us to go back to it.

As TV viewers, we may be excessively irritated by advertising and see it as being uninformative because it isn't informing *us*. Most of the time, we aren't in the market for the car being advertised or have already decided what beer or vacation we prefer. The advertising is directed at someone else, someone more open to the subject of that product (who, we may feel, is a weak-willed victim of persuasive advertising). In this case, all the ad in question does is get in the way of our entertainment. If each person is enlightened by only 1 percent of all ads, the gains to advertiser and shopper may outweigh the costs. Advertiser and shopper would be better off if somehow advertising became less scattershot. But that doesn't mean that, given the technology at hand, advertising isn't informative in its impact.

Different observers will inevitably have different perceptions about the extent to which advertising is persuasive or informative. Nevertheless, as the importance of new products rises, the informative component of advertising is likely to rise with it, leading more people to believe in advertising's social benefit.¹

¹ See my 2003 article on evidence for the growing — and substantial — amount of economic activity devoted to creating new products.

INFORMATIVE ADVERTISING: HOW VALUABLE?

Let's look a bit more closely at informative advertising. It is not like the normal economic products for which we can rely on Adam Smith's Invisible Hand to assure us that the market provides the right amount of economic activity in producing and consuming them. Usually, the Invisible Hand theory applies to products that competitors are free to duplicate and whose price, therefore, accurately reflects the cost of reproducing them.

Economists Gene Grossman and Carl Shapiro looked at this more complex product — advertising — and asked whether producers have the right incentives to produce informative advertising when there is more than one advertised product. They showed that there are two opposing forces: Information about products makes consumers better off (“consumer surplus”) but at the expense of other producers (“business stealing”).

Consumer Surplus. Information about a product increases the likelihood that a consumer will purchase a good that has more value to him than the goods he is replacing. The average new consumer reached by an ad would be willing to pay more for a product than the producer is asking, even though the producer is making an additional profit because of market power. To this extent, too little advertising is provided. The consumers who have not been reached by advertising would be better off if they could pay the advertiser to reach them, because they would gain more than the payment would cost them, but such payments are difficult to arrange.

Business Stealing. Advertising typically induces some consumers to switch from one firm with market power to another, thereby depriving the first firm of some monopoly profit. So some of the profit the second firm

receives from the new consumption is “stolen” from the old producer. To this extent, producers have too much incentive to advertise. Put another way, the first firm would be better off if it could bribe the second firm not to advertise. But, again, this trade is difficult to arrange and moreover may violate anti-trust laws.

In addition to these two effects, however, when advertising includes entertainment as a byproduct, consum-

ers derive an additional benefit. This makes it more likely that advertising is actually undersupplied. Moreover, because all new products need to be advertised, the additional costs of advertising may limit the creation of new products. So if we take advertisement into consideration, the arguments for subsidizing new products are likely stronger.

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ENTERTAINMENT AS A BYPRODUCT OF ADVERTISING

Consider the advertising-fueled rise of radio. Radio was a crucial development in the 20th century and took hold beginning around 1923. Radio broadcasts helped jazz burst out on a national and international scale, suddenly changing the course of world music and defining the decade of the 1920s as the Jazz Age. Other examples of radio's impact were FDR's fireside chats, baseball play-by-play, and the CBS symphony orchestra's performances.

The rise of TV broadcasting in the 1950s also depended on advertising, and much of the rise of the Internet was spurred by advertising. Of course, the compliment went both ways. These innovations lowered

the cost of advertising. They saved resource costs while offering advertisers greater diversity in their ability to reach target audiences.

Stigler discussed the use of entertainment to attract buyers to information. He argued that the assimilation of information is not easy or pleasant and that buyers will assimilate it more easily in an enjoyable form — just as air conditioning a store makes shopping more enjoyable. Consumers are more

likely to buy products whose information is broadcast in the most easily absorbed form.

Zero: An Uncomfortable Price for Economics. Entertainment that's a byproduct of advertising may fly beneath the radar of economics, however, because it has zero price and so zero sales in nominal terms. How can a good have a zero price if it is valued by consumers? This can happen if the good is sold along with another; that is, it is a *joint product*. When entertainment and the advertised item form a joint product, they are much like honey and pollination as the joint product of bees. If farmers are willing to pay a lot for pollination services, the supply of honey will soar and the price of honey could fall to zero if honey went into excess supply.² Similarly, entertainment and news may be free: Just as the price of honey might fall to

²When honey prices are high enough, beekeepers may have to pay farmers to situate their hives in their orchards. Thus, pollination services may have a positive price in certain circumstances, such as when farmers pay beekeepers to pollinate their fields; in other circumstances, pollen becomes an input into beekeeping and pollination has a negative price.

zero, advertising can make the price of an entertainment fall to zero.

The price of entertainment subsidized by advertising could also be zero because it is difficult to collect payments from the consumer. That is, the entertainment producer might prefer to charge consumers a positive price, but the cost of collecting the price might make that infeasible. For example, broadcast radio and TV function by sending signals off into the ether, where radios and TVs receive them for free. Nowadays these broadcasts can be sent encrypted, as they are with satellite and cable TV, to collect fees from the consumers. But back when radio and TV were first invented, the electronic devices capable of such coding and decoding were far in the future. So the technology made it necessary to have the broadcasts supported by advertising, rather than by direct sale.

WHAT IS FREE ENTERTAINMENT WORTH TO CONSUMERS?

How important have expenditures on entertainment been? Neil Borden's pioneering 1942 book on the economics of advertising introduced the notion that news and entertainment media are subsidized by advertisement and empirically estimated the size of the subsidy.

First, let's look at the heyday of radio. In 1935, total advertising expenditures on radio were \$80 million, according to Borden, roughly 0.1 percent of GDP. Roughly half of that went to entertainment — payments to live talent, transcriptions of shows, and leases of phonograph records. Economically, this is small potatoes. Culturally, however, it was a revolution.

One piece of evidence for radio's revolutionary impact is the expenditures it displaced. As broadcast professional music substituted for music cre-

ated in the home, sales of pianos and other home instruments fell. Economist F. M. Scherer shows that the timing of the decline of expenditures on home instruments coincided with the rise of radio sales: The explosion of radio sales from 1923 to 1925 coincided with a steep drop in piano sales, particularly player pianos.³ In 1923, 344,000 pianos were produced in the U.S.; by 1929, the number had fallen to 121,000, a nominal sales decline of \$67 million (U.S. Census of Manufactures, 1925 and 1931). And this is just one of the many areas affected. No doubt the ability to hear the CBS orchestra or Louis Armstrong on the radio raised the recreation enjoyed by consumers.

What about the rise of television? In a very nice study, Roger Noll and his co-authors present quantitative evidence on the monetary value of the rise of TV. How can we find out what consumers would pay for an item they receive for free? The answer Noll and his co-authors found was that some potential TV consumers could not receive broadcast for free, and they argued that the amount these viewers were willing to pay was a window into the value of TV for all consumers.

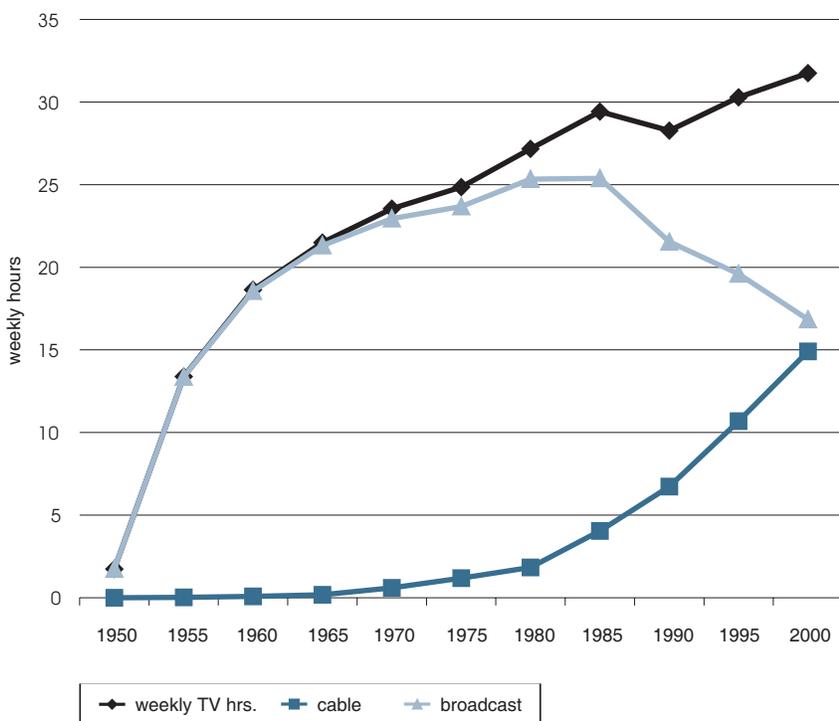
In sparsely populated areas of rural America, broadcasters did not find it worthwhile to send signals over the air; the cost of the transmitters could not be justified. A commercial solution that became available in the 1960s was community cable TV. The amount consumers who were not served by broadcast TV were willing to pay for receiving the broadcasts via cable is a clear measure of the monetary value of the usually free broadcasts. It

³At the same time, the quality of phonographs was improving dramatically. Moreover, there was clearly a complementarity between radios and phonographs, as exposure to music over the radio encouraged sales of phonograph records.

turned out that, by 1969, 80 percent of households in areas served were willing to pay \$5 a month for no-frills cable access to regular broadcast TV. Noll and his co-authors argued that consumers who did have access to TV broadcasts would have been willing to pay at least the same amount to receive the broadcasts, if they had had to. Five dollars a month, spread across 80 percent of all U.S. households, would have amounted to \$3 billion, or about 0.4 percent of household income.

But this estimate is actually on the low side. When Noll and his co-authors did a careful job of estimating the total amount that consumers would have been willing to pay, they came up with a much larger number: 5.1 percent of household income in 1969. They arrived at this number by using variations in cable TV charges, characteristics of the households, and the availability of partial broadcast TV in some areas, to tease out exactly how much each of the three broadcast network channels was worth to consumers. (At the time, there were only three broadcast channels: CBS, NBC, and ABC.) The fact that in some areas one or two channels were available over the air enabled them to put a price on each additional channel, based on the reasoning that each additional channel available over the air should lower the demand for cable. However, the precise number (5.1 percent) depends on the exact type of equation used.

This raises the question: Is such a large number plausible? One measure of the impact on consumers is what they did with their time. Families stayed home in huge numbers to watch broadcast TV (Figure 1); by 1970, Americans were spending 22 hours a week watching. This is a striking shift in consumers' use of leisure time — plausibly one-fourth of weekly leisure time after we eliminate work (including household production ac-

FIGURE 1**Cable and Broadcast TV
Weekly Viewing Hours**

Note: These data splice together data on annual viewing hours for 1984 to 2000 from Veronis Suhler Stevenson published in the 1994, 1999, and 2003 *U.S. Statistical Abstract*, with average viewing per day data for 1984 and earlier from A.C. Nielsen from the *U.S. Statistical Abstract*, 1985 and earlier. The two series do not agree in 1984; the former gives 1,520 hours per year, which is 29.2 hours per week, while the latter gives 7 hours per day, or 49 hours per week. I forced the Nielsen data to equal the Veronis Suhler Stevenson data in 1984.

tivities), commuting, and sleep hours.⁴ Clearly, free television outcompeted a lot of alternatives, both free and costly, for consumers' limited time. To get

⁴Time diary data from the American Time Use Survey show that in 2004, Americans 15 and older spent 2.6 hours per day (18 hours per week) watching television as their primary activity. This does not count time when the television set is on but something else — such as eating or household chores — is the primary activity. Unfortunately, the time-use survey does not publish data on TV watching as a secondary activity. Even if we take the time-use survey as a better measure, the implication is still that watching television is a major leisure activity of American adults.

a better feeling for expenditures on leisure-time activities, consider those recreational and personal care activities that consumers pay for—which includes services such as movies, cable TV, beauty salons, golfing, and spectator sports, and goods such as books, electronic equipment, and toiletries. Consumers spent about 8 percent of their income in the late 1960s on these leisure-time goods and services, according to the U.S. Bureau of Economic Analysis. TV by then had become the dominant form of leisure, so perhaps a consumer value of 5 percent

of income for TV is not implausible, although it may be an overestimate.⁵

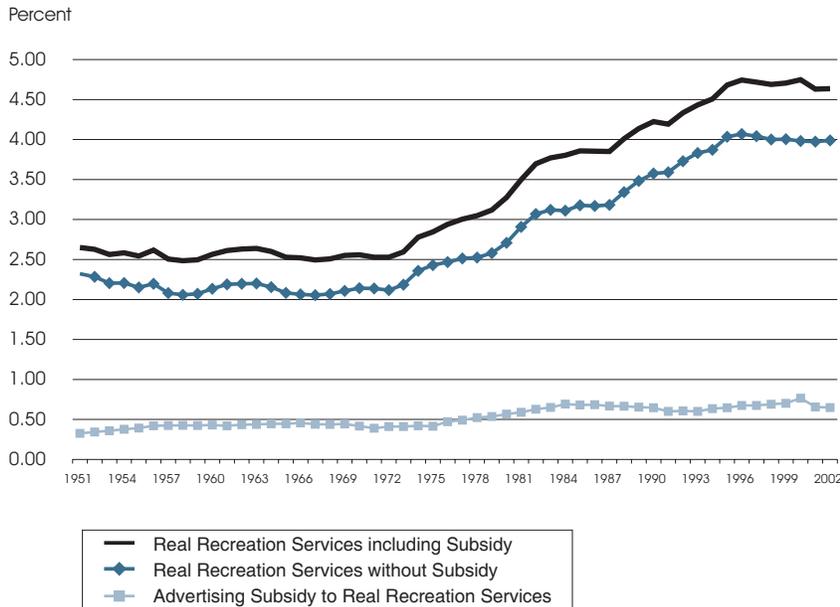
Do we see this shift in consumer expenditures on alternative forms of recreation, the way we saw the decline in player pianos? Economists would have expected expenditures on recreational services, as a luxury good, to be rising as a proportion of expenditures, since per capita real incomes were rising and households could afford more luxuries. Instead, real recreational services fell as a proportion of expenditures in the 1950s (Figure 2). As happened with radio, consumers substituted TV for other forms of priced entertainment.

Thus, free entertainment and news played an important role in making consumers better off. We have already pointed out that corporations may be better off over sustained periods of time because of advertising. How might these factors figure into our calculations of the value of economic activity? Should they affect how we look at profitability and U.S. output? I will argue that the answer is yes.

**ACCOUNTING FOR
ADVERTISING**

Let's consider how advertising appears in the national accounts. To take the elements of the analysis step by step, let's start by thinking about advertising without entertainment, and let's consider short-run advertising, whose impact is simply to raise sales in the same period in which the advertising is purchased. When a mail order company sends out a catalog of clothing items, the costs of the catalog

⁵Personal care and recreation does not include, for example, hotels, restaurants, foreign travel, air travel, cars and gasoline, household services, or religious and social welfare activities.

FIGURE 2**Recreation Services as Proportion of Personal Consumption Expenditures With and Without Subsidy**

Source: U.S. Bureau of Economic Analysis and author's calculations from Nakamura (2004).

are paid for by the sales the company rings up from it. The costs of designing, printing, and mailing the catalog (the inputs) show up as income to those who created the advertising, while the catalog itself (the output) is simply considered part of the sweaters and other clothing sold. Thus, the advertising shows up nowhere in output, except as an ingredient of the items sold, just as the cost of the warehouse where the sweaters were stored is an ingredient.

The same thing holds true for advertising with entertainment. When a "Seinfeld" rerun appears on TV, its cost and its entertainment value are considered just like the postage in a direct mail solicitation — from the perspective of the national accounts,

the entertainment's only value is to sell the advertised product.

Entertainment. How should our official national income measures account for the benefit gained from entertainment that is a byproduct of advertising? If we are to accurately measure economic growth in the U.S., we should include the contributions of radio and TV broadcasts to consumption. Normally, entertainment is included in personal consumption expenditures according to its total sales. But the total sales of radio and TV broadcasts are zero, despite their quantity being positive, because their price is zero to the consumer.

But when these zero-price products became available, consumers were very much better off than they

had been, as has been documented. How might we show a sensible, positive value for consumers? One way to measure the contribution would be to argue that the free entertainment services paid for by advertisers, e.g., Jerry Seinfeld's salary for TV performances, would have been paid for by consumers. After all, these entertainment services are bid away from alternative paid entertainment venues (e.g., Jerry Seinfeld's forgone Las Vegas revenue). If the economy is reasonably efficient, Jerry Seinfeld's TV performances are more valuable to consumers than his potential Las Vegas performances, so the measure is a reasonable minimum.

If we value this entertainment at cost, taking Seinfeld's salary as this cost, we are taking an approach parallel to that of other zero-priced products, such as government-supplied education. That is, in the national accounts we value public education at its cost.

Suppose that radio and TV entertainment services paid for by advertisers amount to 20 percent of recreational services paid for by consumers, as they did for much of the 1960s and 1970s. Then we can estimate that the effect of these services is to increase the total real quantity of recreational services 20 percent. So real expenditures go up 20 percent. Nominal expenditures are unchanged (since these services are being supplied at zero price). The net effect is to reduce the price of recreational services. This makes sense: The consumer has obtained 20 percent more services without spending any more. The effect of this calculation for radio and television is shown in Figure 2, where we have mapped out the part of ad expenditures on radio and television that go to providing consumer entertainment.

Note what has happened here. A dollar of advertising shows up in more than a dollar's worth of output. It

shows up in the value of the advertised product as a dollar's worth of extra value for the consumer and the advertiser. How sizable is this extra value? In my 2004 working paper, I have made some rough estimates of the part of advertising that goes into consumer entertainment. There I have estimated that for each dollar spent on broadcast television advertising, some 60 cents of free entertainment is produced — raising recreation output without raising costs. Because broadcast TV and radio advertising expenditures amount to about \$60 billion, entertainment is boosted by \$36 billion. Advertising has become an unusually productive economic activity. According to my rough estimates, if we add in contributions to all media, advertising adds close to \$70 billion in entertainment consumption to U.S. output.⁶

Advertising in Corporate Income and Expense Accounting. Let's briefly go over the issue of how to best incorporate advertising in corporate income and expense accounting, an issue I've already addressed in more detail in my 2003 article on intangibles.

Currently, advertising expenditure is typically expensed; that is, the total cost is recognized immediately and subtracted from income. This is the correct treatment of advertising to the extent that profits are recouped during the same period in which expenses are laid out. For example, a department

⁶There are two ways in which advertising should be included in the national income accounts but is not. One is that the entertainment subsidized by advertising should be included in personal consumption expenditures. The other is that some proportion of advertising expenditures should be considered investment. Until this proportion is estimated and included in investment, gross investment in advertising will be underestimated in the national income accounts, where it is all treated as if it were short-lived. See my 2003 paper for additional discussion.

store or an auto dealership advertising a Thanksgiving weekend sale will garner all the value from this advertising in that weekend, and it is properly expensed. A going-out-of-business sale is the pure type of an advertising expense that has no long-run value.

The principle here can be illustrated by considering a \$10 million machine that lasts 10 years and creates \$2 million worth of value each year. One way to account for it would be to expense it in the first year of production. The firm would show a loss of \$8 million in the first year, and a profit

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of \$2 million in all the others. The alternative is to capitalize the investment and expense it over the 10 years of its useful life. The firm's expenditure would show up as a \$10 million capital item, whose value depreciates \$1 million each year. Only the depreciation would show up on the income and expense statement. If we do this, the firm shows \$1 million in profit each year. Accountants have decided that this latter approach makes more sense for physical investments, since, in fact, the firm is not doing poorly the first year and suddenly improving for the rest of the decade but is making a nice profit each year.

So if Apple spends \$150 to manufacture an iPod and \$50 to advertise it, then sells it for \$200, its profit is zero — provided the advertising has not created a durable asset, such as brand loyalty, for Apple. But if the advertising makes it possible for Apple to continue to sell iPods for

nine more years without continuing to advertise, the advertising should be expensed over the 10 years that Apple sells the product. Advertising that confers a long-term advantage in the marketplace should be capitalized and depreciated, which spreads out the expense over the useful life of the advertising. For example, some products, such as prescription drugs, have strong temporary monopolies, and advertising for them may properly be depreciated over the patent's lifetime. Other products, such as breakfast cereals and cola beverages, build brand loyalty that can last for many years.

A practical difficulty is that it may be hard to know in advance how long-lived advertising is going to be. How long will iPod be a successful product? Will the consumers who are led to buy a product continue to think that it's a good product — or will a new product offer greater value?

Many articles have explored the longevity of advertising and obtained different results. What most of the studies have shown is that not all advertising is long-lived, but they also suggest that at least some advertising is long-lived. The general practice of expensing advertising of new products will result in profits being understated in the short run and overstated in the long run. This problem is similar to that associated with the expensing of research and development.

Unfortunately, it is not easy to analyze how advertising can have very long-lived value. Even when one can build up such a picture, it is difficult to analyze with certainty how much of a company's or an industry's long-lived market power is due to advertising. While a few studies, such as Aviv Nevo's study of the ready-to-eat breakfast cereal industry, have very carefully attacked the question of how long-lived market power and profitability can survive, there are not enough

such studies to form a coherent picture of long-lived advertising power.

One avenue that needs greater pursuit is the relationship between advertising and new products. To the extent that new products create permanent gains in consumption, advertising may be said to have a permanent asset value to society. This is a line of research where much empirical work remains to be done.

CONCLUSION

What do we make of advertising? One view is that advertising is wasteful, annoying, and distorting. There may well be a significant part of advertising that fits this view. But there is a very large, and growing, portion of advertising that is informative and constitutes a social benefit, as is the case with most economic activity. Moreover, we have identified a part of

advertising – the part that subsidizes entertainment – that contributes to consumer welfare but has not been counted in output. When we add up advertising's contributions, they appear to be substantial. Two cheers for advertising — or maybe four? ☞

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