Taking Account...

"Free" media in GDP: An experimental approach

"Free" consumer entertainment and information from the Internet, largely supported by advertising revenues, has had a major impact on consumer behavior. For national economic accountants and productivity analysts, dealing with such goods and services has proven challenging.

In a recent working paper, Leonard Nakamura of the Federal Reserve Bank of Philadelphia and Rachel Soloveichik and Jon Samuels, both of the Bureau of Economic Analysis (BEA), introduce an experimental gross domestic product (GDP) methodology that includes advertising-supported media in GDP. The paper studied four categories of advertising-supported media: (1) print newspapers or magazines, (2) broadcast television or radio, (3) cable and other nonbroadcast television or radio, and (4) online media.

The paper calculates that including "free" media in the input-output accounts has little impact on either GDP or total factor productivity (TFP). The authors estimate that between 1998 and 2012, nominal GDP growth falls 0.005 percent per year. After introducing price indexes for "free" media, real GDP growth rises 0.009 percent per year, and TFP growth rises 0.016 percent per year. The average annual changes to GDP and TFP are even smaller before 1998.

The paper estimates the contribution of "free" media from the supply side by measuring the advertising expenditures that support them. For example, the paper does not directly capture the value of Google Maps; it only measures the cost of providing it. This can be interpreted as a lower bound on the contribution of "free" media to output and productivity, but it is consistent with the standard methodologies for estimating an industry's contribution.

In this approach, Google Maps would be included in final expenditures when used by a consumer to plan vacation driving routes. But it would be considered a business input when used by a restaurant to plan delivery routes.

This experimental methodology captures such activity while staying within the framework of the *System of National Accounts 2008*. As with owner-occupied housing, the paper imputes production and consumption even though no money changes hands. In particular, it imputes a barter transaction between media users and media companies: media users watch ads in return for "free" content.

GDP accounts. On the expenditure side, it imputes consumer media purchases equal to the net cost of providing those media services to consumers. These costs are paid by advertisers; thus, "free" apps are effectively advertising-supported entertainment. Media could have been supplied through nonadvertising-supported media, and indeed, they can be thought of as having been bid away from direct purchases. For example, driving directions can be downloaded from an advertising-supported Web site like Google or a subscriber-supported Web site like PCmiler.

Balancing those additional consumer media purchases on the income side, the methodology imputes income to viewers that are in effect paid to view advertising, with those payments equal to the cost of providing entertainment programs. This income equals the additional consumer media purchases.

Industry accounts. For media industries, the authors impute additional gross output equal to the value of "free" media and additional intermediate inputs equal to the value of advertising viewership. For the rest of the private sector industries, the paper imputes additional gross output equal to the value of advertising viewership produced and additional intermediate inputs equal to the value of "free" media used.

For both media and nonmedia industries, the additional business outputs precisely cancel out the additional expenditures on intermediate inputs; measured private sector value added and private sector GDP do not change.

(This summary uses language from the paper itself. It was prepared by Survey of Current Business *staff in conjunction with the paper's authors.)*