
A Measurement Framework for Free Platforms in the SNA

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Organization of this Presentation

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Treatment of Free Platforms in the Core National Accounts and a Satellite Account

Motivation and Context

Free services from platforms have become widely available in the digital economy

Debate continues over whether these free services are missing from GDP

The *2008 System of National Accounts* doesn't discuss free products from market producers

Treatment of the free products of the digital economy in the updated SNA is under discussion

Here I give my personal views on a treatment of free platforms in the core national accounts and in a satellite account or table annex

Free Products, Unpriced Products, and Externalities in the 2008 SNA

In the 2008 SNA, free and (producer) subsidized outputs are supplied by governments and NPISH

The output of these non-market producers is valued by the expense of producing it, not its price

“Actual” final consumption of households includes *social transfers in kind* from government/NPISH

Non-market transactions in the SNA include barter and transfers in kind

An imputed expenditure to purchase the unpriced item is funded by imputed income

The imputed income flow is classified as a current transfer in the case of a transfer in kind

Externalities are not transactions in the SNA – one of the reasons GDP doesn’t measure welfare

Positive externalities and spillovers don’t count as output

Negative externalities don’t subtract from output

Bundling Subsidized Items with Marked Up Items

Subsidized and free outputs are commonly supplied by market producers (i.e., businesses)

The subsidies help sell other items that carry mark-ups

Examples include “freemium” software, free software that helps sell services, and ink-jet printers

Despite the subsidies, the supplier’s output is correctly measured by the revenue generated by the bundle

The buyers of the marked-up product are the acquirers of the free/subsidized product, so household final consumption is correctly measured

But the relative values applied to other uses of the subsidized and marked up items may affect GDP: subsidization of capital goods/software by marked-up services and supplies may depress investment

Subsidized Services of 2-Sided Platforms

OECD (2019) defines platforms as service providers that facilitate interactions between two or more parties

Two-sided platforms have a free/subsidized side and a “funder” side that pays mark-ups that fund the subsidies

Users on the two sides are different actors; the direct funder and recipient of the subsidies not the same

The subsidized users fund the subsidies indirectly through a chain of transactions in which the funders recover their costs in the transactions with the subsidized users facilitated by the platform

Both the platform and its funders have enough measured output for net operating surplus to be positive

Inclusion of Platforms funded by Advertising in Nominal GDP

Many of the most widely used platforms are funded by advertising

Free/subsidized media attracts the large audience that advertisers want to reach

The platforms recover the cost of the attracting the audience as part of the prices paid by advertisers

The advertisers then recover the cost of advertising as part of the prices of the advertised products

SNA 2008 treatment of free television reflects the way prices of the advertised products include mark ups that fund the advertising that funds the free television (Lequiller and Blades, 2014)

No special procedures are needed to get free television into GDP, as it is a kind of indirect intermediate input

Digital Platforms

In addition to selling advertising, **digital** platforms collect users' personal data ("observable phenomena")

User's data are mostly an input into targeted advertising, but may be sold or transformed into long-lived data assets

Cases where the personal data collection takes place with the user's understanding and consent can be viewed as bartering a license to collect one's personal data in exchange for the platform's services

Barter is handled by imputing expenditures and income (in this case a rent for license to collect users' data)

Cases where platforms take users' data without their understanding and agreement don't count as transactions

Which kind of case predominates is debated

Digital platforms also fund free services from their own resources to benefit from network externalities

Free Platforms and Real GDP

Most questions about welfare concern its growth, and come down to issues of the deflator

In principle, consumption deflators should reflect changes in the availability of free products

For example, if a free social media company were to start charging subscription fees, to avoid an overstatement of growth, the new expense should be reflected in the deflator

The price index for the bundle falls when an item in the bundle becomes free (and vice versa)

Savings from new free items that fulfill the same function as a priced item previously consumed can be used to construct the price index for household final consumption

Experiments on willingness-to-accept can help us to incorporate the consumer surplus from appearances of free digital products in real consumption growth (Brynjolffson et al., 2019 and 2020)

Alternative Treatment of Free Platforms in Nominal GDP

Free services to attract audiences are part of the production technology for advertising and are included in final expenditures on the advertised products, just like other intermediate inputs

Yet, different from other outputs, platform services that attract audiences/users can be viewed as consumed twice, once as part of advertising, and simultaneously by the users when they interact with the platform

For example, when a user enters a search term into Google, they are receiving software services

Should GDP reflect the platform users' direct consumption of services meant to attract them by imputing expenditures on those services? After all, counting some output of platforms twice is not the same thing as adding standard intermediate inputs to GDP.

Reasons to keep GDP as is in the Core National Accounts

The services to platform users in the audience assembly part of the process of producing advertising services are a positive externality of that process

Key purposes of nominal GDP require a measure of the kind of production that generates spendable income

Unlike imputed income, money income can be used to pay employees, buy things, save, or pay taxes

Replacing the current definition of GDP with one that adds large amounts of imputed expenditures and income would make the accounts less useful

Inconsistencies would be hard to avoid in implementing the new treatment of free and subsidized platform services, and the estimates of the value of the free services might be speculative

Supplementary Information on Free Platforms in a Satellite Account

Information on the amounts that platforms spend on supplying free services would provide useful insight into their contributions to the economy, as these services can be viewed as simultaneously consumed by the platform in production of services to its funders and by its users

These amounts belong in an addendum section of a table or a satellite account

A satellite account could also provide an alternative perspective by adding the double consumption to the value of the platform's output; in other words, by imputing expenditures funded with imputed current transfers

Distinguishing income from rents vs. current transfers is not important, as neither purchases services

The value of the lost privacy of the users of digital platform doesn't seem feasible to estimate, but its importance could be mentioned in a footnote