Methodological annex n°1: A new estimate of hidden activity in 2020 benchmark

In national accounting, all forms of hidden activity within the territory by economic agents must be included in the Gross Domestic Product (GDP), including those that cannot be directly observed because they are hidden or informal. For the 2020 benchmark, the hidden activity of declared businesses was estimated based on more recent and detailed data from tax audits using innovative econometric methods. As a result, the impact of hidden activity on GDP was overestimated in the 2014 benchmark, due to a poor accounting of certain fraudulent behaviors. Conversely, the impact on production was underestimated. In the 2020 benchmark, €36.8 billion in 2019 are added to GDP for the hidden activity of declared businesses, a decrease of €7.7 billion compared to the 2014 benchmark.

1. What is hidden activity in national accounting ?

The 2008 System of National Accounts (SNA 2008) defines production as "an activity carried out under the responsibility, control, and management of an institutional unit, which uses inputs (labor, capital, goods, and services) to produce outputs (goods and services)." National accounting aims to account for all economic activities within a territory, regardless of whether these activities are legal or illegal, declared or undeclared. As the SNA 2008 notes, "accounting for the underground economy is necessary to obtain a complete measure of production and consumption, and also to avoid errors that might appear elsewhere in the accounts. Indeed, the income generated by illegal production can be used in a perfectly legal manner; conversely, expenditures on the acquisition of illegal goods and services can be made with funds obtained in a completely legal manner." It is worth noting that services produced by households for their own use are excluded from national accounts production mainly because it is an independent activity with little impact on the rest of the economy and because the vast majority of services produced by households are not intended for commercialization.

Therefore, certain illegal or hidden activities must be accounted for in national accounting. The main illegal activities recorded in the French accounts are activities related to drugs or tobacco smuggling [► La prise en compte des stupéfiants dans les comptes nationaux en base 2014, mai 2018, Insee]. Legal activities can be divided into two categories: those declared by registered entities and those considered hidden or off the books, which include both the hidden activity of declared entities and the productive activity of undeclared entities.

To measure activity, national accountants primarily use tax data. By definition, this source does not account for hidden activity conducted by declared or undeclared entities; therefore, adjustments are necessary. Some activities are assessed based on non-tax sources, such as actual or imputed rents from the national housing survey or agricultural activities from statistical surveys and censuses conducted by the Ministry of Agriculture or agricultural organizations. These activities do not need to be adjusted for fraudulent behavior. Thus, the hidden activity estimated for national accounts is not a direct estimate of tax fraud or the entire scope of hidden activity, but only the portion that escapes the data sources used by national accountants.

The measurement of hidden activity conducted by declared enterprises is estimated using tax audit databases. In the 2014 benchmark, this measurement was based on an estimate from tax audits conducted in the early 2000s. Therefore, it was necessary to update this work with more recent and detailed data using new exploitation methods.

Estimating the activity of entities without legal existence is more difficult due to the lack of data sources. Some surveys can be conducted on these activities [► De nombreuses entreprises informelles pour peu de richesse créée, Sylvain Daubrée, Insee, 2015], but they are challenging to implement comprehensively (in terms of geographical scope or range of economic activities). Thus, a large part of this hidden activity is determined by expert judgment and selectively assigned to activities suspected of being niches for clandestine work (construction, personal services, etc.). Some of these activities concern domestic work. This activity is easier to measure thanks to various household expenditure surveys, such as the Household Budget survey. In the 2020 benchmark, only the estimate of hidden household activity for domestic work was reassessed to account for changes in household behavior related to various fiscal measures taken regarding domestic employment.

2. Innovative use of tax audit data

In the 2014 benchmark, the hidden activity of declared enterprises was estimated using tax audit data from the early 2000s [► L'évaluation de l'activité dissimulée des entreprises sur la base des contrôles fiscaux et son insertion dans les comptes nationaux, Claudie Louvot-Runavot, Insee, 2009]. It was assumed that there were "two major categories of fraudulent enterprises, according to national accounts: those that underreport their revenue and those that do not, but fraudulently inflate their expenses," both aiming to minimize their profits to pay less tax.

A partnership between the General Directorate of Public Finances (DGFiP) and Insee, initiated in 2018, allowed for a new estimation of this hidden activity using tax audit data. The database utilized provides detailed information on tax audits conducted in 2014. The delays in exploiting these data are significant since the completion of tax audits, which can span several years, must be awaited. For this reason, the estimation was carried out for the year 2014.

This very rich source of information allowed for a better understanding of fraudulent behavior related to gross value added. The two major categories of fraudulent enterprises were indeed identified, but among those that conceal their revenue, some also conceal their expenses to maintain a consistent profit margin in their declarations, likely to avoid tax audits. Thus, the different concealment behaviors do not have the same effect on gross value added: while concealing revenue and inflating expenses cause an underestimation of the gross value added derived from tax returns, concealing certain expenses results, on the contrary, in an overestimation of the gross value added from tax returns. Accounting for this fraudulent behavior in the 2020 benchmark leads to a downward revision of the impact of the hidden activity of declared enterprises on gross value added.

In addition to considering these fraudulent behaviors, updating the data and using innovative statistical methods allowed for revised estimates. A study published by Insee in 2023 [► Estimation de l'activité dissimulée pour le changement de base 2020 des comptes nationaux, Simon Quantin, Cécile Welter-Médée, Insee-Crest, 2023] re-estimated the hidden activity of declared enterprises. By treating the sample of audited enterprises as survey respondents, undeclared revenue and undue expense declarations identified during tax audits can be extrapolated to all non-financial corporations and individual enterprises within the scope of national accounting. The main challenge is correcting the selection bias, as tax audit services target businesses they believe are most likely to commit significant fraud. To best correct this selection bias, the method used was inspired by non-response adjustment methods through reweighting, specifically by using homogeneous response groups [► Estimation des montants manquants de versements de TVA : exploitation des données du contrôle fiscal, Simon Quantin et Cécile Welter-Médée, Insee, 2022]. Based on estimated rates related to revenue by activity, the 2014 estimates are extrapolated to the base years 2019 and 2020.

Furthermore, the hidden activity of households employing domestic workers was also re-estimated by comparing data from the Family Budget Survey, which records all household expenditures, and the Tax and l'Enquête revenus fiscaux et sociaux, which records expenditures incurred by a tax household for employing a domestic worker as declared in their tax returns. The revisions resulting from these changes are of lesser magnitude: the payroll is revised downwards by a few hundred million euros [► notes consommation ménages].

3. The gross value added of the hidden activities of declared enterprises is revised downwards, while their production is revised upwards

In 2019, the hidden activity of declared enterprises amounts to €36.8 billion in the 2020 benchmark (compared to €44.5 billion in the 2014 benchmark). This downward revision of €7.7 billion is primarily due to accounting for fraudulent behavior aimed at underreporting expenses alongside underreporting revenue. Thus, hidden activity has very little effect on intermediate consumption of enterprises in the 2020 base, whereas in the 2014 base, the impact was significant (€3.8 billion compared to -€24.7 billion in the 2014 benchmark). Conversely, hidden production is revised upwards in the 2020 benchmark: €+33.0 billion compared to €+19.9 billion in the 2014 benchmark. About 60% of this hidden production is carried out by non-financial corporations, and 40% by individual enterprises. The main sectors hiding their activity remain unchanged between the two benchmark revisions : trade, human health and social work activities, accommodation and food service activities, and business services.

The downward revision of gross value added related to the new estimate of hidden activity by declared enterprises directly affects the GDP level in value terms.

4. Links/Bibliography

Reference	Link
La prise en compte des stupéfiants dans les comptes nationaux en base 2014, mai 2018, Insee	https://www.insee.fr/fr/statistiques/6793580?sommaire=6793644#documentation-sommaire
De nombreuses entreprises informelles pour peu de richesse créée, Sylvain Daubrée, Insee, 2015	https://www.insee.fr/fr/statistiques/3320117
Household budget survey	https://www.insee.fr/en/metadonnees/source/serie/s1194
L'évaluation de l'activité dissimulée des entreprises sur la base des contrôles fiscaux et son insertion dans les comptes nationaux, Claudie Louvot-Runavot**, Insee, 2009	https://www.insee.fr/fr/statistiques/1381029
Estimation de l'activité dissimulée pour le changement de base 2020 des comptes nationaux, Simon Quantin, Cécile Welter-Médée, Insee-Crest, 2023	https://www.insee.fr/fr/statistiques/7657318
Estimation des montants manquants de versements de TVA : exploitation des données du contrôle fiscal, Simon Quantin et Cécile Welter-Médée, Insee, 2022	https://www.insee.fr/fr/statistiques/6478533
Enquête revenus fiscaux et sociaux	https://www.insee.fr/fr/metadonnees/source/serie/s1231
Notes consommation ménages	Tome 4 La consommation des ménages en services - fiche produit du HT97Z0A (Services domestiques proprement dit) https://www.insee.fr/fr/metadonnees/source/serie/s2144/documentation-methodologique

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