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ISSUES NOTE: Action point A.9: Consistency in measuring
the output of central banks

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The recommendations for measuring the output of central banks in the 2008 SNA and ESA 2010 are slightly different. The difference mainly relates to whether or not certain central bank services are to be considered market output. In addition, differences exist when it comes to the identification of the counterparty sector who consumes the relevant services. This issues note looks at the measurement of central bank output more generally, and also at the potential to arrive at an improved consistency for the treatment of central bank output across international standards for national accounts.

Section I: The issue: differences in international standards for national accounts

1 In line with paragraph 6.151, the 2008 SNA identifies three categories of services provided by the central bank:

- (i) monetary policy services;
- (ii) financial intermediation services; and
- (iii) supervisory services.

Monetary policy services are considered as “... *collective in nature, serving the community as a whole, and thus represent non-market output*”. The use of these collective services is to be allocated to general government, with a current transfer from the central bank to government as counterpart transaction. On the other hand, “*financial intermediation services are individual in nature and in the absence of policy interventions in the interest rates charged by the central banks would be treated as market production*”, payable by the units to whom they are delivered. Supervisory services are typically borderline cases and can be non-market or market, depending on the level of fees as compared to costs. If they are market, they are recorded as intermediate consumption of financial intermediaries. If they are non-market, they are to be recorded as government consumption expenditures.

2 In the case that the above delineation between the three categories cannot be made, the 2008 SNA recommends to treat the whole output of the central bank as non-market, to be valued at the sum of costs (see paragraph 6.152), and the part for which no explicit fees are being charged should be allocated to government.

3 The ESA 2010 also distinguishes between the above three categories of services. Furthermore, output of central banks is considered as non-market output, to be measured at the sum of costs. In this respect, it is noted that trial calculations of financial intermediation services indirectly measured (FISIM) for central banks in Europe have proven to provide

¹ A significant part of the text for this issues note has been derived, one-to-one, from the short article in SNA News and Notes No. 36; see <https://unstats.un.org/unsd/nationalaccount/sna/nn36-en.pdf>.

unsatisfactory results. Consequently, ESA 2010 states, in paragraphs 14.06 and 14.16, that in Europe no FISIM should be calculated for central banks. The part of the total central bank output which is not “sold” (= sum of costs less explicitly charged fees) should be allocated, by convention, to intermediate consumption of other financial intermediaries, more precisely to deposit taking corporations, except the central bank (S122) and other financial intermediaries, except insurance corporations and pension funds (S125) – in proportion to the respective value added of each of these sub-sectors, with a counterpart current transfer from the central bank.²

4 Although the measurement of output of central banks could be considered as broadly consistent (see also below), the allocation of output to users clearly differs. The alternative ways of allocating the services to users have a direct impact on the measurement of Gross Domestic Product (GDP). According to ESA 2010 methodology, any activities of the central bank (except fees explicitly charged to government or households) will not affect GDP and final demand. On the other hand, according to the methodology of the 2008 SNA, disregarding the explicitly charged fees, GDP and final demand will be affected, as the central bank output is allocated to government. Thus, the full implementation of the relevant recommendations for the treatment of the output of the central bank may present an issue for international comparability of data on GDP and government final consumption across countries. All of this is quite unfortunate, and one would like to arrive at an improved consistency between the international standards for national accounts. This issues note looks at possible options for improving the consistency across standards.

Section II: Discussion of options for the treatment of output of central banks

5 The ESA approach to measuring the total output of central banks as the sum of costs can be looked upon as a simplified application of the more detailed guidance provided by the 2008 SNA, and thus, in this respect ESA 2010 can be considered to be broadly consistent with the 2008 SNA.

6 Looking at the various types of services, one could say that ESA 2010 differs from the 2008 SNA in that it explicitly excludes FISIM provided by the central bank. In addition to the measurement issues, as alluded to in the above, one may also arrive at a similar conclusion from a more conceptual perspective. First of all, central banks usually do not hold loans and deposits, predominantly to/from financial corporations and government, for commercial reasons. One could also say that central banks are atypical financial intermediaries, which take on liabilities and engage in lending *not* with the purpose of earning a margin between the corresponding income streams, but to conduct monetary policy and meet other public

² Please note that, contrary to this statement, bullet k of paragraph 3.89 of ESA 2010 states that “*the non-market output of the central bank output should be entirely allocated to the intermediate consumption of other financial intermediaries (underlining by the author of this note)*”. This is inconsistent with paragraph 14.16 of ESA 2010, which states that this output should be allocated to subsectors S.122 (deposit-taking corporations except the central bank) and S.125 (other financial intermediaries, except insurance corporations and pension funds), although this paragraph also makes a wrong reference to “other financial intermediaries”. It is also inconsistent with bullet i of paragraph 4.138 of ESA 2010, which states that other miscellaneous current transfers also include “*the counterpart transfer from the central bank to MFIs (S.122 and S.125) to cover the intermediate consumption of the non-directly allocated part of the output of the central bank*”.

functions. Even though their activity facilitates the channelling of funds between lenders and borrowers, their decisions in terms of volumes intermediated and/or prices charged are not motivated by the same considerations which are relevant for “regular” financial intermediaries like commercial banks. As such, the concept of FISIM could thus be considered as irrelevant for them and certainly non-representative of their actual output. Similar reasons may have led to not considering the recording of FISIM for the ECB and the IMF. Furthermore, for a considerable part of the loans and deposits on the balance sheets of central banks, the interest rates are set in such a way that they have an impact on the market interest rates, thus also affecting the reference rates for the calculation of FISIM, directly and indirectly. The reference rate, which can be looked upon as an exogenous variable for banks charging FISIM, is to a certain degree endogenous for central banks.

7 In line with the discussion above, as a first proposal from this issues note, it is recommended to exclude FISIM from the estimation of central bank output in the updated SNA, for conceptual reasons and in view of an increased consistency between the SNA and ESA.

8 That leaves us with the treatment of services related to monetary policy and supervision. A first remark concerns the rather narrow description of services provided by central banks. **Therefore, as a second proposal from this issues note, it is recommended to broaden the notion of central bank services, by adding in particular references to “promoting financial stability” and “managing the payments system”.**³

9 Disregarding, for the time being, the broader delineation of services provided by central banks, it is clear that the guidance on the treatment of the central bank services in ESA 2010 differs from the guidance in the 2008 SNA. While ESA 2010 takes the services related to monetary policy and supervision together, values them at the sum of costs, and allocates the use of these services to financial corporations, the 2008 SNA makes a distinction between the two types of services. Services related to monetary policy, valued at the sum of costs, are considered as collective services for the benefit of the society as a whole, the use of which is to be allocated to government. On the other hand, the 2008 SNA offers two possible options for the treatment of services related to supervision. As explained in paragraph 6.153 of the 2008 SNA, one could look upon these services as collective services valued at the sum of costs and provided to government as well: *“In support of this view, one could draw a parallel with government performing market regulation policies, which it also may entrust to a specialized agency, or to government providing for roads, dams and bridges”*. Paragraph 6.154 of the 2008 SNA offers another alternative for recording these services, by looking upon them as benefitting the financial industry, because they *“... contribute to the functioning and financial performance of these institutions. From this perspective, they are comparable to regulatory services of government such as quality control on food and drugs, which the national accounts record as intermediate consumption of producers. The fact that financial intermediaries pay a fee for these services in some countries (for example in a number of countries in Latin America)*

³ Central banks may perform other tasks, which are difficult to include within the four functions identified. For example, they may act as banker of the government, or holding the national external reserves. However, this is ignored in the remainder of this issues note. Nevertheless, it may be good to include the following formulation in the updated SNA: *“The central bank provides several non-market services, including monetary policy, supervision, financial stability and payments system support”*.

supports this view. Following this reasoning, surveillance services are not collective services but should be recorded as intermediate consumption of financial intermediaries".⁴

10 Paragraph 6.154 of the 2008 SNA then goes on to state the following: *"However, even if the view is taken that supervisory services are market output because a fee is charged, if the fees are not sufficient to cover the supervisory costs incurred by the bank, then the services should be treated as non-market output and part of government consumption expenditure".* This is an addition which raises questions. If the relevant services are truly to be considered as market output, one would expect a valuation at the value of the total fees paid, without accounting for the differences between the sum of costs and the fees paid as collective services.

11 The above shows two reasons for distinguishing services related to monetary policy from services related to supervision. The first one concerns the valuation of output, which may be different in the case supervision services that can be regarded as market output. The second reason concerns differences in the allocation of supervision services, either to government or to the financial industry. Before discussing these two points, it is good to realize that any distinction in the treatment of the two types of services requires the availability of source data to allocate all operating cost elements to the relevant services.

12 The 2008 SNA argues that, under certain conditions, supervision services could be regarded as market output, although they basically maintain a valuation of output at the sum of costs, if the fees fall short of compensating for all the operating costs. However, even in the case of explicit fees which are relatively high as compared to the operating costs, one may wonder whether such fees are to be considered (i) as payments for compensating part of the non-market services that have been provided by the central bank, or (ii) as payments for the purchase of market services. The latter treatment would require that the fees can be considered as output intended for sale at economically significant prices, which is anyhow a rather strange notion, since the relevant corporations are obliged to pay the fees. One could also argue that these regulatory type of services are collective in nature, and not provided to individual entities. Paying a fee is not to be considered as a payment for the provision of services to the entity being supervised, but has more in common with a payment of taxes. This would also be in line with the general treatment of regulatory services, as recommended in Guidance Note WS.14 on Distinction between recording a tax, a services transaction and similar boundary cases. **Whatever the case, it is recommended to treat supervision services always as non-market output, to be valued at the sum of costs and consequently, as a third proposal from this issues note, to treat all services provided by central banks as collective services, to be valued at the sum of costs.**

13 As a consequence of the above, the valuation of central bank output in the 2008 SNA would be fully consistent with the valuation recommended in ESA 2010 and the most important remaining issue at stake concerns the allocation to users of the services produced

⁴ Apparently, the current SNA uses the terms "supervision" and "regulation" as largely equivalent terms. However, these functions are quite different. A supervisor is entrusted, inter alia, with ensuring that the supervised agents comply with the regulations put forward by the regulator. One could say that the ultimate regulator is always the government, while some regulatory functions might be delegated to the supervisory agencies.

by central banks. The 2008 SNA prescribes the allocation of this output, excluding the payments made by financial corporations, to general government, while ESA 2010 has a preference for allocating the use of these services to subsectors S122 and S125 within the financial corporations' sector.

14 When it comes to monetary policy services, it is quite evident that these services are collective in nature. The services are benefitting the community as a whole. It would be difficult to argue that monetary policy, which is first and foremost directed at price stability and/or full employment, is primarily benefitting financial corporations.

15 For supervisory services, it may be more difficult to make a definite choice. Arguments can be presented for both ways of allocating the use of these services. However, the stronger arguments seem to point in the direction of looking upon these services as being provided for the benefit of the society as a whole, to safeguard the society from poor business practices. One could add to this that the supervision services are usually not put in place to safeguard an individual financial corporation from putting their own funds/reserves at risk, which first and foremost would be the responsibility of the relevant corporation and its shareholders. Another concern in this respect relates to the allocation of the use to subsectors S122 and S125, as recommended by ESA 2010. This seems to be a rather narrow group of users, as often other financial corporations may also fall under some form of supervision by the central bank.

16 Looking at the broader set of services provided by central banks, similar arguments as those used for the allocation of supervision services would apply to services related to promoting financial stability. Obviously, these types of services are critically important for financial intermediaries as a whole, but it goes without saying that they serve the broader financial system, including markets and market infrastructure, and the community as a whole as well. Most certainly, they cannot be considered as services provided to individual financial corporations. Concerning the management of payment systems, a stronger case can be made for allocating them to the financial industry, although they also benefit society as a whole.

17 Assuming that it is not possible to collect relevant source data for each of the services distinguished above, and that total central bank output is treated as non-market output measured using the sum of costs method, a number of questions still need to be answered. The first one concerns the recording of the payments by financial corporations, while the second question relates to the allocation of the non-market output. Based on the above discussion, the following options could be distinguished:

A. Recording of the actual payments as purchases of services by the financial corporations' sector, with the following options for allocating non-market output, in this case total central bank output *minus* actual payments for services:

A1. Collective services allocated to government, with a concomitant current transfer from the central bank to government (i.e., recording according to the 2008 SNA).

A2. Collective services to the financial corporations sector, with a concomitant current transfer from the central bank to the relevant financial corporations (i.e., treatment according to ESA 2010).

B. Recording of the actual payments as current transfers from financial corporations to the central bank, with the following options for allocating non-market output, in this case total central bank output:

B1. Collective services allocated to government, with a concomitant current transfer from the central bank to government.

B2. Collective services to the financial corporations sector, with a concomitant current transfer from the central bank to the relevant financial corporations.

C. Recording of the actual payments as taxes paid to government, which would require the recording of an imputed income flow from government to the central bank. Here too, one could distinguish two options for allocating non-market output, in this case total central bank output, although the first one seems to be the logical consequence of treating the actual payments as taxes.

C1. Collective services allocated to government, with a concomitant current transfer from the central bank to government.

C2. Collective services to the financial corporations' sector, with a concomitant current transfer from the central bank to the relevant financial corporations.

18 Yet another option, leading to a more substantial change of the 2008 SNA, would be the recognition of collective consumption by central banks, similar to what is currently done in the case of government and NPISHs. This would give the following additional options:

A3. Recording of the actual payments as purchases of services by the financial corporations' sector, while the consumption of non-market output, i.e., total central bank output *minus* actual payments for services, is allocated to the central bank.

B3. Recording of the actual payments as current transfers from the financial corporations' sector to the central bank, while the consumption of non-market output, in this case total central bank output, is allocated to the central bank.

C3. Recording of the actual payments as taxes paid by the financial corporations' sector to government, with a concomitant current transfer from government to the central bank, while the consumption of non-market output, in this case total central bank output, is allocated to the central bank.

19 All options, including the ones which are in line with the current guidance provided in the 2008 SNA and ESA2010, have their advantages and disadvantages. However, taking into account the considerations in the above, treating the services of central banks as services to the society as a whole (i.e., as non-market output) is preferred. Furthermore, if one would prefer to keep imputations of income flows to a minimum and is prepared to accept an extension of the notion of collective consumption, option B3 can be considered an attractive option.

20 The Advisory Expert Group (AEG) on National Accounts, at its meeting held on 29 – 31 March 2023, concluded, amongst others, the following regarding the recording and allocation of central bank output:

- *Agreed to treat all services provided by central banks as collective services, to be valued at the sum of costs.*
- *Requested the issues note be updated to present the two options to treat payments to the central bank as (i) current transfers with an allocation of the collective services to the final consumption expenditure of the central bank (i.e., option B3 in the above), and (ii) taxes with an allocation of collective services to government requiring a concomitant current transfer from the central bank to government (i.e., option C1 in the above); to add appropriate numerical examples for these two options; and to submit the revised note to the AEG for approval for global consultation.*

21 Given the arguments presented in this note, the two options preferred by the AEG can indeed be considered as the most logical ones. In both options, central bank output is considered as non-market output, to be valued at the sum of costs.⁵ Question is how to record the monetary transfers made by the financial corporations' sector – as current transfers to the central bank or as taxes to government –, and the allocation of the collective services to either the central bank or government. If the collective services would be allocated to the government, a recording of the monetary payments as taxes to government would be preferable. In the case the relevant services would be allocated to the central bank, a recording of the monetary payments as current transfers to the central bank seems to be the logical consequence.

22 The table below provides a numerical example of the recording in line with the two options. The following numbers have been used:

• Intermediate consumption	50
• Compensation of employees	100
• Consumption of fixed capital ⁶	25
• Interest received	100
• Monetary transfers by financial corporations	50

23 Output, valued at the sum of costs, i.e., intermediate consumption (50) *plus* compensation of employees (100) *plus* consumption of fixed capital (25), would thus add up to 175. The table below first provides a numerical example of the recording when allocating the collective services to the central bank (option B3). The recording is relatively straightforward, although it requires a change of the SNA by extending the concept of final consumption for own final use beyond general government and non-profit institutions serving households (NPISHs).

⁵ Here, for reasons of not further complicating the argumentation, possible market output of central banks, for example by providing training and technical assistance, are disregarded. The possible inclusion of such output does not have an impact on the main line of reasoning.

⁶ Please note that, pending the outcomes of the discussion on the consistent application of the sum of costs method, a return to capital has not (yet) been included. Again, this does not have a material impact on the discussion in this note.

24 The recording of an allocation of the collective services to government (option C1) is presented in the last two columns of the table. Here, the output of the central bank is allocated to government, instead of being allocated to final consumption of the central bank. This leads to additional intermediate consumption, output and final consumption of government. In addition, the transfers by the financial corporations' sector are recorded as taxes received by government. To compensate for these additional transactions, current transfers, equalling the difference between the services provided (175) and the taxes (50) need to be imputed as a current transfer from the central bank to government.

Table 1. Recording of central bank output

	Option B3	Option C1	
	Central Bank	Central Bank	Government
Output	175	175	175
Intermediate consumption	-50	-50	175
Compensation of employees	-100	-100	0
Consumption of fixed capital	-25	-25	0
Net operating surplus	0	0	0
Interest received	100	100	0
Taxes	0	0	50
Other current transfers	50	-125	125
Net disposable income	150	-25	175
Final consumption	175	0	175
Net saving	-25	-25	0
Net capital formation	25	25	0
Net lending/borrowing	0	0	0

25 The AEG on National Accounts, in a written consultation following the discussion at the March meeting, favoured option B3, mainly because of the simplicity of the recording, not requiring a variety of imputations. As such, the AEG accepted the more significant departure from the guidance in the current international standards, by accepting an extension of the notion of collective consumption for own final use.

26 Finally, it is recommended to record the transfers from the financial corporations' sector as current transfers to the central bank, and to allocate the collective services to the final consumption expenditure of the central bank (option B3).

Section III: Summary of recommendations

27 All in all, it is proposed to simplify the guidance for measuring the output of central banks in the updated SNA, as follows:

- 1. to remove, for conceptual reasons, the references to FISIM from the estimation of central bank output;**
- 2. to update the guidance regarding the typical services provided by central banks, by also recognising other services, for instance those related to promoting financial stability**

and managing the payments system. In doing so, one should also acknowledge the possible existence of other services provided by central banks;

3. to treat all services provided by central banks as collective services, to be valued at the sum of costs; and
4. to record the transfers from the financial corporations' sector as current transfers to the central bank, and to allocate the collective services to the final consumption expenditure of the central bank (option B3), although it requires a change of the SNA by extending the concept of final consumption for own final use beyond general government and non-profit institutions serving households (NPISHs). This option is thus preferred over option C1, and also options A1 (recording according to the guidance provided in the 2008 SNA) and A2 (recording according to the guidance provided in ESA 2010).