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## DZ.9 Incorporating Digital Intermediation Platforms into the System of National Accounts



## Digitalization Task Team

# DZ.9 Incorporating Digital Intermediation Platforms into the System of National Accounts<sup>1</sup>

## Introduction

- 1. This guidance note discusses the challenges involved in incorporating digital intermediary platforms (DIPs) into the system of national accounts.**
- 2. DIPs are a quintessential example of digitalisation's dramatic effect on the economy.** The digital transformation has allowed producers to interact with previously unreachable consumers (including those in other geographical locations) at relatively low costs, lowering the entry barrier and bringing in producers previously excluded from the market. At the same time, it has gifted consumers' unprecedented knowledge in regards to the different prices and quality on offer. Importantly, both sides of the transaction are able to derive economic benefit from using the DIP even if it charges an explicit fee for the intermediation service. It is for this reason that DIPs are now omnipresent in the economy, facilitating the exchange of almost all kinds of products.
- 3. While occasionally cited as an example of how digitalisation had detrimental effects on measurement within the national accounts (Coyle, 2017); on the face of it, the concern that DIPs have had a significant impact on possible mismeasurement appear limited (Ahmad & Schreyer, 2016) .** Most DIPs are part of the formal economy, undertaking market transactions like other economic units.
- 4. Conceptually, there is no reason why business-to-consumer transactions via DIPs would not be measured in the same manner as other economic units.** However, practical challenges to their measurement exist as does possible misunderstanding regarding the value added from these economic units. These challenges include;
  - Due to the business models relative infancy, some statistical classifications and data collections may have not kept pace, creating difficulty in properly identifying their specific economic activity, and value, in a timely manner, particularly if the DIP are non-residents.
  - DIPs change the traditional consumer / producer paradigm, which may create instances where households play a different role in production than before. This possibly causes the appearance of missing value added.
  - DIPS also act as a vehicle to create data as an asset, which is currently excluded from the SNA asset boundary, but can form a significant element of gross value-added created by these businesses<sup>2</sup>.
- 5. Intermediation is not new; within certain industries (i.e. travel agencies, ticket sellers) intermediation has been a standard business process for a long time.** However, digitalisation has not only transformed these previous business processes but has likely increased the overall

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<sup>1</sup> This guidance note was prepared by John Mitchell (OECD) in consultation with Richard Heys (ONS), Nicola Massarelli (Eurostat), Silvia Matei (IMF) Dylan Rassier (BEA), Michael Smedes (ABS), Erich Strassner (BEA) & Jorrit Zwijnenburg (OECD)

<sup>2</sup> A separate guidance note on the measurement of data has been prepared for global consultation.

amount of intermediation in the economy including by economic units operating in different geographical locations. It is no understatement to say that DIPs can now facilitate, from anywhere in the world, the purchase and sale of just about all products, ranging from household appliances to insurance to take-away food, just to name a few.

6. **Challenges related to DIPs from an SNA perspective include appropriate classification of the intermediation services in product and industry classifications, the recording of the related transactions, especially the cross-borders flows.** Related but not specifically addressed in this guidance note is how online platforms that do not charge an explicit fee for their services, (including those that undertake intermediating activities) should be treated. The guidance note on the provision of free digital services will provide more guidance about this subset of digital platforms<sup>3</sup>.
7. **This guidance note starts by explaining what a digital intermediary platform is and, importantly, how they differ from other types of digital platforms and online economic units.** The paper then elaborates why the proliferation in DIPs has caused some specific challenges for the macro-economic statistical community, before outlining options on how their transactions involving DIPs could be recorded and how DIPs might be incorporated into the relevant statistical classifications.
8. **No change to the SNA is proposed in this guidance note.** However, recommendations are provided to national statistical institutions (NSI's) and other task teams overseeing revisions to classifications.

## Background: What are digital intermediary platforms?

9. **The past few years have seen a proliferation of digital intermediary platforms, with both producers and consumers strongly embracing their use.** The Handbook on Measuring Digital Trade and the SNA guidance note on Digital SUTs define DIPs as; *“Business that operate online interfaces that facilitate, for a fee, the direct interaction between multiple buyers and multiple sellers, without the platform taking economic ownership of the goods or services that are being sold (intermediated)”*. (ISWGNA, 2021, OECD-WTO-IMF, 2019)
10. **Digital intermediary platforms are one subset of the broader group of digital or online platforms<sup>4</sup>.** In 2019, the OECD, after extensive consultation, proposed a broad definition of online platforms as “a digital service that facilitates interactions between two or more distinct but interdependent sets of users (whether firms or individuals) who interact through the service via the Internet”<sup>5</sup>. Importantly, this definition is for all digital platforms including those that are beyond the scope of DIPs.
11. **A definition taken up by the international standard of industrial classifications (ISIC) revision Task Team has somewhat combined these two definitions,** which considers intermediation

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<sup>3</sup> See presentation at the 14<sup>th</sup> meeting of the AEG;

[https://unstats.un.org/unsd/nationalaccount/aeg/2020/M14\\_5\\_3\\_2\\_Free\\_Digital\\_Assets\\_Services.pdf](https://unstats.un.org/unsd/nationalaccount/aeg/2020/M14_5_3_2_Free_Digital_Assets_Services.pdf)

<sup>4</sup> Online and digital are considered interchangeable in this note, as both terminology has been used in previous discussions. While the classification of the industry and product would need to consider the non-digital production, this note will focus on *digital* intermediary platforms only.

<sup>5</sup> See, An Introduction to Online Platforms and Their Role in the Digital Transformation, OECD Publishing, Paris, <https://doi.org/10.1787/53e5f593-en>.) Additionally this definition make a split between platforms and e-tailers and producers supplying services digitally by adding that the definition “*excludes businesses such as direct business-to-consumer (B2C) e-commerce and ad-free content streaming, as those serve only one set of customers. It does, however, include businesses such as third-party B2C e-commerce and ad-supported content streaming, because those services involve two separate sets of users*”.

activities as those that “facilitate transactions between buyers and sellers for the ordering and/or delivering of goods and services for a fee or commission, without supplying and taking ownership of the goods and services that are intermediated. These activities can be carried out on digital platforms or through non-digital channels. The fee or commission can be received directly from either the buyers or sellers, or revenues for intermediation activities can include other sources of income, such as third-party revenues from advertising”. It is important to note that the reference to the facilitation being done in exchange for an explicit fee is not mentioned in the second definition and made as optional in the third. This is because the last two are required to classify industrial activity rather than economic activity as defined by the SNA<sup>6</sup>.

- 12. Online platforms that facilitate non-economic interactions such as social media and discussion sites. While these could be considered online platforms, they are not DIPs<sup>7</sup>.** These online platforms may facilitate “interactions” between users, however there is no market transaction (nothing sold or bartered) and, importantly, from a SNA perspective, no explicit production occurring between the platform and either independent party involved in the interaction. This is in contrast with DIPs, which intermediate a transaction that not only creates an economic flow between two independent users, but also does so in exchange for an explicit fee (a market transaction) from either the producer, the consumer or both<sup>8</sup>.
- 13. Whether or not the DIP charges an explicit fee in exchange for facilitating a transaction is an important delineation point when classifying digital platforms for the purpose of national accounts.** The charging of a fee is clear evidence that the DIP is producing an intermediation service product and value added is being created by the DIP. Only DIPs “facilitating interactions between two or more distinct but interdependent sets of users” that charge an explicit fee will be considered, from a national accounts point of view, to produce an intermediation service product.
- 14. If a platform is not charging an explicit fee to either the consumer or producer, they are likely deriving their revenue from selling advertising space or information sourced from collected data.** Due to this, they should be classified based on the activity they undertake with consumers (content distribution, navigation, etc.)<sup>9</sup> despite not charging them for this activity. The value added they are producing (advertising services, data collection) are of course still included within the SNA production boundary.
- 15. Importantly, if no explicit fee is charged to either of the independent parties involved, no final or intermediate consumption of the intermediation service product is taking place.** However, similar to other units that provide ‘free’ digital services (particularly those provided to the household sector), the value of this digital service could be calculated and included in a satellite account as recommended in the SNA guidance note which discusses the creation of a satellite account for free digital services.

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<sup>6</sup> The OECD definition from “an Introduction to Online Platforms and Their Role in the Digital Transformation” was written for use by policy makers rather than an economic measurement perspective; due to this, the definition is deliberately broader. The third definition is specifically for industrial classification; due to this, the source of revenue (i.e. explicit fee or advertising) does not come into consideration when defining/classifying the unit only the activity being undertaken by the unit.

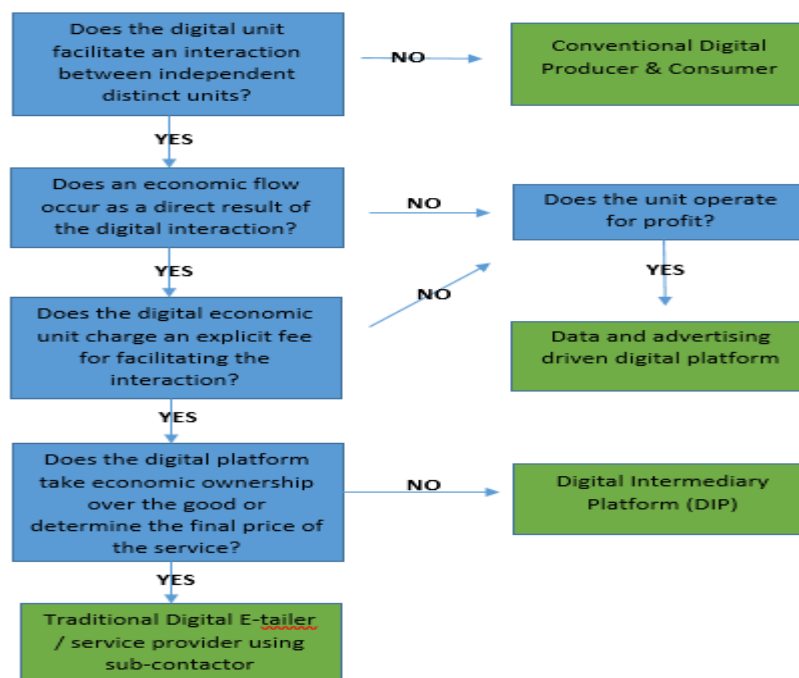
<sup>7</sup> Some examples of online platforms that are not DIPs are social media platforms (Tiktok, Instagram, Youtube), free newspapers, discussion forums (i.e. Reddit). DIP’s have a more specific purpose of facilitating a good or service such as Airbnb, trivago, Booking.com, Taskrabbit, and Push doctor.

<sup>8</sup> This guidance will focus on explicit fees paid by producers, as this is the circumstance for a majority of platforms. However, many DIPs take an explicit fee from both consumer and producer.

<sup>9</sup> The ISIC TT has recommended an expansion of ISIC division 60 “Programming and broadcasting activities” to include a specific class on content distribution, which would include blog sites and social network sites.

- 16. DIPs do not take ownership of the goods or provide the services that they intermediate.** This important condition is explicitly mentioned in the definition used by the Digital SUT, and the ISIC TT, while the Handbook on Measuring Digital Trade also includes the condition of not taking economic ownership of the goods and services being intermediated. This is a further important characteristic of DIPs and one that separates DIPs from traditional retailers or producers who may operate through a digital platform. Because they do not take ownership of the good or service that they are selling, the DIPs exhibit less ongoing business risks or costs. This is a stark contrast to the traditional re-sellers of goods who usually have some form of inventory, and certainly different from the provider of services who would have some form of employment relationship or contract (and the costs this incurs) with the people who would ultimately do the work<sup>10</sup>.
- 17. Figure 1 below outlines a basic decision tree that assists in allocating economic units to the relevant categories.** These include: Digital Intermediary platform; advertising and data driven platform; E-tailor/goods and service provider using sub-contractors; NPISH platform; and conventional producer. The delineation in this decision tree is purely from an SNA standpoint where one category is producing the intermediation service product and the others are producing other products such as retail, advertising and data analytics. For the purpose of the decision tree an economic flow is defined as per the SNA as “*the creation, transformation, exchange, transfer or extinction of economic value*”, while this usually occurs via an interaction between two economic units, thus becoming “*a transaction*”, not all interactions: that is, the act of engaging with another unit, automatically leads to an economic flow. Examples include interactions on social media, rating/review sites or discussion forums. In the decision tree, the determining decisions are coloured in blue with the eventual classifications in green.

**Figure 1: Decision tree detailing differences between DIPs and other producers**



<sup>10</sup> DIPs are also different from units that sub-contract out specific services on behalf of the consumer, as despite not doing the work themselves; they likely have a contract with the consumer that covers the entire work. This results in them having both, some risk regarding the quality of work and a final say in the overall price. A true intermediate has no control over the price that is charged by the producer to the buyer, despite being paid to facilitate the transaction. For this reason that some intermediates who advocate for one side more than the other may not be true intermediates, i.e. real estate agents.

## Background: Why do DIPs create challenges for national account compilation?

- 18. There is no fundamental conceptual measurement issue in regards to DIPs, theoretically, the production and consumption associated with them should already be included in the national accounts.** Similar to economic units producing non-digital intermediation services that are already included in the accounts, the transactions should be recorded for all three parties involved in the transactions. Consumers should record the spending made via DIP in consumption surveys, just as producers should record sales (and subsequent GVA) via DIPs in traditional business surveys. Finally, traditional business surveys should extend to DIPs themselves who are recording sales, expenses and subsequent GVA, similar to a conventional business.
- 19. Since the intermediation service as provided by the DIP is often not explicitly paid for by the final consumer, people may assume that no production is taking place and that no value added is being created.** In fact, DIPs often add an additional link in the production chain, moving “production” from a business providing a good or service to a new independent entity. In theory, rather than disappearing, a portion of the overall value added has just been transferred from the producer to the DIP in the form of a new (intermediation service) product.
- 20. While no conceptual measurement issue exist, there is however several practical measurement challenges.** These need consideration in order to arrive at a process that allows DIPs to be measured consistently and provide visibility of their transactions within economic statistics, these include:
- **The large amount of non-resident DIPs that may operate in a domestic economy.** The largest difference that digitalisation has made to the intermediation service industry is the ability for non-residents to intermediate a transaction between resident producers and consumers. While various multinational DIPs place subsidiaries in countries where they are active, several may not. If the DIP is not in the business register and not being surveyed it may not be possible to estimate its specific involvement with the domestic economy directly (in this case the value of the intermediation services being imported). While conceptually a difference could be calculated based on the amount domestic consumers pay compared to the amount that domestic producers receive, such a reconciliation is unlikely feasible at a level that is statistically useful.
  - **The lack of consistency in where DIPs are currently classified on an industry basis as well as the good or service that they produce. This includes any decision regarding the level of detail ultimately published by NSI’s.** The current industrial activity recommendations on DIPs were release in September 2017 as a form of temporary guidance, prior to a formal revision of ISIC<sup>11</sup>. These recommendations suggest that if an appropriate support or agency class exists, the unit “*is classified to the industry of the specific activity (e.g., travel agent, reservation service)*”. If such a support or agency class does not exist then it should be classified to “*the industry of the principal (e.g., telecommunications for selling telecommunication services on a commission or fee basis)*.” Since these recommendations were made separate to a traditional industry classification update, it is unclear how concretely it has been implemented. **Additionally, the specific output and value added from these DIPs are likely invisible within the current national account aggregates.** Most countries do not publish SUTs below the ISIC division level, therefore even if a separate class does exist, and is used, the output of these economic units

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<sup>11</sup> See Intermediaries in the Provision of Services and Classification in ISIC  
<https://unstats.un.org/unsd/classifications/expertgroup/egm2017/ac340-10.PDF>

will likely be incorporated into the output and value added of the ISIC division of the principal activity/product it is intermediating.

- **The amount of informal workers who undertake economic activity from opportunities provided by DIPs.** Although the majority of DIPs are legal entities and should be included in business registers and considered part of the formal economy, many (but certainly, not all) of the producers who utilise DIPs may be more likely to under-report activities or not be registered for tax purposes, and thus excluded from the population used for business surveys. Examples of this include food delivery drivers, freelance professionals and household manufacturers selling online. These activities are clearly still within the production boundary and, thus, due to the proliferation of DIPs, statistical offices may be forced to re-evaluate some of the models and methods used to calculate the informal economy's contribution to aggregate GVA for certain industries, particularly in terms of weighting survey responses.

**21. These practical measurement challenges have reduced the visibility of DIPs' contributions to the economy in the national accounts, which causes two important issues for users of the national accounts;**

- The perception of either uncounted or mismeasured components of the production chain, which cast unwanted doubt on the accuracy of the estimates as a whole.
- A reduced interpretability of the results and therefore a decreased usefulness of the national accounts for users interested in this field.

**22. As the level of output produced by DIPs grows as well as their value-added, it will become even more important for statisticians to quantify their impact.** This includes the level of inputs they use, the labour they employ, investment they make and the overall productivity gains/losses associated with these activities. The ILO has suggested that “the number of employees directly hired (internal employment) by platforms is a mere fraction of the number of workers whose work is mediated” (ILO, 2021). In order for policy makers to know this fraction with greater certainty, as well as to have a greater awareness of the benefits (and risks) that DIPs can create, these types of inter-relations between the different economic units need to be fully understood.

## What are the options for recording the flows of a DIP?

**23. Transactions involving DIPs can be recorded on either a “Producer” or a “Consumer” basis<sup>12</sup>.** The difference between the two is whether all theoretical transactions between the three parties involved is recorded, or if only the consolidated flows resulting from the transactions is accounted for. In this case, the recording treatment may supersede the real world flows that may or may not occur. If non-resident DIP's do not have a domestic subsidiary, then the recording decision will likely have a significant impact on trade statistics.

**24. The Consumer approach focuses on whom the consumer pays and records the transaction with the DIP accepting the full payment from the consumer.<sup>13</sup>** This is outlined in Figure 2. In this case, a monetary payment is made from the consumer to the platform that then pays the producer (after keeping some of the payment itself in exchange for facilitating the transaction). In some

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<sup>12</sup> Previously these two approaches were referred to as the “net” approach for the producer focussed approach and the “gross” approach for the consumer basis. The use of the terms net and gross are being refined in accordance with [Guidance note CM.2](#) “Terminology and Branding of the Economic Accounting Statistical Standards”.

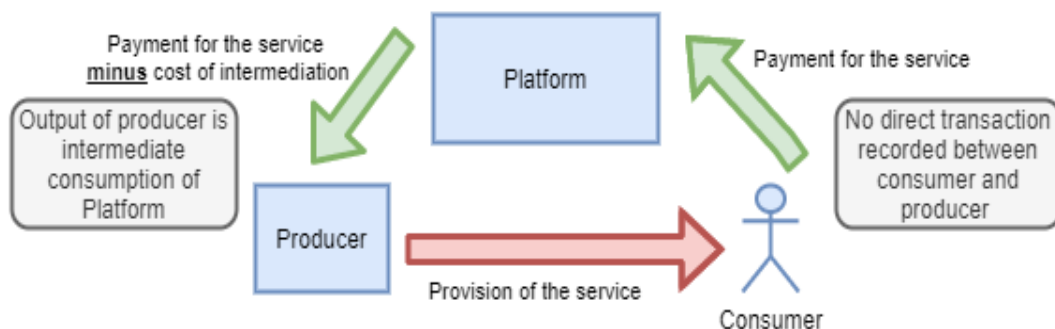
<sup>13</sup> This is in contrast to the producer approach, where the focus is on who the producer provides the service too and who the producer pays for any services provided to them.



cases, this may appear the correct treatment; the buyer usually interacts only with the DIP regarding the payment. The interaction with the provider is exactly that, an interaction, often only around the provision of the service, rather than a monetary transaction. Additionally, the producer never seeks payment from the buyer; instead, the producer will seek payment from the platform, which may be holding the payment in trust until the service is provided.

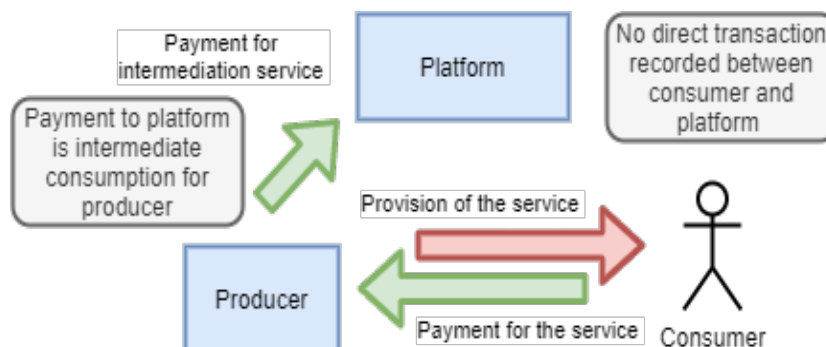
- 25. This “consumer” treatment treats DIPs in as similar way to a traditional retailer.** In this circumstance, the DIP is reflected as “buying” the product from the producer to resell to the final buyer. However, as discussed, this treatment does not reflect the actual role that the DIPs are taking, and the significant difference that exists between DIPs and retail traders, i.e. not taking any ownership of the goods or services in question and having a reduced level of financial risk.

**Figure 2: Flow of transactions related to digital intermediary platforms, consumer approach**



- 26. In the Producer approach, the payment for the good or service is paid directly to the producer, With the producer then paying the DIP. The intermediation service product is treated as intermediate consumption towards the final product.** This is outlined in Figure 3. In this approach, the output of the platform is consumed by the producer as intermediate consumption, not the other way around, as is the case in the consumer approach. This results in no transaction being recorded between the consumer and the platform, even though in reality these flows can often be observed<sup>14</sup>.

**Figure 3: Flow of transactions related to digital intermediary platforms, producer approach**



- 27. The choice of the producer or consumer approach does not make a difference to the overall GVA level for either country, however there is potentially a significant difference in the import and**

<sup>14</sup> A possibility here could be if an explicit fee, on top of the price of the good or service was paid by the consumer to the platform.

**export estimates.** Figure 4 displays this using a basic example whereby a consumer in country A, pays \$100 for a service, purchased using a DIP, which is a resident in Country B and charges an intermediation service fee of \$20. The service provided by the producer in country A is valued at \$80. In the producer approach the output of the producer (\$100) is equal to the household consumption (\$100), with the intermediation service fee (\$20) recorded as an import and then intermediate consumption for the producer. This results in GVA of (\$80) and (\$20) for country A and Country B respectively. Under the consumer approach, the GVA estimate for each country remains the same as the producer approach. However, the import and export estimates are both significantly higher, with the full household consumption amount of (\$100) and the full output of the producer (\$80) both recorded as trade between the two countries.

**Figure 4: reconciliation of transactions involving digital intermediary platforms, consumers & producer approach**

Net Approach		Gross approach	
<b>Country A</b>		<b>Country A</b>	
Output	100	Output	80
Intermediate consumption	20	Intermediate consumption	0
<b>GVA</b>	<b>80</b>	<b>GVA</b>	<b>80</b>
Household Consumption		Household Consumption	
	100		100
Imports	20	Imports	100
Exports	0	Exports	80
<b>GDP</b>	<b>80</b>	<b>GDP</b>	<b>80</b>
<b>Country B</b>		<b>Country B</b>	
Output	20	Output	100
Intermediate Consumption		Intermediate Consumption	80
<b>GVA</b>	<b>20</b>	<b>GVA</b>	<b>20</b>
Imports		Imports	
	0		80
Exports		Exports	
	20		100
<b>GDP</b>	<b>20</b>	<b>GDP</b>	<b>20</b>

- 28. Arguably, the consumer approach distorts both the true level of output coming from the intermediary service provider and thus the export from the country that the DIP resides.** By incorporating the value of the intermediation service as well as the value of the underlying product, output from a producer in one country is being recorded as output and an export from a different country in which the producer does not reside. While there is no distortion to the GDP estimate as this is offset by the import also being recorded, it still appears counterintuitive, as the value of the underlying product would be “traded” across borders twice, despite the product having likely never left the country of the buyer and producer.
- 29. The producer focused approach allows for a better reflection of the producers (and their industries) providing the relevant products to the final users.** As even if the DIP is a resident, therefore removing the issue of inflated import and export estimates, a distortion might still exist if the final consumption of the product is not able to be observed through the intermediation service product and reflect the underlying product actually being consumed. This is not an issue when using the producer approach as the underlying product is transacted directly between the producer and the buyer, with the intermediation service provided by the DIP, treated as intermediate consumption by the producer in the same manner as other inputs to production.

- 30. The Producer approach was endorsed as the desirable approach during the 12<sup>th</sup> meeting of the Advisory Expert Group<sup>15</sup>.** It has subsequently been included as the preferred approach in both the Handbook on Measuring Digital Trade and the Roadmap toward a Common Framework for Measuring the Digital Economy, published by the G20 Digital Economy Task Force during the Saudi presidency of 2020<sup>16</sup>.
- 31. The producer approach was also endorsed as the appropriate treatment within the BPM7 Guidance note C4 covering “*Merchanting and Factoryless Producers; Clarifying Negative Exports in Merchanting; and Merchanting of Services*”<sup>17</sup>.** As well as discussing similar arguments to this Guidance note, the BOP included the fundamental point that since by definition services “are not separate entities over which ownership rights can be established. [and] They cannot be traded separately from their production” (SNA §6.17) it was impossible to merchant services. In theory, the same would hold for intermediation of services, that is, it is impossible for the DIP to purchase and then resell a service, and thus the producer focused approach is the only viable option.
- 32. While it may be considered conceptually superior, the producer approach still poses significant measurement challenges and data requirements.** Due to the redirection of certain transactions, applying the producer focused approach into the national accounts will likely require additional imputations by statistical offices. These may be possible based on information only available from the DIPs themselves. On the other hand, the same situation applies to trade margins, the only difference being that many DIPs may be non-resident, creating larger challenges to obtain the relevant data.
- 33. The ability of statistical offices to identify and survey DIPs will be fundamental to their explicit inclusion within the national accounts.** While conceptually a value for the intermediation service product can be derived as the difference between the amount paid by the consumer (derived from household surveys) and the amount received by the producer (derived from business surveys), reconciling these two amounts at the product level without information from the DIPs involved will likely pose a large statistical challenge.
- 34. If DIPs do not have a domestic subsidiary, estimates may need to rely on modelling or firm level information sharing between compilers.** This form of data sharing on multinationals has often been spoken about to improve the quality of national accounts’ outputs impacted by globalisation. Accurate representation of DIPs in domestic accounts provides another benefit to such an undertaking and would greatly benefit the quality of related trade statistics.

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<sup>15</sup> The AEG agreed although the producer approach (previously referred to as the “net” approach is preferred it may be subject to prevailing legal frameworks, where by some DIPs become more akin to standard producers due to the legal ruling regarding employee – employers’ relationships. See [https://unstats.un.org/unsd/nationalaccount/aeg/2018/M12\\_Conclusions.pdf](https://unstats.un.org/unsd/nationalaccount/aeg/2018/M12_Conclusions.pdf).

<sup>16</sup> See <https://www.oecd.org/sdd/its/Handbook-on-Measuring-Digital-Trade-Version-1.pdf> and <https://www.oecd.org/sti/roadmap-toward-a-common-framework-for-measuring-the-digital-economy.pdf>

<sup>17</sup> Guidance note is available here <https://www.imf.org/-/media/Files/Data/Statistics/BPM6/CATT/c4-merchanting-and-factoryless-producers-clarifying-negative-exports-in-merchanting-and-merchanting.ashx>

## What are the options for classifying DIPs in statistical classifications?

**35. Two different options on how DIPs might be classified within either the industry and product classifications includes<sup>18</sup>:**

- Create a separate ISIC class, group or division, which would accommodate all DIPs (and non-digital intermediary service providers) regardless of the underlying product they are facilitating<sup>19</sup>.
- Formalise the current interim guidance provided to countries and keep the intermediaries as a separate class but within the same ISIC division as the producer of the underlying product they are facilitating.

**36. In the forthcoming revisions of the international standard of industrial classifications (ISIC),** the ISIC TT has proposed in a guidance note sent for global consultation to somewhat formalise the current interim guidance. They recommend to *“create separate groups (or classes) in the divisions of ISIC where the intermediated goods and services are produced. These new categories, combined with existing dedicated categories, can identify all non-financial intermediation services where they are now a significant component in the intermediation of the underlying good or service of the respective divisions. Intermediation services (except financial services intermediation) that cannot be classified in a dedicated group or class, or those that deal with goods and services classified to several divisions, are integrated into a dedicated group in Division 82 - “Office administrative, office support and other business support activities”*

**37. Conversely, if DIPs were moved to a separate ISIC division, the production from facilitating transactions between producers (in a separate division) and consumers may be better identifiable.** The DIP would be supplying services that would be consumed as intermediate consumption by the producers’ industry<sup>20</sup>. The producers would then supply the final good or service, recorded in one of the final demand categories in the supply-use tables. This would appear more consistent with the producer approach outlined in Section 5.

**38. Fundamentally, it is arguably more statistically correct to classify intermediary platforms together as all undertake the same economic activity and produce the same service.** For example, UBEREATS and Airbnb have much more in common than Airbnb with a hotel or UBEREATS with a restaurant. Both platforms are only concerned about meeting a producer with a buyer. The content of the final service, such as the quality of the hotel/apartment or even the price charged are somewhat inconsequential to the platform. Rather the DIP is only concerned with finding a buyer who has similar demands in content and price with a producer who is able to supply those requests.

**39. That said, the effective classification of intermediary platforms together in a separate ISIC division is dependent on the accurate and consistent application of the producer approach.** If statistical offices are not able to separate the output of the DIPs from the output of the producers

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<sup>18</sup> A revision would be required to both classifications, however this note focuses more on the industry classification as this appears to be where most of the challenges are currently faced and would have the largest impact on statistical outputs.

<sup>19</sup> Any classification intended to contain all intermediaries is not intended to extend to traditional financial intermediation undertaken by banks and other deposit taking institutions. Units that undertake the more traditional financial intermediation should be excluded, as they are ostensibly taking ownership of the underlying assets and actually running financial risk with regard to their intermediation role. This is very different from the basic definition established for DIPs earlier in the guidance note. On the other hand, crowdsourcing platforms or digital mortgage brokers, that simply bring together potential borrowers and lenders, operating on the basis of a fee, would be regarded as DIPs

<sup>20</sup> If an explicit fee were paid by the consumer then the services supplied by the DIP would be consumed as final consumption.

supplying the underlying product, then users would likely prefer that they at least remain in the same activity as they good/service they are intermediating. For example, any expenditure paid to Airbnb, includes both the value of the accommodation as well as the intermediation service charge, if the amount was unable to be separated and given the choice, users would likely prefer that this be placed in accommodation services rather than a general DIP division. Such concern regarding the implementation of the producer approach is the largest benefit of placing DIPs in the same division as the underlying producers and likely provides the reasoning for such a decision.

- 40. Formalising the current guidance provides an easier transition for statistical offices, while still potentially allowing the activity of DIPs to be identified at a lower level.** Since most SUTs and other industry-based outputs are not published below ISIC division level, keeping DIPs in the same ISIC division as the underlying producer has the practical advantage of reducing the amount of changes needed to existing time series. However, this would also result in the output being produced and subsequent value added of these DIPs only being identifiable in specific dis-aggregated data<sup>21</sup>.
- 41. Any classification decision within ISIC is unlikely to separate out platforms that charge an explicit fee from those that do not, provided that they undertake the same activity.** From an industrial classification perspective, this is reasonable as classification decisions are not made based on source of revenue but rather activity undertaken<sup>22</sup>. However, in terms of production from a national account point of view, they will likely produce different types of products, as one produces the intermediation service product and one produces advertising services or data analytics.

## Practical challenges identified when measuring DIPs

- 42. Following global consultation on the measurement of DIPs, compilers identified a range of practical concerns that will likely challenge countries in their attempts to measure DIPs and the transaction they make.** These have been listed in order to provide some guidance on where discussion and research should focus.
- 43. If the DIP does not have any domestic affiliate and thus is not able to be surveyed, the NSO will be required to estimate the level of intermediation service product being imported via household surveys or alternative data source.** Digitalisation has provided the ability for a DIP to transact and facilitate an economic transaction between a resident producer and resident consumer despite themselves being a non-resident. As such, business surveys may not be a viable option to collect the required information and so NSO may turn to household surveys . Apart from being quite slow in producing outputs, such surveys are unlikely to provide information at the required level of detail. An alternative approach may be to base estimates on the published export data of the DIPs resident country if published at a sufficient level of detail.
- 44. In many circumstances the DIP may take payment for a service which will not be provided for some time in the future, such circumstances can raise concerns around accurately recording the transaction on an accrual basis.** Conceptually in such a circumstance, the payer has not consumed

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<sup>21</sup> One such example of this dis-aggregated data is the framework for digital supply-use tables, see guidance note here, <https://unstats.un.org/unsd/nationalaccount/RAconsultation.asp?CID=8>

<sup>22</sup>The current ISIC states “Ideally, the principal activity of the unit should be determined with reference to the value added to the goods and services produced”. However, a strict interpretation of this may result in the reclassification of all units that subsidise their main activity through other revenue streams; this could have implications for categories such as broadcasting, newspapers, professional sporting teams and possibly government-funded corporations.

the service until it is produced, and thus, in the national accounts, the payment is for a financial asset (“other account receivable”), which is reduced back to zero when the service is actually provided. While conceptually this is no different to the treatment of other pre-payments that exist in the economy, due to the increasing use of DIPs, NSO should be cognisant of this issue<sup>23</sup>.

**45. The business model or evolving nature, of specific types of DIPs may require additional measurement and conceptual considerations.** Such an examples of specific treatments are platforms that facilitate sales in second hand goods, whereby only the consumption of the intermediation product should be recorded, not the full value of the good. Additionally of the relationship between producers and the DIPs evolves to a point whereby the DIP becomes more of an employer rather than an intermediary, this may also require a change to the classification and recording of transactions.

## Recommendations

**46. From the perspective of the SNA, a DIP is considered an enterprise that meets the following criteria.**

- Charges an explicit fee for digitally facilitating an economic transaction between two independent parties
- Does not take economic ownership of the goods and services ultimately sold to the consumer.

**47. Despite not causing any fundamental conceptual concerns to measurement of the national accounts, due to user interest in subject, NSIs are encouraged to produce estimates that identify the specific role DIPs play in the various new ways that products are being transacted.** This may involve delineating the value added created by DIPs from that created by the underlying producer.

**48. Having DIPs as well as the intermediation service product produced by them explicitly classified, even together with non-digital intermediation providers and a non-digital intermediation product, will be the single biggest help to NSIs attempts to appropriately record these units and the product(s) that they produce.** Both the ISIC and the CPC task teams overseeing the revision of the respective classification have moved in this direction, with individual groups being proposed within the ISIC to classify intermediation service providers, (both digital & non-digital) and the CPC proposing something similar.

**49. NSIs should strive to record transactions involving DIPs on the producer focused basis.** This is especially the case when transactions involve a non-resident DIP; as such an approach will remove the possibility of artificially inflated trade estimates. Even for resident DIPs, a producer approach will improve the interpretability of the value chain, better reflecting which units are adding value to the overall final consumption. That said, the likely classification of DIPs in the same ISIC division (although separate group) will remove some of the additional clarity provided by the producer approach as most NSI’s will publish output and value added at a division level, therefore the flow between DIP and producer will be consolidated.

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<sup>23</sup> A further issue which is likely exacerbated by DIPs but to which there is no direct conceptual answer involves potential income earned from these funds while held in trust. In order to generate more demand, DIPs may well be using any income earned from trust funds to reduce the transaction costs charged to producers. Such a circumstance would result in potentially undervaluing the output of the DIPs if they are charging “subsidised” prices. This conceptually grey area is not a new phenomenon, but the scale with which it may now be occurring may require the statistical community to undertake more research in the area.



- 50. It is recommended that the task team overseeing the revision to the international activity classification define a specific “intermediation sector”.** This sector, made up of the various intermediation focused groups and classes, would allow for easier cross country comparability in this area. A specific intermediation sector would also provide additional analytical insight into the flows between DIPs and producers including those that may be consolidated when published at standard division level (see previous paragraph).
- 51. Due to the impact of informal workers/producers utilising DIPs, NSI may need to reassess their current models for estimating the contribution of the informal sector to GDP.** While there is still limited data on the potential increase of informal workers performing task due to the proliferation of DIPs, it is likely to be a relevant amount. As such, NSI’s should attempt to pro-actively estimate and publish the value added related to worker utilising DIPs to assure users that this production is not absent from national account aggregates.
- 52. Research into the recording of DIPs, in particular the practical measurement challenges faced should continue to be shared across countries.** This will greatly assist in improving the quality and comparability of estimates associated with DIPs.
- 53. If DIPs cannot be directly surveyed due to them being non-resident, NSI should attempt to delineate the output of producers and consumption (likely by households) made via these DIPs.** Such efforts will assist in re-assuring users that domestic consumption and domestic production via DIPs are included in the domestic national accounts even if the value added associated with matching the producer and consumer (likely provided by a non-resident DIP) is simply imputed as an import of service and not explicitly shown. Furthermore, possibilities need to be explored to exchange information on multinational DIPs, to provide countries with the relevant information.

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