



Updates on Digitalisation research agenda. (Session 9)

Digital SUTs, Digital Intermediation Platforms, & Data.

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Digital SUTs

Making digitalisation visible in the national accounts

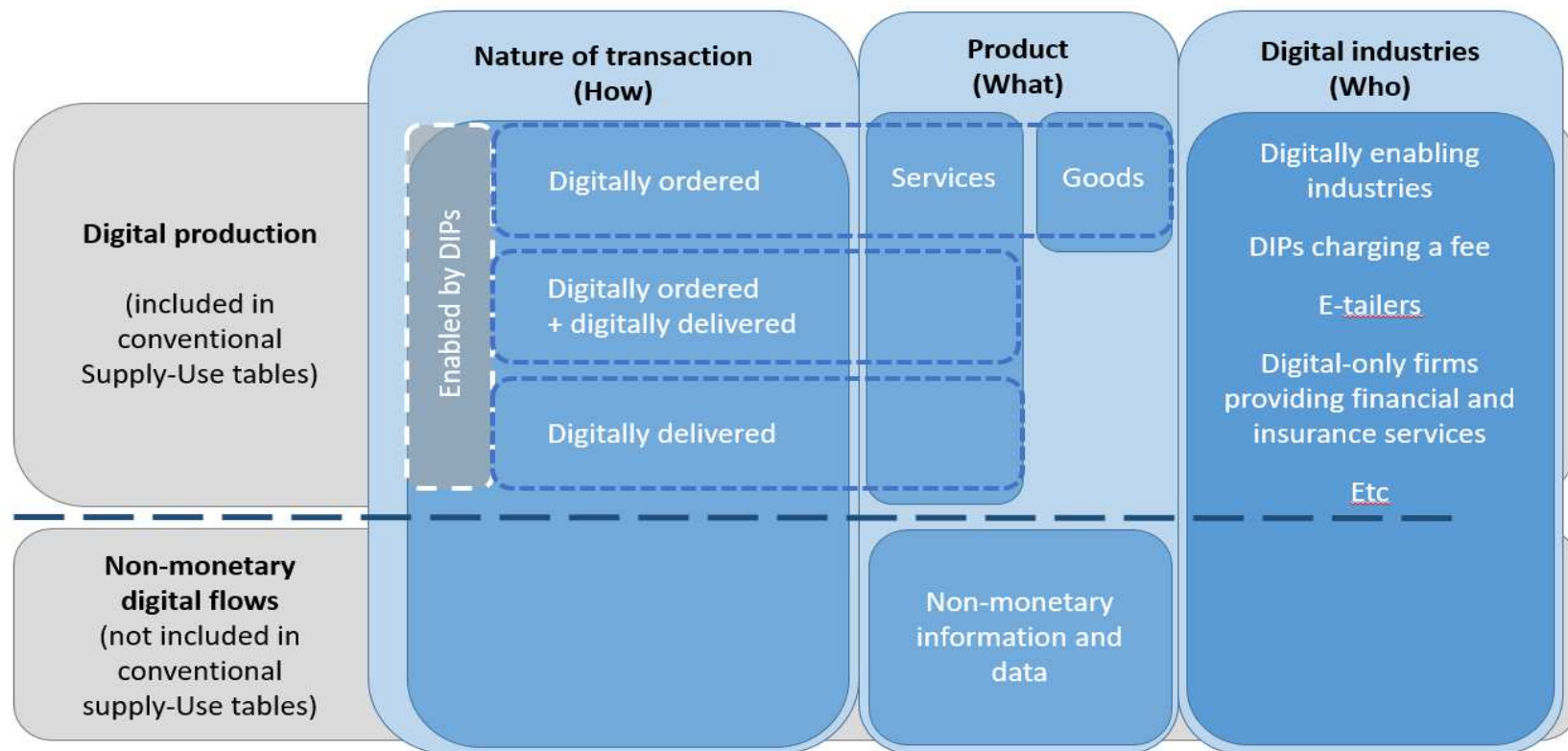


Background on the Digital SUTs

- Developed by the OECD Informal Advisory Group on Measuring GDP in a Digitalised Economy.
- The advisory group was created in 2017 to advance the research agenda on digitalisation.
- The work has evolved from a rough abstract at IARIW conference into a formalized guidance note as part of SNA research agenda.
- Several countries have produced estimates consistent with framework.
- The work remains a priority with users “We encourage improved measurement of the digital economy ...to support evidence-based policy development.” G20 Digital ministerial (August 5 2021)



Framework for the SUTs





Framework for the SUTs

- The framework includes the following extensions to the conventional supply-use tables:
 - Additional rows, under each product, separating the different transactions types.
 - Additional digital product aggregations and lower level products to assist in answering specific user questions.
 - Additional product rows representing products currently outside of the core SNA.
 - Additional columns to represent the new digital industries, units are aggregated based on their shared characteristics.
 - Additional columns allowing for the representation of services that have been digitally delivered.



Outputs of digital SUTs

- The digital SUTs does not attempt to come up with one number as representative of the “digital economy.”
- Rather it provides a suite of indicators covering;
 - Digitally ordered/delivered consumption.
 - Value added by “digital industries.”
 - Digital inputs used in production.
 - The role of digital intermediation.
 - ...



Published Digital SUTs - Canada

	2017	2018	2019
	millions of dollars	millions of dollars	millions of dollars
Total, all industries	1,991,534	2,079,869	2,157,352
Total digital industries	103,298	111,384	117,788
Information and communications technology			
Hardware	6,536	7,012	7,243
Software	41,891	45,726	48,013
Telecommunications	36,166	37,175	37,460
Other services	9,912	10,669	11,511
Digital intermediary platforms	1,728	2,374	3,183
Data- and advertising-driven digital platforms	835	846	979
Online retailers and wholesalers	3,748	4,248	5,187
Digital-only firms providing finance and insurance services	2,340	2,752	3,392
Other producers only operating digitally	448	582	821

Published Digital SUTs - Canada

	Output, all digital industries	Output, all digital industries, digitally delivered	Total output	Total output, industries, digitally delivered	Total imports	Imports, digitally delivered	Taxes on products	Total supply at purchasers' prices	Total supply at purchasers' prices, digitally delivered
	millions of dollars	millions of dollars	millions of dollars	millions of dollars	millions of dollars	millions of dollars	millions of dollars	millions of dollars	millions of dollars
Total	204,768	76,461	4,065,386	96,580	722,624	13,236	173,179	4,961,189	115,527
Digitally ordered	73,953	50,362	277,933	65,665	51,723	9,144	6,696	336,352	75,019
Direct from a counterparty	59,612	49,658	218,757	64,961	19,588	8,559	1,072	239,416	73,659
Via a resident digital intermediary	1,193	704	1,193	704	0	0	0	1,193	704
Via a non-resident digital intermediary	3,839	0	3,839	0	984	584	70	4,893	606
Via a resident retailer or wholesaler	9,308	0	54,144	0	31,150	0	5,555	90,849	50
Not digitally ordered	130,815	26,098	3,787,453	30,915	670,902	4,092	166,483	4,624,837	40,508

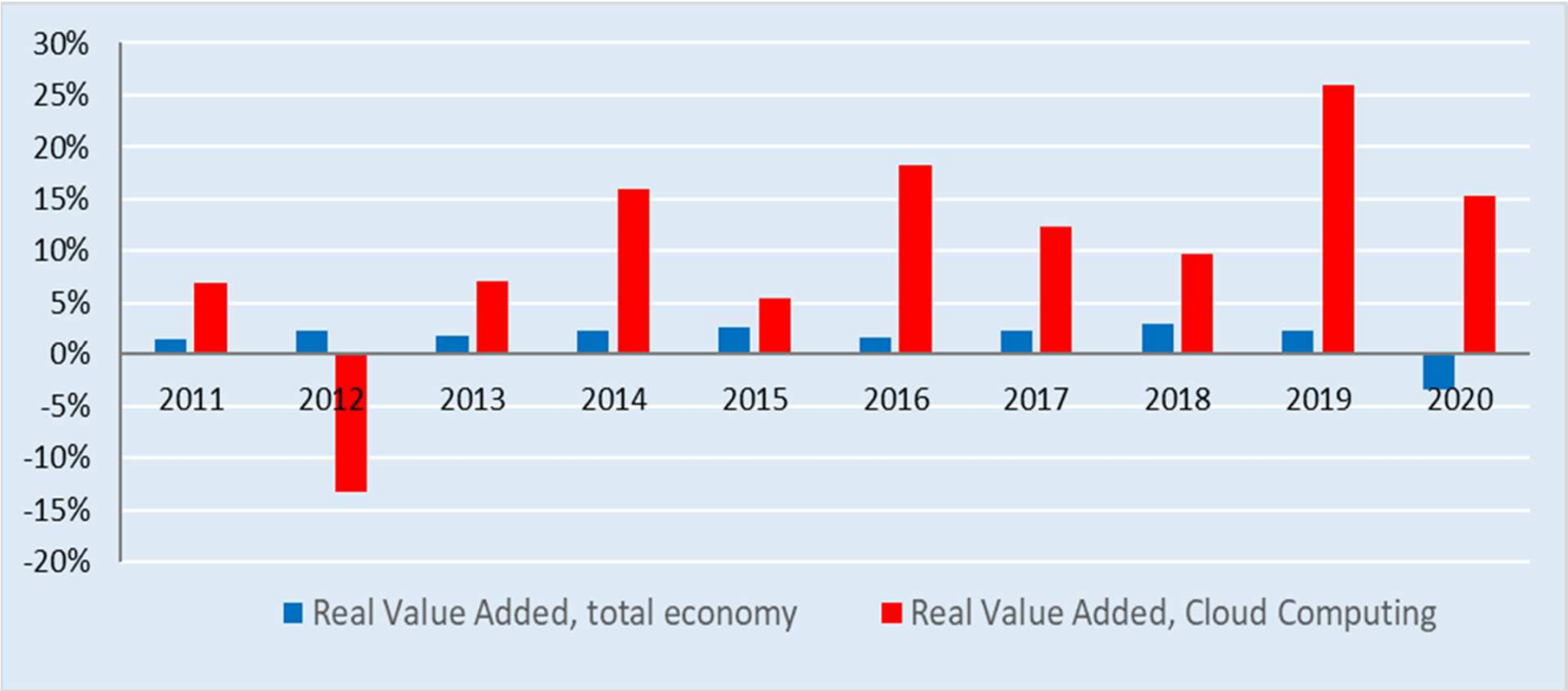
Published Digital SUTs - Netherlands

Table 6.1: Output and gross value added per Digital Industry, 2018, billion euros

	Output	GVA	Share	
			Output	GVA
All industries	1.514,5	692,6	100%	100%
Total digital industries	137,4	55,3	9%	8%
Digitally enabling industries	95,4	36,4	69%	66%
Digital intermediary platforms	16,3	5,4	12%	10%
Firms dependent on platforms	1,0	0,7	1%	1%
E-Tailers (Retail)	3,4	1,7	2%	3%
E-Tailers (Wholesale)	20,7	10,8	15%	20%
Digital only firms providing finance and insurance services	0,7	0,4	0%	1%
Other producers only operating digitally	NA	NA		



United States, Annual percentage growth in real value added, 2010 – 2020.





International comparability – percentage of gross output

	Netherlands	Canada	USA
Priced digital services (excluding cloud)	5.5%	--	3.7%
Cloud computing services	0.6%	0.2%*	0.3%
Total digital products	8.4%	--	8.3%

* Percentage is output of data processing, hosting and related services (NAICS 51821)



Percentage of total Gross Value Added (GVA), 2018

	Netherlands	Canada	USA
Digital intermediation platforms	0.8%	0.1%	-
E - Tailers	1.8%	0.2%	2.1%*
Digital enabling industries	5.3%	4.8%	7.4%*
Total digital industries	8.0%	5.4%	9.5%*

*GVA estimate based on production of specific products rather than units undertaking specific activities.

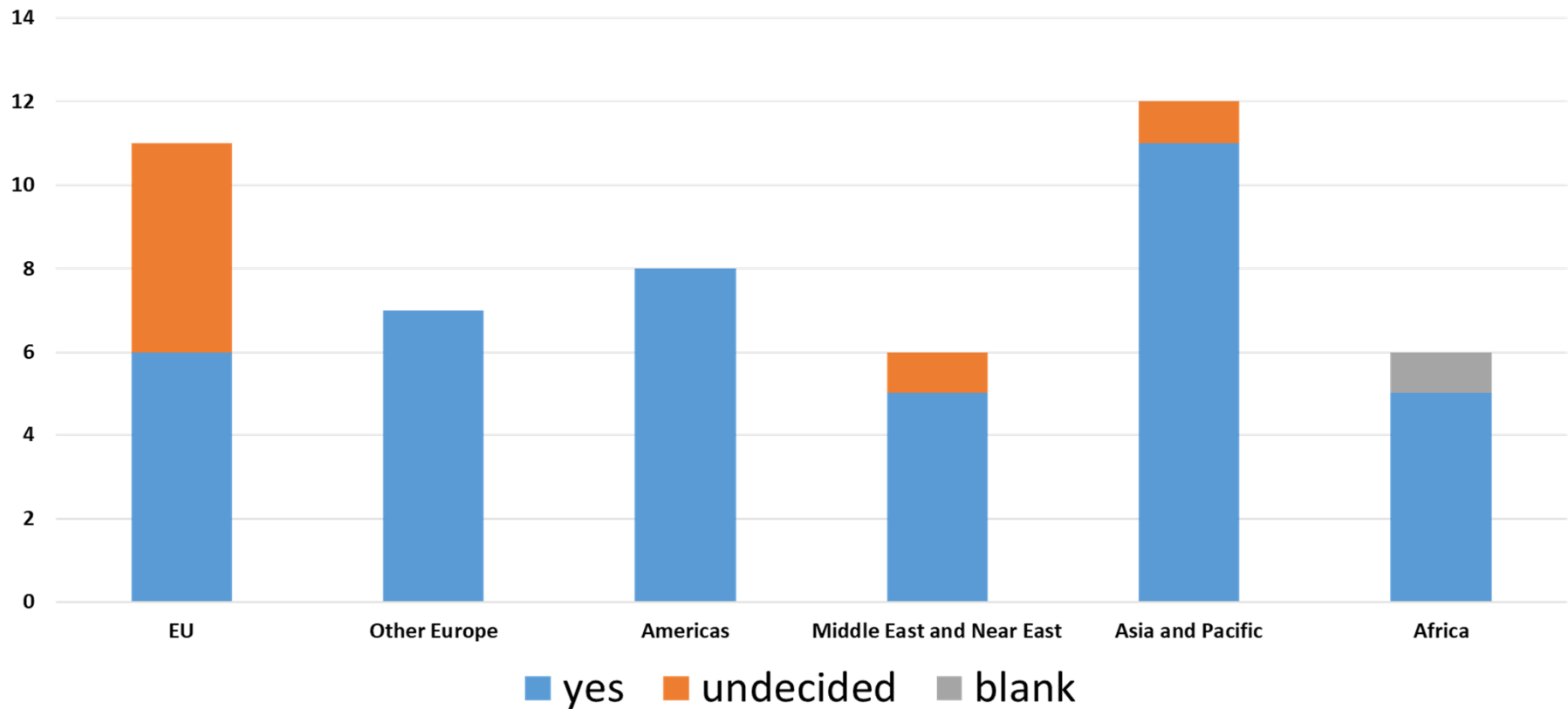


Global consultation on Digital SUTs

- As part of SNA research agenda a **global consultation** was undertaken regarding the Digital SUTs
- This determined **the interest and feasibility** of introducing the digital SUTs in the short-medium term.
- The framework has been **endorsed for inclusion in a revised SNA**, as an example on how to extend SUTs/thematic account.

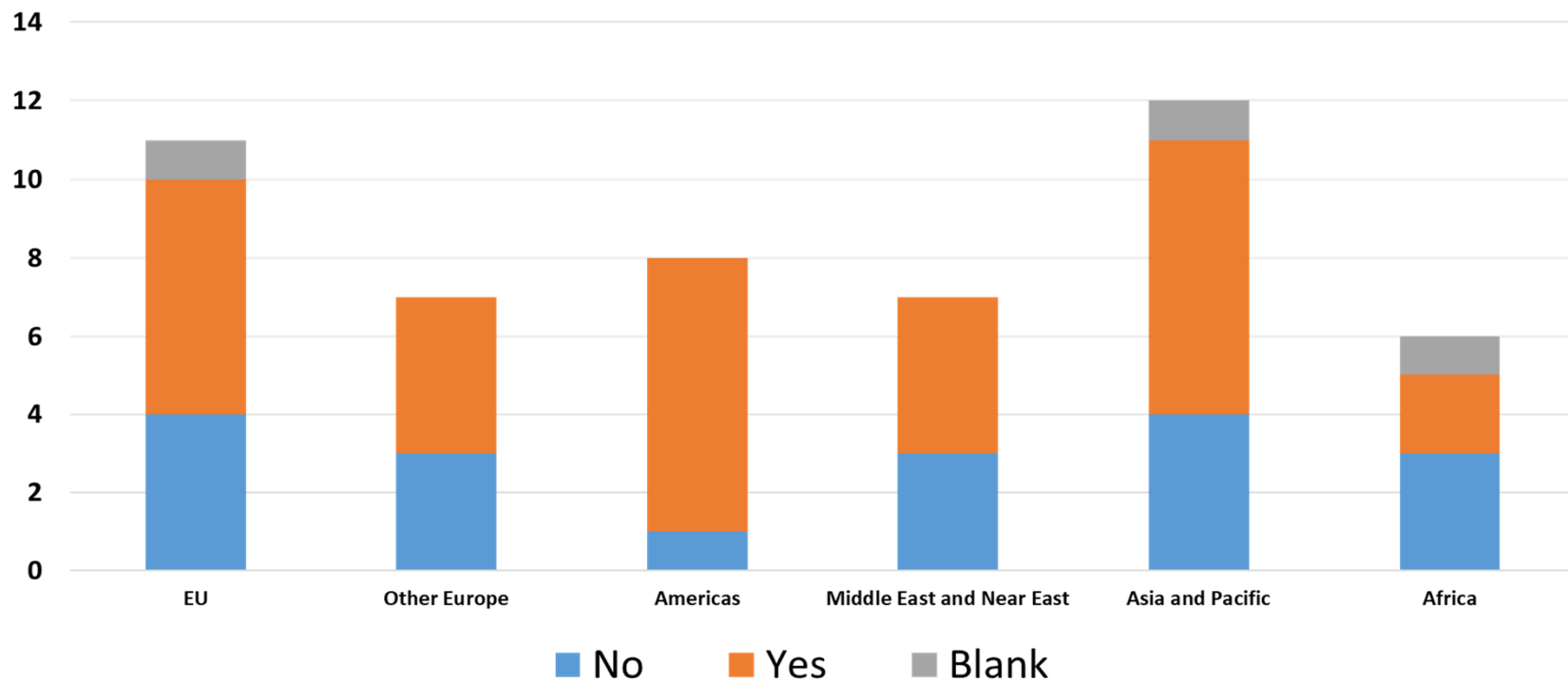


On a conceptual level, do you support the digital SUTs framework as a way to increase the visibility of digitalization in the national accounts?

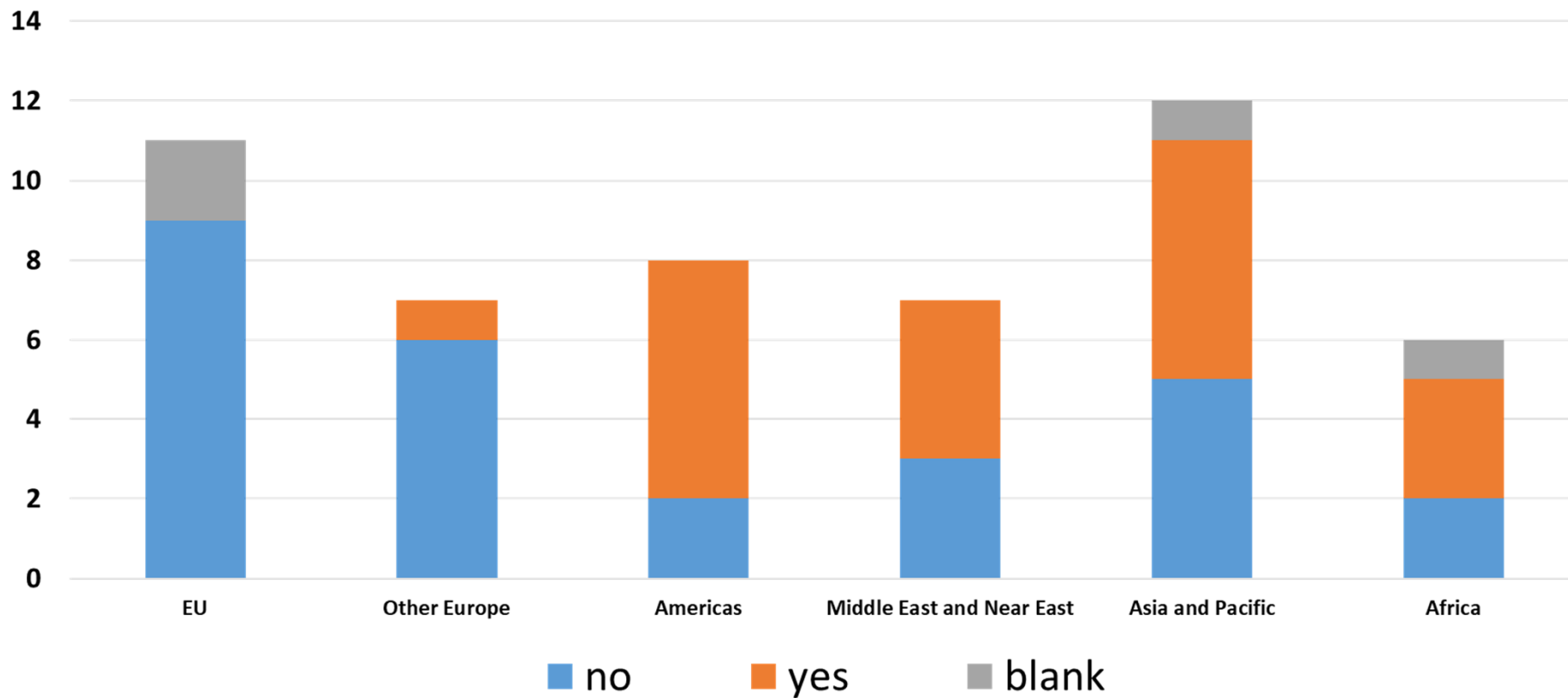




In the next 3-5 years, do you intend to compile, or have you already compiled, experimental statistics, partially or fully consistent with the digital SUTs framework in your country?



Does your country currently undertake any alternative approach to increasing the visibility of digitalisation in the national accounts?





Digital SUTs – final considerations

- Digital SUTs are **not the panacea** of digital economy measurement.
- They offer a **non-prescriptive** framework, that can produce **comparable indicators, consistent with GDP** that NSO's can aim for.
- They provide **evidence to users and** can create a feedback loop that improves core national accounts and GDP.
- **Compilation Handbook** currently being drafted.
- They will **continue to be developed and refined (improved)** as more countries begin to produce estimates (think distributional outputs.)
- **No conceptual change in SNA = No formal testing.**

DIPs

Digital Intermediation Platforms



Digital Intermediation Platforms (background)

- DIPs are **not** a conceptual problem, more a practical measurement challenge
- Part of the formal economy and undertake market transactions like other economic units.
- **Such proliferation in recent times has demanded that more visibility is generated (beyond Digital SUTs).**
- Conceptually, DIPs would be measured in the same manner as other economic units, as such, **no specific change to the SNA is recommended.**
- Guidance note clarified definition of DIPs and how NSO's might classify and record transactions associated with DIPs



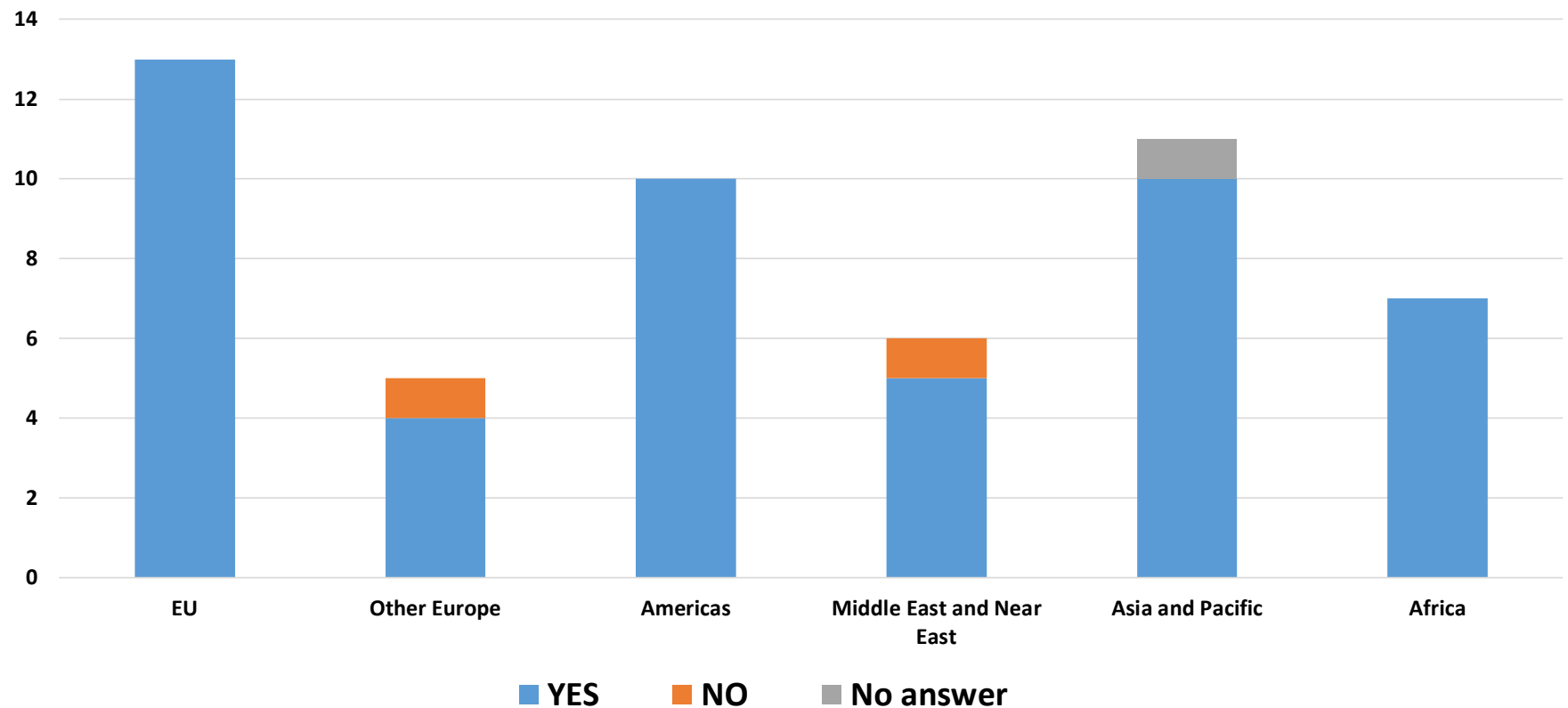
Digital Intermediation Platforms – (Definition)

“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)”
- The GN definition is consistent with Digital SUT and Digital trade handbook and similar to definition proposed in revised ISIC and CPC classification

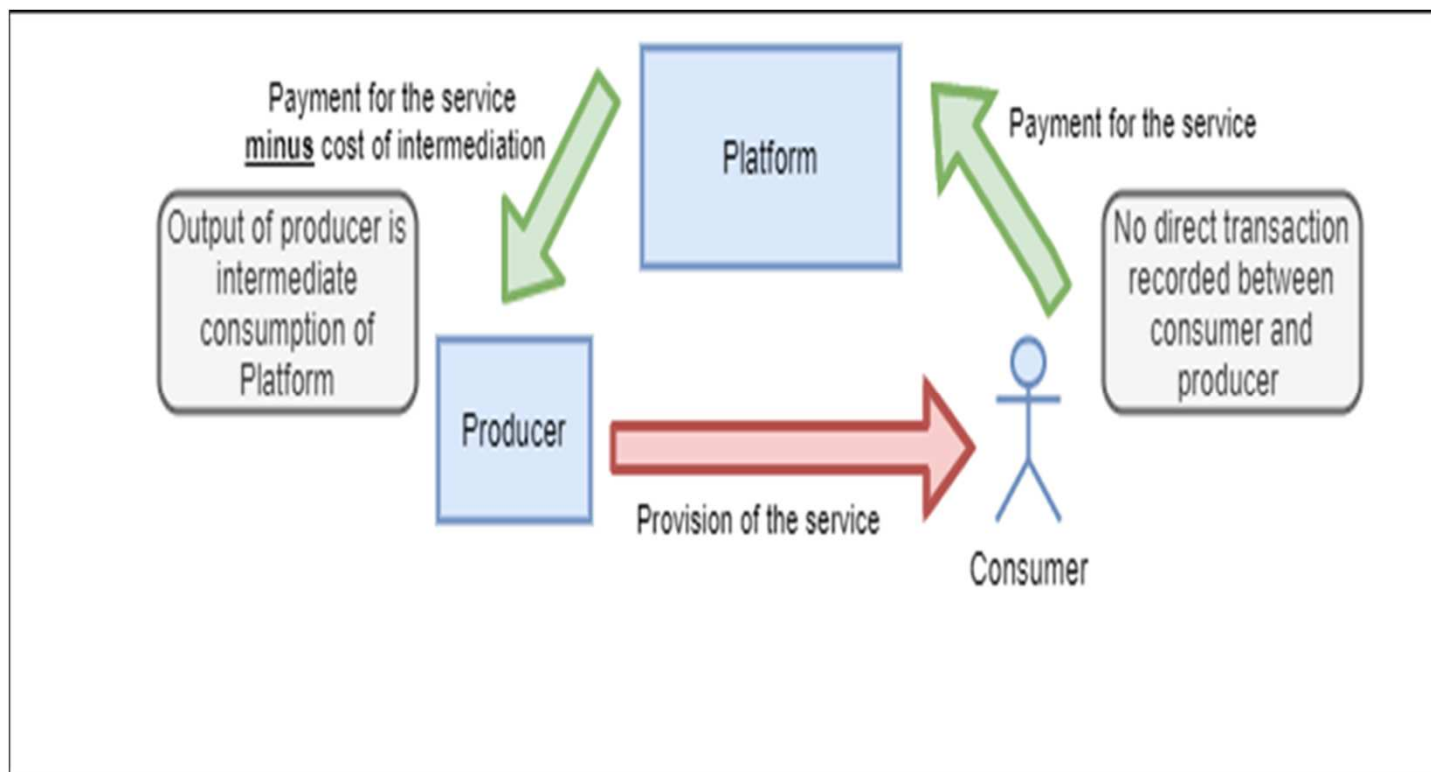


Do you agree with the two components in the provided definition as fundamental to defining a DIP?



DIPs - recording of transactions

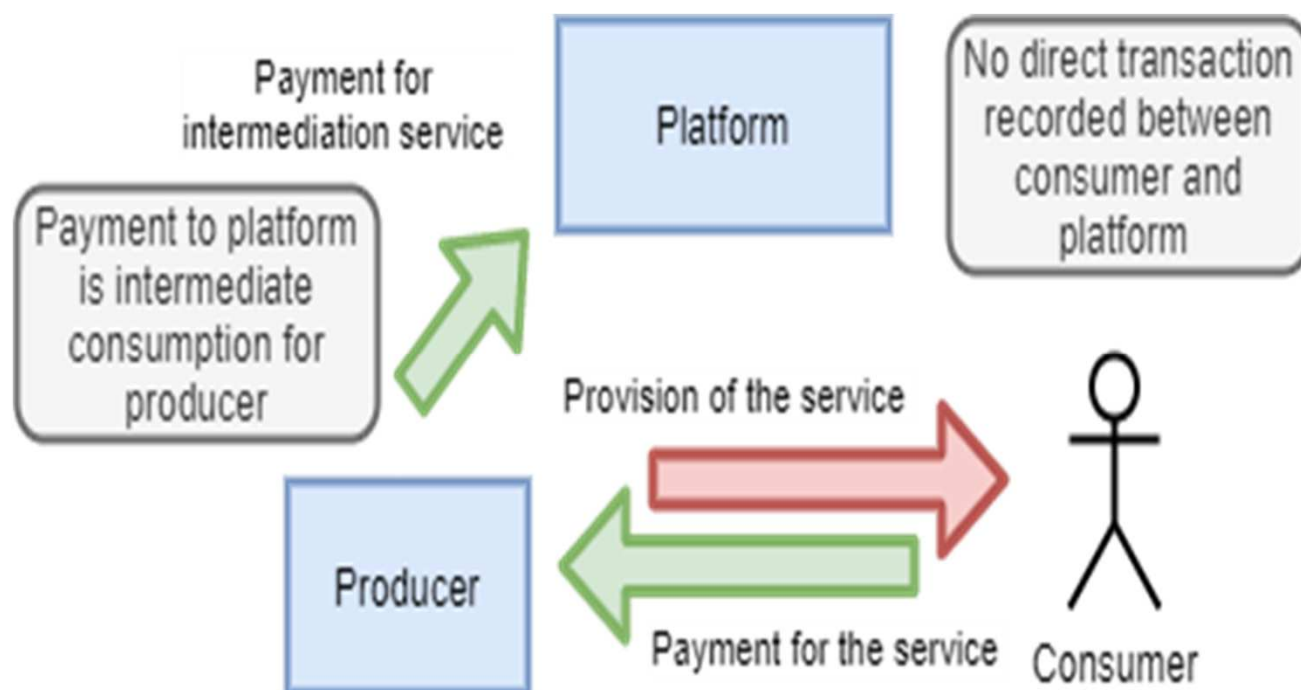
Consumer based recording.



- **Overstates** trade statistics.
- **Implies ownership** of product by platform.

DIPs - Recording of transactions

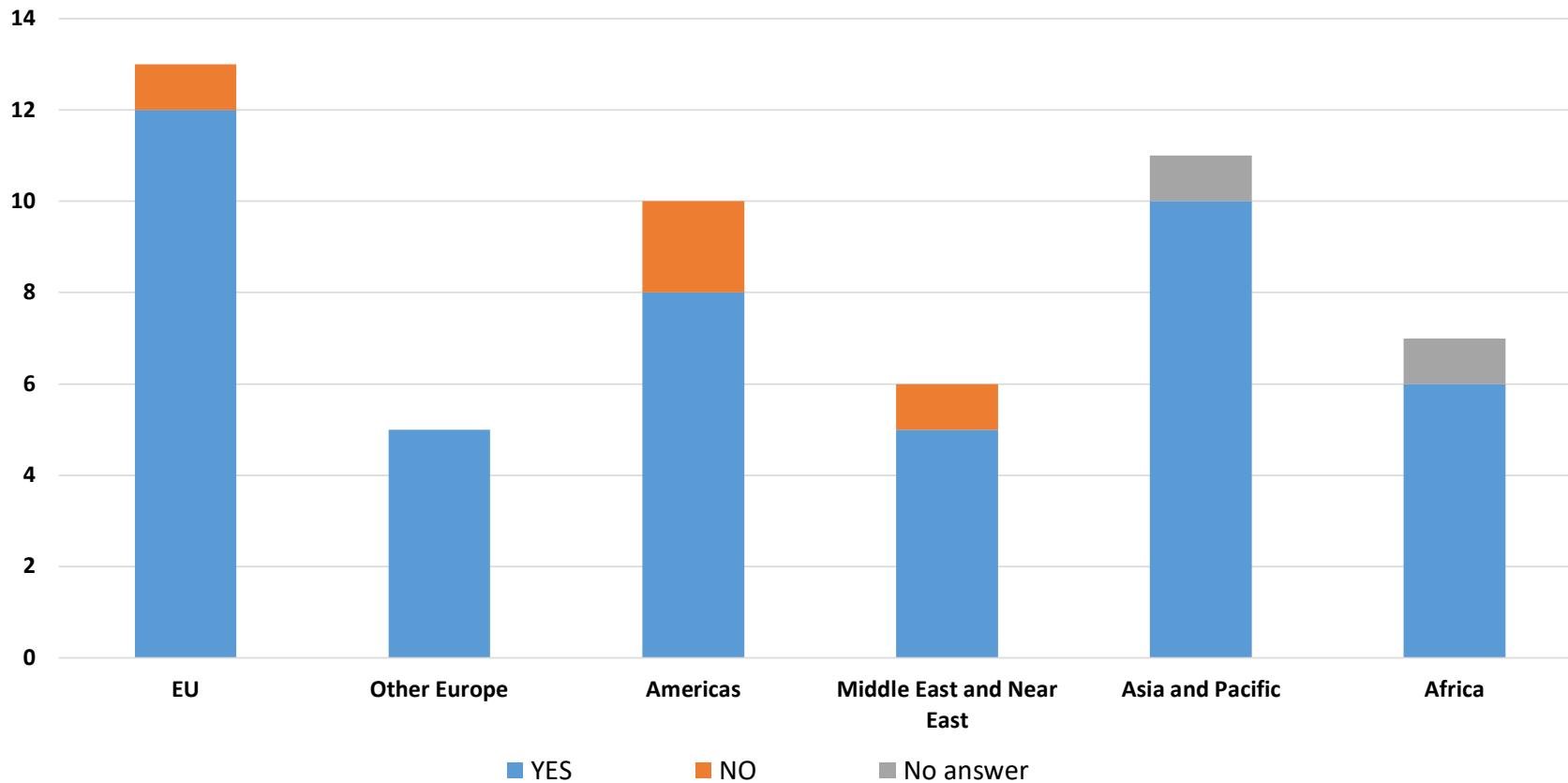
Producer based recording



- **Removes** unrequired trade flows
- Treats DIP service fee as **intermediate consumption**



Do you believe that transactions involving DIPs should be recorded on a producer basis?





Challenges raised

Non-resident transactions remain a concern.

- “Difficulty of tracking international transactions by non-resident units”
- “Considering that large non-resident digital intermediation platforms operate in a domestic economy, practical measurement issues could arise.”
- “it will get tricky to evaluate the fees especially if the DIP is located in another country.”
- “Recording imports and exports of digital intermediation services”
- “Identifying the location of the DIP to decide if its trade or a domestic transaction – As usual it’s harder to get imports than exports”.

Ownership of a good or service.

- “At what point is the supplier providing a good/service to the platform rather than to the recipient?”

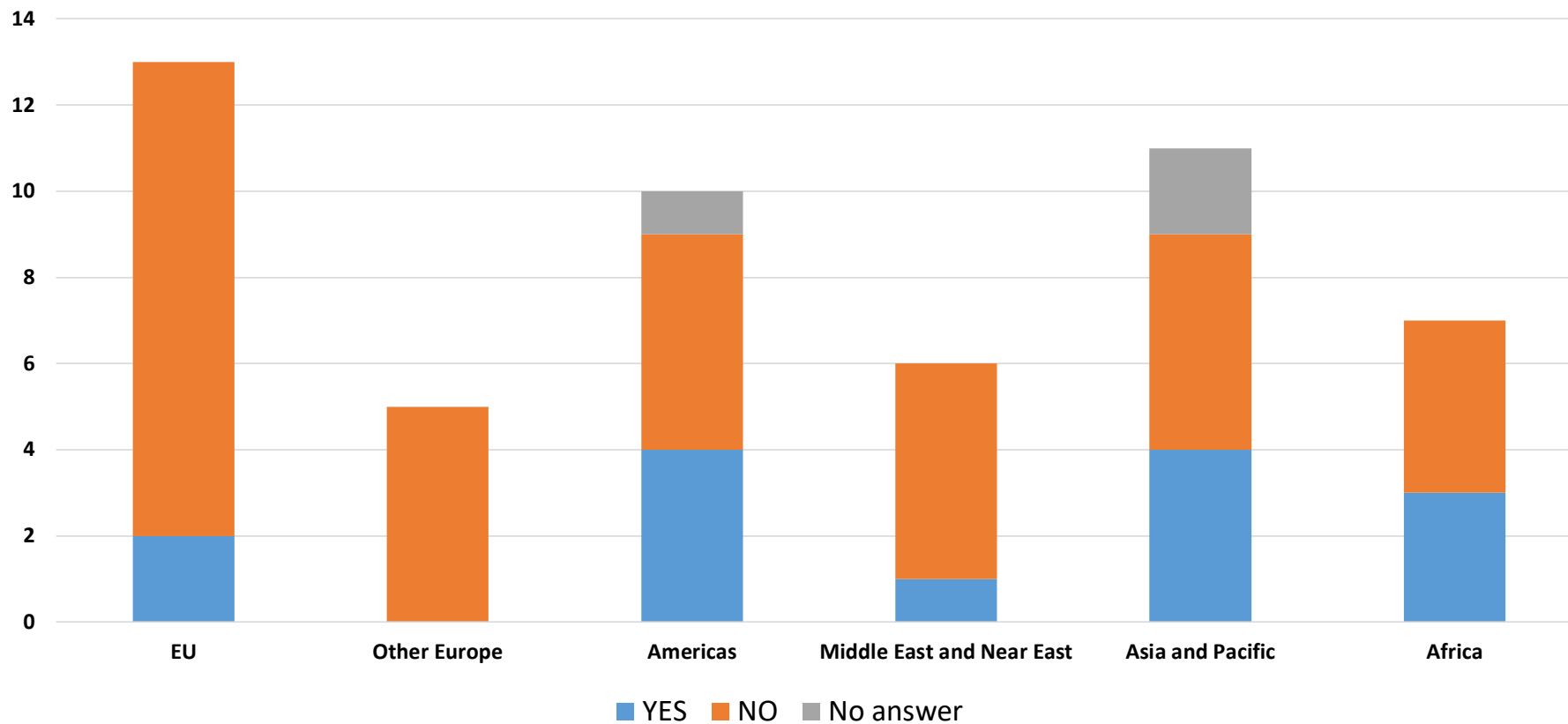
Miscellaneous

- “Some DIPs charge an explicit fee to the consumer. Difficult to capture.”
- “Cautionary for second-hand goods transacted via DIP which should be recorded its trade margin only”

Data collection methods and compilation practices will need to be shared...Including identifying on BR.



Are you currently able to identify DIPs within your business register?





DIPs – Final considerations

- **No conceptual change to SNA = No formal testing.**
- Initial estimates are being developed and published (as part of Digital SUT outputs)
- Continual **sharing of best practice** regarding identifying, classifying & measuring.

Data

Incorporating data assets into the SNA



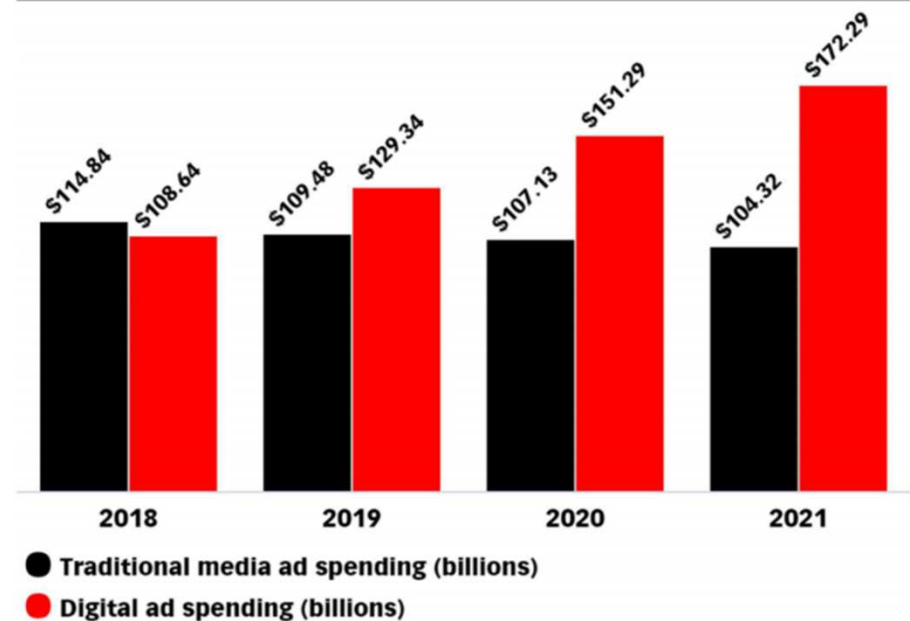
Data (background)

What assets are recorded in the SNA during the production of Digital advertising?

- ✓ Computer hardware
- ✓ Computer Software
- ✓ R & D
- ✓ ...
- X Data

Digital vs. Traditional Ad Spending

United States, 2018-2021



Source: eMarketer, Feb 2019

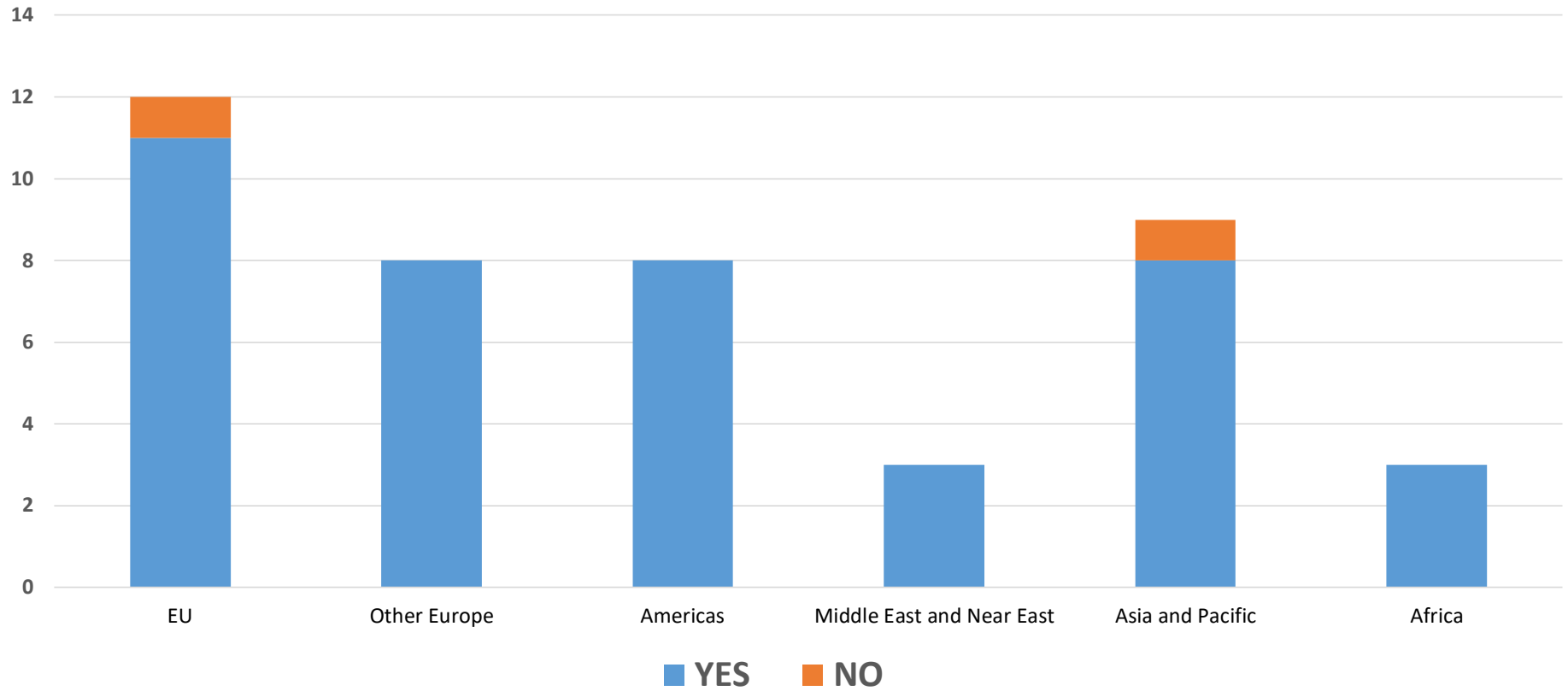
www.eMarketer.com



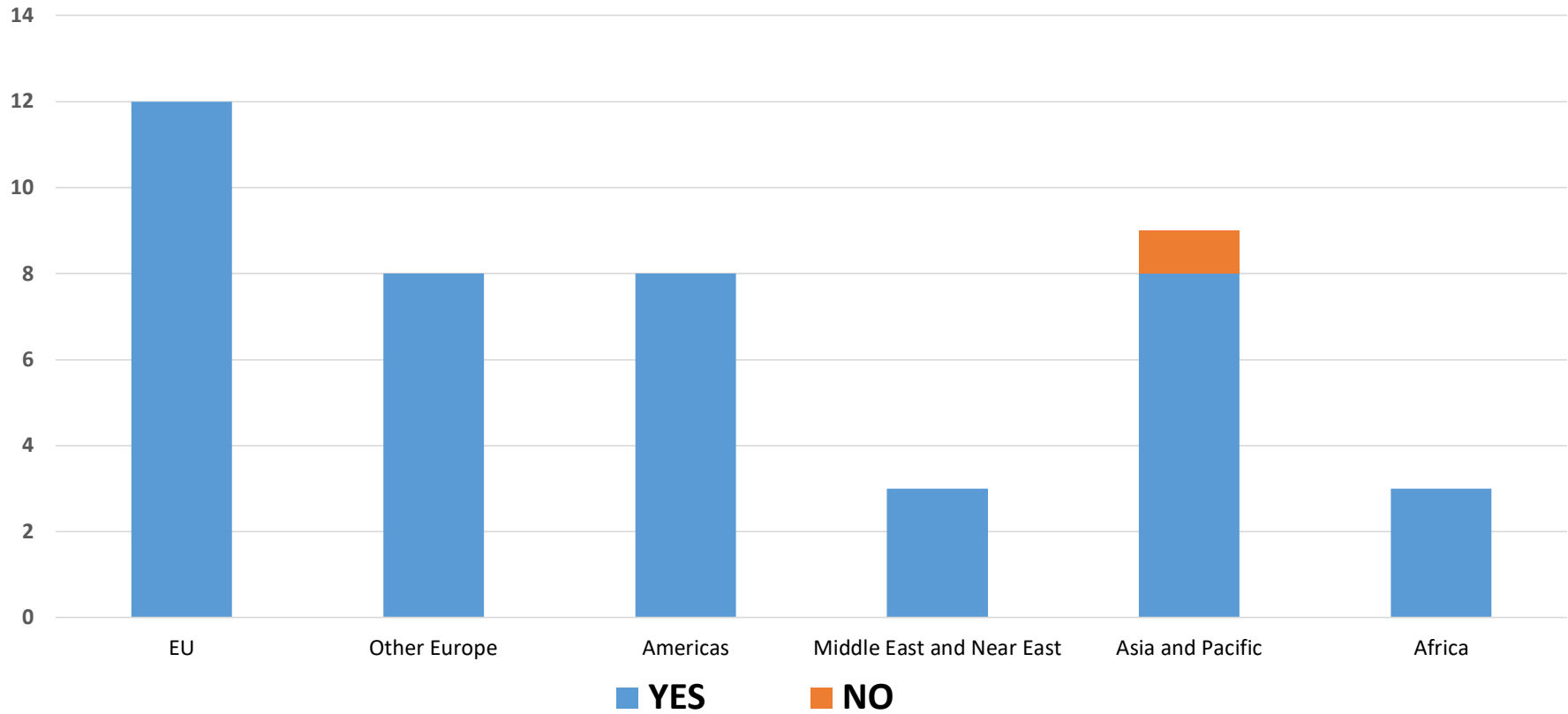
Data (background)

- Data **not** currently explicitly considered an asset.
- User concern that **investment was being missed** or that expenditure was not being capitalised – potential impact on productivity.
- Work progressed over past 12-18 months to confirm conceptual aspects and valuation methodology.
- Guidance note considers **data the result of production**.
- Global Consultation recently occurred.
- **Guidance note recommends a conceptual change to the SNA.**

Is data entirely the result of production?




Is data an asset as defined in the SNA?



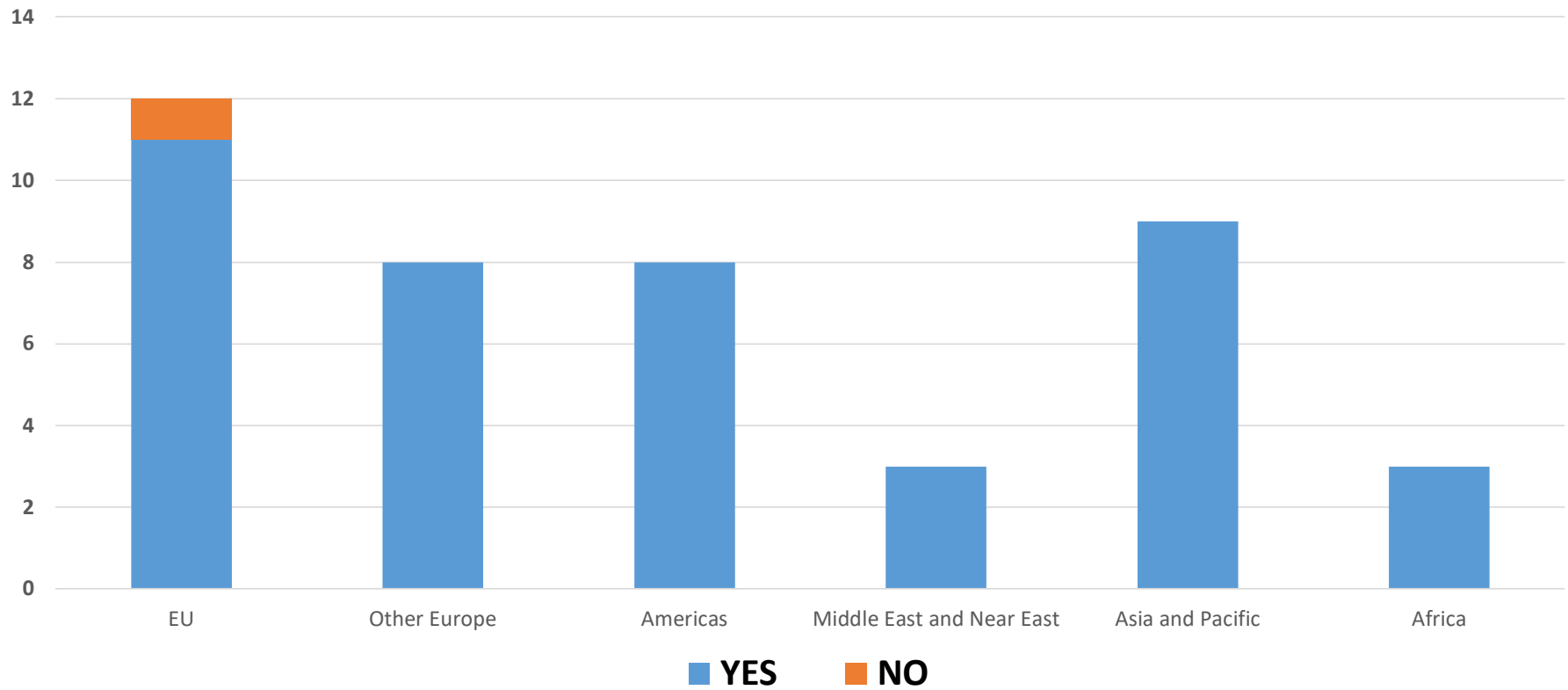



Sum-of-cost production

- Sum-of-cost is considered the most appropriate valuation method.
- Consistent with R & D as well own account Capital formation.
- Expenditure relating to
 - costs of planning, preparing and developing a data production strategy,
 - costs associated with accessing, recording and storing information embedded in OPs, which may include, but is not limited to, the explicit purchases of OPs or already produced data,
 - costs associated with processing, cleaning and organising the data to allow for use in productive activities.

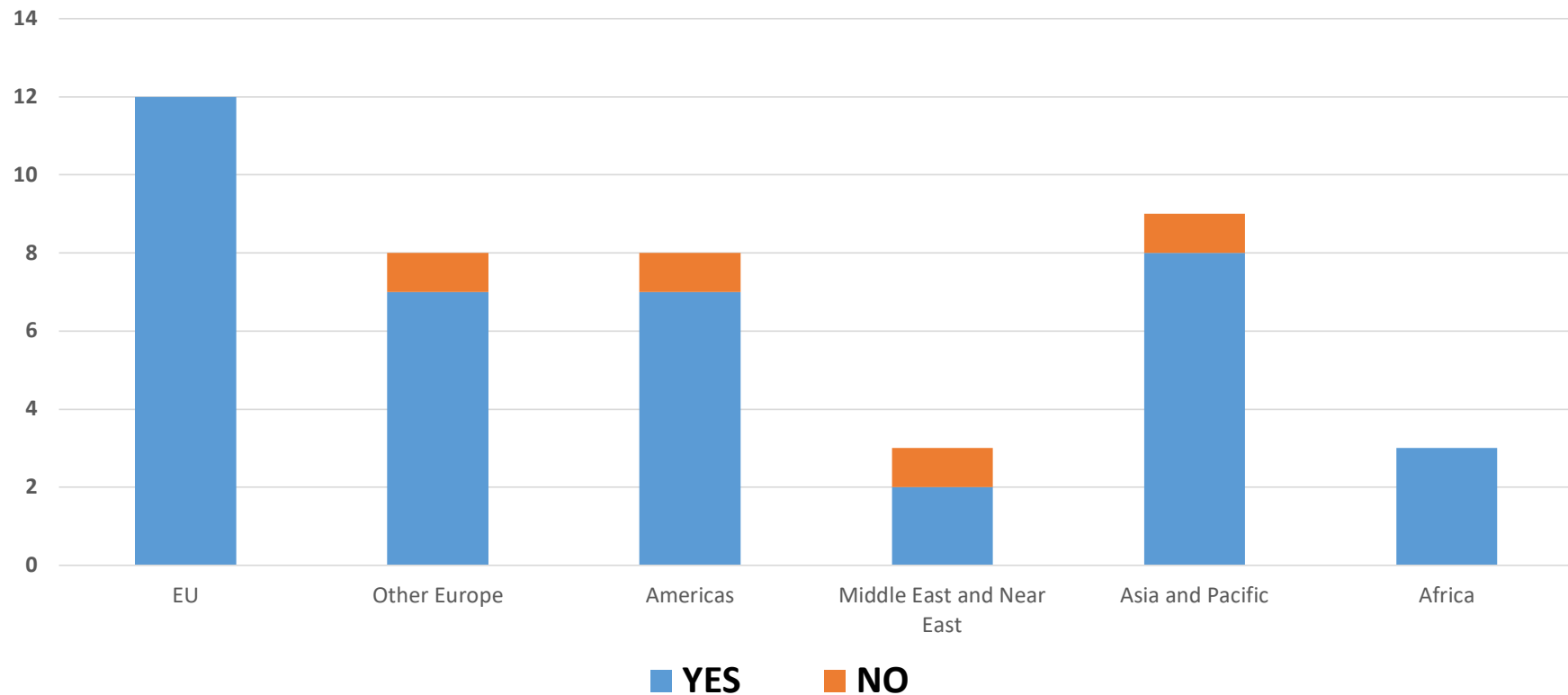


Do you agree that ideally data is classified to a newly-created asset category (“data”) which includes databases but separate to software.






Do you agree to exclude data that is not used as direct input into the primary productive activities of the economic unit?



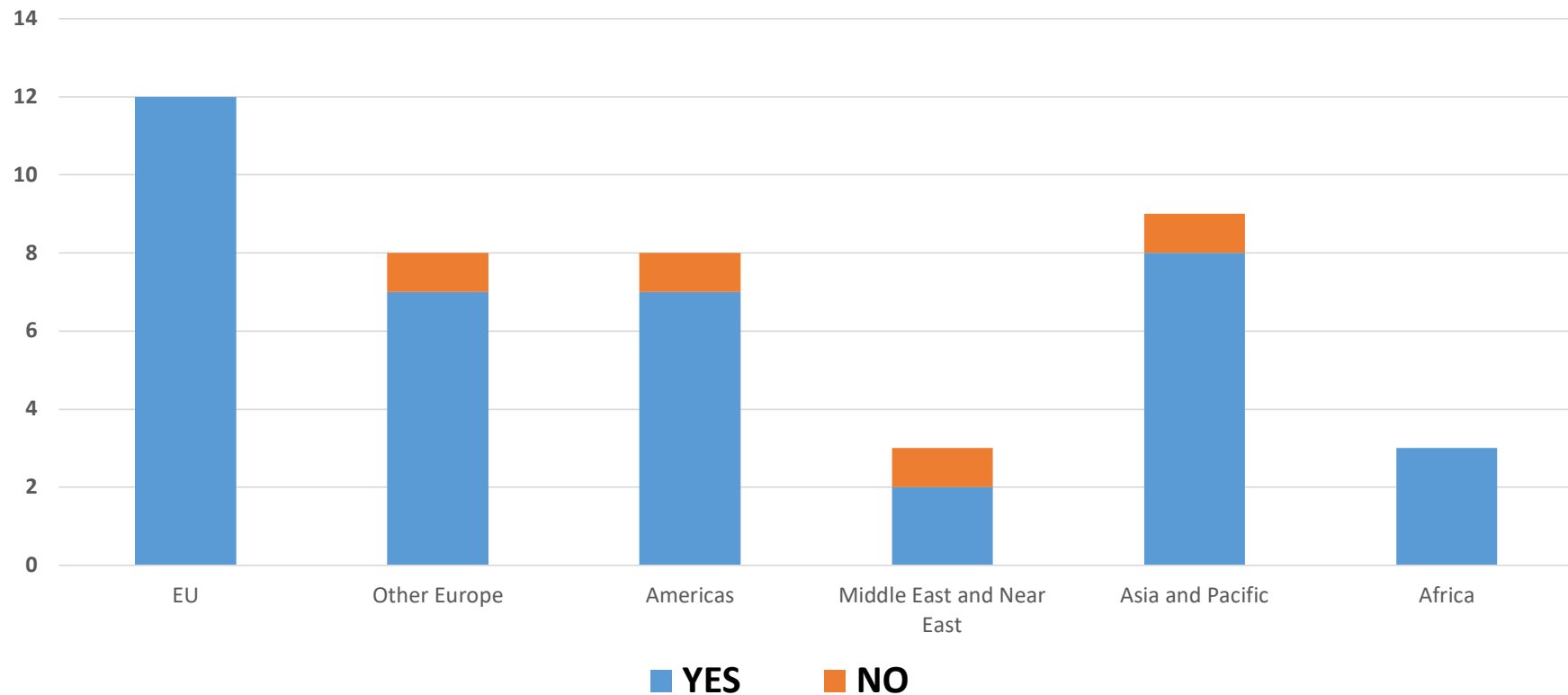


Ancillary data & own account data

- The GN recommends **capitalising all own account data** production and capitalizing **purchased data, depending on use**.
- The GN recommends **only** capitalizing expenditure on **data that provides an economic benefit**.
- Several **countries expressed concern** on how these recommendations fit with their countries established data collection practices. However, the task team acknowledges some practical difficulties, the **recommendation is consistent with overarching asset definitions**.
- Countries will implement a methodology that is both feasible and conceptually defensible

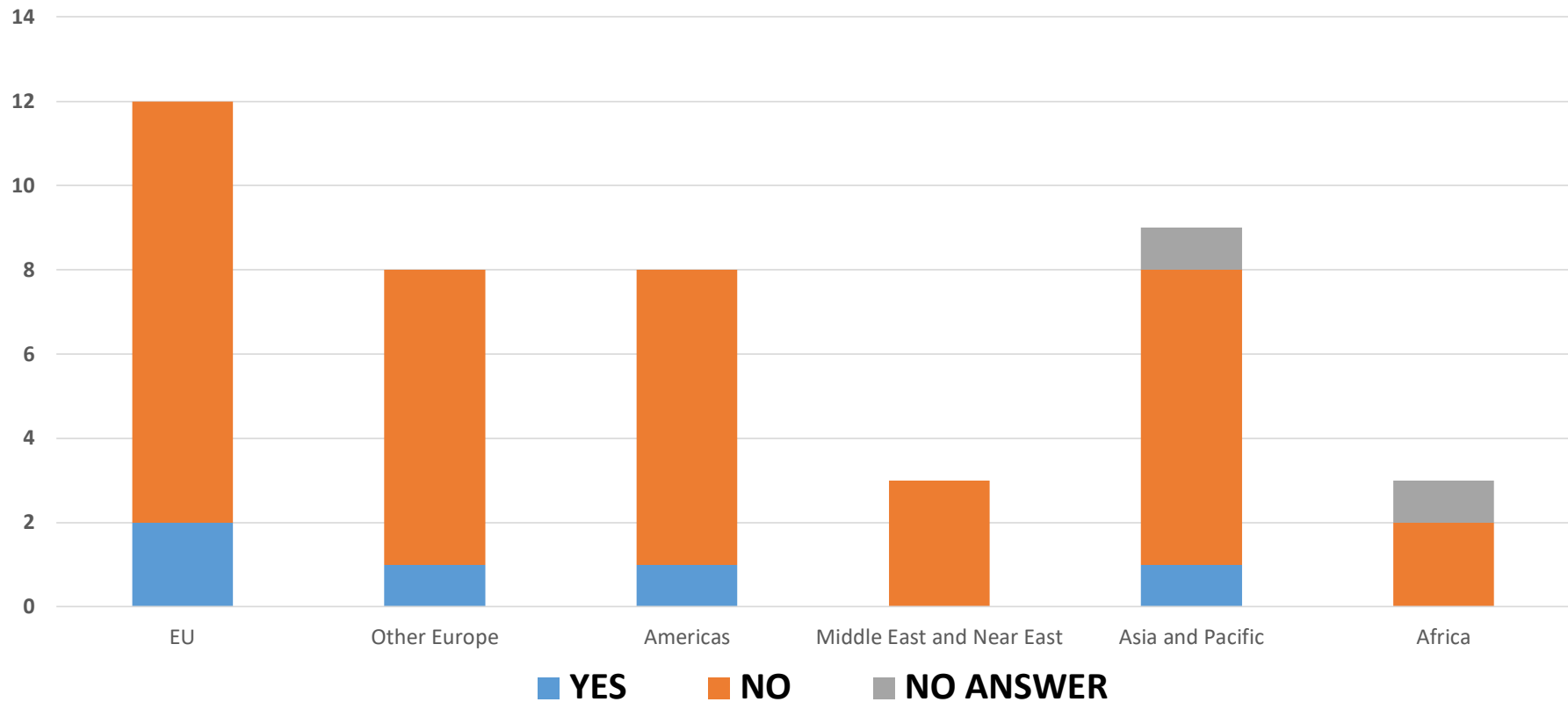


Do you agree to exclude data that is not used as direct input into the primary productive activities of the economic unit?





Have you already done some work to estimate the value of Data?





Data – Final considerations

- Practical concerns remain on how to best implement this change in the SNA. **Testing on these aspects is forthcoming** and will focus on;
 - I. NSOs' ability to estimate the **costs contributing to own-production of data**,
 - II. Whether **expenditure on data** production (both purchased and own account) **can be separated** from expenditure on computer software
 - III. The possibility to delineate and **exclude** costs associated with the production of **ancillary data** that is not providing a clear economic benefit to the economic unit.
- Other practical aspects to consider are;
 - Models and parameters for the **depreciation** of data assets and
 - The identification of **suitable price deflators**.
 - Inclusion within relevant **classifications** (ISIC and CPC)
- However, guidance on **these aspects is outside the scope** of *this* guidance note and can be developed through dedicated work streams to be organised at a later stage.



Thanks for your interest.

This work has been developed by the entire
Digitalisation task team.

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