Update on the Treatment of "Free" Digital Products

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The views express here are those of the presenter and not necessarily those of the U.S. Department of Commerce or the Bureau of Economic Analysis.

Background



- March 2020
 - Issue paper on data, free assets, and free services
- June 2020
 - GN on recording and valuation of data as an asset
 - Way forward for "free" products
- November 2020: Two GNs for "free" products
 - Clarification of current SNA treatment

No changes to SNA

Proposal for an SNA satellite account

central framework

April 2021: OECD update paper on data as an asset

Intersection of "Free" Products and Data



- Focus on digital platforms and digital apps
- OECD update on recording and measuring data
 - Paper by van de Ven, Zwijnenburg, Mitchell (2021)
 - Distinguishes recording and processing (R&P) costs from OP procurement (OP-P) costs
 - OP-P costs may be either produced or non-produced
 - Access to OPs
 - Exchanged for "free" services
 - Exchanged for explicit payment
 - By-product of production

Guidance Note on Current SNA Treatment



- Draft by Reinsdorf and Ribarsky (2021)
- Digital platforms supply "free" products that facilitate the interaction of two or more parties
 - Subsidized side (e.g., households)
 - Funder side (e.g., advertisers)
- Funder pays markup to cover cost of "free" products
 - Funder side recovers the cost in its sales
 - Subsidized side indirectly pays for use of "free" products
- Consistent treatment for all bundled products

Current Treatment: Baseline



		Household	Intermedi	iary	Adv	vertiser	Total .	Economy
			Uses Res	sources	Uses	Resources	Uses	Resources
	Output			485		300		785
	Predictive ad services			275				275
	Software (platform asset)			150				150
Production	Software (database asset)			60				60
Account	Advertised product					300		300
	Intermediate consumption		0		275		275	
	Predictive ad services				275		275	
	Value-added		485		25		510	
Use of Income Account	Disposable income Final consumption expenditure Advertised product Saving	Uses Resources 225 300 300 -75	Uses Res 0 260	260	Uses 0 25	Resources 25	Uses 300 300 210	Resources 510
		·	•		•		·	
Capital Account	Saving Gross fixed capital formation Software (platform asset) Software (database asset) Net lending(+)/borrowing(-)	Assets Liabilities -75 0 -75	Assets Li 210 150 60 50	abilities 260	Assets 0 25	Liabilities 25	Assets 210 150 60 0	Liabilities 210

Current Treatment: IPPs



		Household	Intermediary	Advertiser	Total Economy
			Uses Resources	Uses Resources	Uses Resources
	Output		485	300	785
	Predictive ad services	_	275		275
	Software (platform asset)		150		150
Production	Software (database asset)		60		60
Account	Advertised product			300	300
	Intermediate consumption		0	275	275
	Predictive ad services			275	275
	Value-added		485	25	510
Use of Income Account	Disposable income Final consumption expenditure Advertised product Saving	Uses Resources 225 300 300 -75	Uses Resources 260 260	Uses Resources 25 0 25	Uses Resources 510 300 300 210
Capital Account	Saving Gross fixed capital formation Software (platform asset) Software (database asset) Net lending(+)/borrowing(-)	Assets Liabilities -75 0 -75	Assets Liabilities 260 210 150 60 50	Assets Liabilities 25 0 25	Assets Liabilities 210 210 150 60 0

Current Treatment: Advertising Services



		Household	Intermediary	Advertiser	Total Economy
			Uses Resources	Uses Resources	Uses Resources
	Output	_	485	300	785
	Predictive ad services		275		275
	Software (platform asset)		150		150
Production	Software (database asset)		60		60
Account	Advertised product			300	300
	Intermediate consumption	_	0	275	275
	Predictive ad services			275	275
	Value-added		485	25	510
Use of Income Account	Disposable income Final consumption expenditure Advertised product Saving	Uses Resources 225 300 300 -75	Uses Resources 260 0 260	Uses Resources 25 0 25	Uses Resources 510 300 300 210
Capital Account	Saving Gross fixed capital formation Software (platform asset) Software (database asset) Net lending(+)/borrowing(-)	Assets Liabilities -75 0 -75	Assets Liabilities 260 210 150 60 50	Assets Liabilities 0 25	Assets Liabilities 210 210 150 60

Current Treatment: Advertised Product



		Household	Intermediary	Advertiser	Total Economy
Production Account	Output Predictive ad services Software (platform asset) Software (database asset) Advertised product Intermediate consumption Predictive ad services Value-added		Uses Resources 485 275 150 60 485	Uses Resources 300 275 275 225	Uses Resources 785 275 150 60 300 275 275 510
Use of Income Account	Disposable income Final consumption expenditure Advertised product Saving	Uses Resources 225 300 300 -75	Uses Resources 260 0 260	Uses Resources 25 0 25	Uses Resources 510 300 300 210
Capital Account	Saving Gross fixed capital formation Software (platform asset) Software (database asset) Net lending(+)/borrowing(-)	Assets Liabilities -75 0	Assets Liabilities 260 210 150 60 50	Assets Liabilities 25 0 25	Assets Liabilities 210 210 150 60

SNA Satellite Account



- Effort to make the role of the household more visible
- Intersection of "free" digital products and data is key
- Consistent with OECD (2021)
 - R&P costs for the data asset
 - OP-P costs for the data asset
 - "Free" digital products GFCF included in sum of costs

SNA Satellite Account



- Definition/scope of "free" digital products
 - Includes digital content that is provided to households without monetary charge for the full value in order to access household observable phenomena that can be transformed into a data asset that can enrich the effectiveness of advertising messages or can be resold or otherwise used in production.
 - Typology in Heys and Taylor (2021)
- Two satellite options
 - Option 1: Household is final consumer (baseline)
 - Option 2: Digital intermediary is intermediate consumer
 - Linkages between "free" digital products and data assets



				Bu	reau of Economic Analysis
		Household	Intermediary	Advertiser	Total Economy
			Uses Resources	Uses Resources	Uses Resources
	Output	_	485	300	785
	Predictive ad services		255		255
	"Free" products		20		20
	Software (platform asset)		150		150
Production	Software (database asset)		60		60
Account	Advertised product			280	280
Account	"Free" products			20	20
	Intermediate consumption	_	0	275	275
	Predictive ad services			255	255
	"Free" products			20	20
	Value-added		485	25	510
		Uses Resources	Uses Resources	Uses Resources	Uses Resources
	Disposable income	225	260	25	510
Use of	Final consumption expenditure	300	0	0	300
Income	Advertised product	280			280
Account	"Free" products	20			20
	Saving	-75	260	25	210
		Assets Liabilities	Assets Liabilities	Assets Liabilities	Assets Liabilities
	Saving	-75	260	25	210
Capital	Gross fixed capital formation	0	210	0	210
-	Software (platform asset)		150		150
Account	Software (database asset)		60		60
	Net lending(+)/borrowing(-)	-75	50	25	0



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		Hous	ehold	Inter	mediary	Adv	vertiser	Total	Economy
				Uses	Resources	Uses	Resources	Uses	Resources
	Output			_	485	_	300		785
	Predictive ad services				255				255
	"Free" products				20				20
	Software (platform asset)				150				150
Production	Software (database asset)				60				60
	Advertised product						280		280
Account	"Free" products						20		20
	Intermediate consumption			0		275		275	
	Predictive ad services					255		255	
	"Free" products					20		20	
	Value-added			485		25		510	
		Uses	Resources	Uses	Resources	Uses	Resources	Uses	Resources
	Disposable income		225		260		25		510
Use of	Final consumption expenditure	300		0		0		300	
Income	Advertised product	280						280	
Account	"Free" products	20						20	
	Saving	-75		260		25		210	
		Assets	Liabilities	Assets	Liabilities	Assets	Liabilities	Assets	Liabilities
	Saving		-75		260		25		210
Comital	Gross fixed capital formation	0		210		0		210	
Capital	Software (platform asset)			150				150	
Account	Software (database asset)			60				60	
	Net lending(+)/borrowing(-)	-75		50		25		0	



							Bureau of Economic	: Analysis
		Household	Inter	rmediary	Adv	vertiser		Economy
			Uses	Resources	Uses	Resources	Uses	Resources
	Output			485		280		765
	Predictive ad services			255				255
	"Free" products			20				20
	Software (platform asset)			150				150
Production	Software (database asset)			60				60
Account	Advertised product	_				280		280
Account	"Free" products							0
	Intermediate consumption		0		255		255	
	Predictive ad services	_			255		255	
	"Free" products						0	
	Value-added		485		25		510	
Use of Income Account	Disposable income Final consumption expenditure Advertised product "Free" products Saving	Uses Resources 225 300 280 20 -75	<u>Uses</u> 0 260	Resources 260	<u>Uses</u> 0 25		Uses 300 280 20 210	
Capital Account	Saving Gross fixed capital formation Software (platform asset) Software (database asset) Net lending(+)/borrowing(-)	Assets Liabilities -75 0 -75	Assets 210 150 60 50		Assets 0 25		Assets 210 150 60 0	



				Bureau of Economic Analysis
	Household	Intermediary	Advertiser	Total Economy
		Uses Resources	Uses Resources	Uses Resources
Output		485	280	765
Predictive ad services	_	255		255
"Free" products		20		20
Software (platform asset)		150		150
Software (database asset)	_	60		60
Advertised product			280	280
"Free" products				0
Intermediate consumption		0	255	255
Predictive ad services			255	255
"Free" products				0
Value-added		485	25	510
	Uses Resources	Uses Resources	Uses Resources	Uses Resources
Disposable income	225	260	25	510
Final consumption expenditure	300	0	0	300
Advertised product	280			280
"Free" products	20			20
Saving	-75	260	25	210
	Assets Liabilities	Assets Liabilities	Assets Liabilities	Assets Liabilities
Saving	-75	260	25	210
Gross fixed capital formation	0	210	0	210
Software (platform asset)		150		150
Software (database asset)		60		60
Net lending(+)/borrowing(-)	-75	50	25	0
	Predictive ad services "Free" products Software (platform asset) Software (database asset) Advertised product "Free" products Intermediate consumption Predictive ad services "Free" products Value-added Disposable income Final consumption expenditure Advertised product "Free" products Saving Saving Saving Saving Software (platform asset) Software (database asset)	Output Predictive ad services "Free" products Software (platform asset) Software (database asset) Advertised product "Free" products Intermediate consumption Predictive ad services "Free" products Value-added Uses Resources Disposable income Final consumption expenditure Advertised product "Free" products Saving Assets Liabilities Saving Gross fixed capital formation Software (platform asset) Software (database asset)	Output	Uses Resources Uses Uses Resources Uses Uses Resources Uses Uses Resources Uses Uses Resources Uses Uses

Satellite Account: Data Asset (R&P)



		Household	Intermediary	Advertiser	Total Economy
		_	Uses Resources	Uses Resources	Uses Resources
	Output		500	280	780
	Predictive ad services		255		255
	"Free" products		20		20
	Software (platform asset)		150		150
	Software (database asset)	_	60		60
Production	Software (data asset-R&P)		15		15
Account	Software (data asset-OP-P)				
	Advertised product			280	280
	Intermediate consumption		0	255	255
	Predictive ad services			255	255
	"Free" products	_			0
	Value-added		500	25	525
		Uses Resources	Uses Resources	Uses Resources	Uses Resources
Secondary	Balance of primary incomes	225	275	25	525
Income	Imputed transfer of OPs	223	213	2.5	323
Account	Disposable income	225	275	25	525
Account	Disposable income	223	2/3	23	323
		Uses Resources	Uses Resources	Uses Resources	Uses Resources
	Disposable income	225	275	25	525
Use of	Final consumption expenditure	300	0	0	300
Income	Advertised product	280			280
Account	"Free" products	20			20
	Saving	-75	275	25	225
		Assets Liabilities	Assets Liabilities	Assets Liabilities	Assets Liabilities
	Saving	-75	275	25	225
	Gross fixed capital formation	0	225	0	225
	Software (platform asset)		150		150
Capital	Software (database asset)		60		60
Account	Software (data asset-R&P)		15		15
	Software (data asset-OP-P)				0
	Net lending(+)/borrowing(-)	-75	50	25	0
	Transfer from the first transf	/~I	201	201	۳I

Satellite Account: Data Asset (OP-P)



		Household	Intermediary	Advertiser	Total Economy
			Uses Resources	Uses Resources	Uses Resources
	Output		510	280	790
	Predictive ad services		255		255
	"Free" products		20		20
	Software (platform asset)		150		150
	Software (database asset)		60		60
Production	Software (data asset-R&P)	_	15		15
Account	Software (data asset-OP-P)		10		10
	Advertised product			280	280
	Intermediate consumption		10	255	265
	Predictive ad services			255	255
	"Free" products		10		10
	Value-added		500	25	525
Secondary Income Account	Balance of primary incomes Imputed transfer of OPs Disposable income	Uses Resources 10 225 215	Uses Resources 275 10 285	Uses Resources 25	Uses Resources 525 10 525 10
Use of	Disposable income Final consumption expenditure	Uses Resources 215 290	Uses Resources 285	Uses Resources 25	Uses Resources 525 290
Income	Advertised product	280			280
Account	"Free" products	10			10
110000	Saving	-75	285	25	235
		Assets Liabilities	Assets Liabilities	Assets Liabilities	Assets Liabilities
	Saving	-75	285	25	235
	Gross fixed capital formation	0	235	0	235
Capital Account	Software (platform asset)		150		150
	Software (database asset)		60		60
	Software (data asset-R&P)		15		15
	Software (data asset-OP-P)	75	10	25	10
	Net lending(+)/borrowing(-)	-75	50	25	0

Satellite Account: Data Asset (OP-P)



		Household	Intermediary	Advertiser	Total Economy
			Uses Resources	Uses Resources	Uses Resources
	Output		510	280	790
	Predictive ad services		255		255
	"Free" products		20		20
	Software (platform asset)		150		150
	Software (database asset)		60		60
Production	Software (data asset-R&P)		15		15
Account	Software (data asset-OP-P)		10		10
	Advertised product			280	280
	Intermediate consumption		10	255	265
	Predictive ad services			255	255
	"Free" products		10		10
	Value-added		500	25	525
		II D	II D	II D	II D
Secondary	Balance of primary incomes	Uses Resources 225	Uses Resources 275	Uses Resources 25	Uses Resources 525
Income	Imputed transfer of OPs	10	10	23	10 10
Account	Disposable income	215	285	25	525
Account	Disposable income	215	203	23	525
		Uses Resources	Uses Resources	Uses Resources	Uses Resources
	Disposable income	215	285	25	525
Use of	Final consumption expenditure	290	0	0	290
Income	Advertised product	280			280
Account	"Free" products	10			10
	Saving	-75	285	25	235
		Assets Liabilities	Assets Liabilities	Assets Liabilities	Assets Liabilities
	Saving	-75	285	25	235
	Gross fixed capital formation	0	235	0	235
	Software (platform asset)		150		150
Capital	Software (database asset)		60		60
Account	Software (data asset-R&P)		15		15
	Software (data asset-OP-P)		10		10
	Net lending(+)/borrowing(-)	-75	50	25	0
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Satellite Account: Data Asset (OP-P)



		Household	Intermediary	Advertiser	Total Economy
Production Account	Output Predictive ad services "Free" products Software (platform asset) Software (database asset) Software (data asset-R&P) Software (data asset-OP-P) Advertised product Intermediate consumption Predictive ad services "Free" products Value-added		Uses Resources 510 255 20 150 60 15 10 10 500	Uses Resources 280 280 255 255 255	Uses Resources 790 255 20 150 60 15 10 280 265 255 10 525
Secondary Income Account	Balance of primary incomes Imputed transfer of OPs Disposable income	Uses Resources 225 10 215	Uses Resources 275 10 285	Uses Resources 25 25	Uses Resources 525 10 525 10
Use of Income Account	Disposable income Final consumption expenditure Advertised product "Free" products Saving	Uses Resources 215 290 280 10 -75	Uses Resources 285 0 285	Uses Resources 25 0 25	Uses Resources 525 290 280 10 235
Capital Account	Saving Gross fixed capital formation Software (platform asset) Software (database asset) Software (data asset-R&P) Software (data asset-OP-P) Net lending(+)/borrowing(-)	Assets Liabilities -75 0	Assets Liabilities 285 235 150 60 15 10 50	Assets Liabilities 25 0	Assets Liabilities 235 235 150 60 15 10 0

Satellite Account: Recommend Option 2



- Increased visibility of the household's role
 - Final consumer of some "free" products (but not all)
 - Imputed transfer of OPs for displaced final consumption
- Preserved current SNA scope for sum of costs
 - SOC = labor + capital + intermediate consumption
- Avoided double counting production
 - Output only increases by the value of the data asset
 - Value-added only increases by the value of the R&P costs
- Mitigated imputed transactions

Questions for the AEG



- Do you agree that the production and consumption of "free" digital products of market producers, including platforms, is already covered in the central SNA framework and that no change is required, but an explanation should be included in the revised SNA?
- Do you agree that a satellite account is the appropriate tool to give visibility to "free" digital products and the flows among sectors and institutional units?
- Do you agree with the proposed definition/scope of "free" digital products for the satellite account?
- Do you support the second option for a satellite account on "free" digital products, which includes costs associated with the production of a data asset?