Chapter 16: Summarizing and integrating the accounts

A. Introduction

16.1 This chapter provides a synthesis of the sequence of accounts presented in chapters 6 to 13 and shows how they relate to the tables in chapter 2. It shows how the most common aggregates in the SNA, GDP, NDP and GNI are related to the balancing items in the various accounts. It shows the impact on national aggregates of transactions undertaken between a resident unit and one resident in the rest of the world. It describes the articulation of the accumulation accounts.

16.2 The chapter lays the groundwork for greater elaboration of the accounts, in both manners of presentation and further analysis that form the subject matter of later chapters.

B. Integrating the accounts

16.3 The tables presented in the previous chapters use a format very common in published tables; the items representing resources are shown in the right-hand side of the table and the items representing uses in the left-hand side of the table. This format is flexible because it allows a multiple number of columns to be shown for both parts of the table and even for the two parts to be shown on different pages if the columns are sufficiently numerous. However, there is another format for the tables that is particularly useful for explanatory purposes, the T account.

16.4 In a T account, only one set of descriptive headings (stubs) is shown in the middle of the table with values representing resources in columns to the right and values representing uses in columns to the left. An example of a T account is given in table 16.1. The rows in the table show the rows from tables 6.1, 7.1, 7.2, 8.1 and 9.1 at a high level of aggregation. Data for the individual sector accounts are not shown but the total for the economy as well as for the rest of the world and the total of both these are shown. In addition, the column for the goods and services account is retained.

1. Summarizing the current accounts

16.5 The current accounts included in table 16.1 consist of the production account and accounts showing the primary distribution of income, the secondary distribution of income and the use of income. In addition to these accounts, table 16.1 begins with imports and exports of goods and services, the entries from the rest of the world account that show the value of goods and services that reach the national economy from the rest of the world and those that are produced in the national economy but are provided to the rest of the world.

The production account

16.6 The immediately following rows show the main entries from the production account, output and taxes less subsidies on the resource side and intermediate consumption on the use side. The balancing item for the production account, value added, appears next, also on the use side as the closing item of the production account. Value added is the basic building block for determining GDP.

The generation of income account

16.7 The next few rows correspond to the generation of income account. This is the first part of the primary distribution of income account. Value added, the balancing item from the production account appears as the only entry on the resources side of the account. The entries on the left-hand side of the account under uses show how much of value added is generated by labour in the form of compensation of employees and how much of the value of output is payable to government in the form of taxes on products less subsidies on products not already included in the value of output. The balancing items, operating surplus and mixed income, represent the contribution of capital to the generation of value added.

The allocation of primary income account

16.8 In the allocation of primary income account, these contributions to value added appear as resources of the relevant sectors; compensation of employees to households, taxes less subsidies to government and operating surplus and mixed income to the sectors containing the relevant production units. In addition, however, the allocation of primary income account shows

Table 16.1:Summary of the current accounts in the sequence of accounts

Uses: Total economy	Uses: Rest of the world	Uses: Goods and services	Uses: Total	Transactions and balancing items	Resources: Total economy	Resources: Rest of the world	Resources: Goods and services	Resources: Total
		499	499	Imports of goods and services		499		499
		392	392	Imports of goods		392		392
		107	107	Imports of services		107		107
	540		540	Exports of goods and services			540	540
	462		462	Exports of goods			462	462
	78		78	Exports of services			78	78
				Production account				
		3 604	3 604	Output	3 604			3 604
		3 077	3 077	Market output	3 077			3 077
		147	147	Output for own final use	147			147
		380	380	Non-market output	380			380
1 883			1 883	Intermediate consumption			1 883	1 883
		141	141	Taxes on products	141			141
		- 8	- 8	Subsidies on products (-)	- 8			- 8
1 854			1 854	Value added, gross / Gross domestic product				
222			222	Consumption of fixed capital				
1 632			1 632	*Value added, net / Net domestic product*				
	- 41		- 41	*External balance of goods and services*				
				Generation of income account				
				Value added, gross / Gross domestic product	1 854			1 854
				Value added, net / Net domestic product	1 632			1 632
1 150			1 150	Compensation of employees				
235			235	Taxes on production and imports				
141			141	Taxes on products				
94			94	Other taxes on production				
- 44			- 44	Subsidies				
- 8			- 8	Subsidies on products				
- 36			- 36	Other subsidies on production				
452			452	Operating surplus, gross				
61			61	Mixed income, gross				
214				Consumption of fixed capital on gross operating surplus				
8				Consumption of fixed capital on gross mixed income				
238			238	*Operating surplus, net*				
53			53	*Mixed income, net*				
				Allocation of primary income account				
				Operating surplus, gross	452			452
				Mixed income, gross	61			61
				Operating surplus, net	238			238
				Mixed income, net	53			53
	6		6	Compensation of employees	1 154	2		1 156
			0	Taxes on production and imports	235			235
			0	Subsidies	- 44			- 44
391	44		435	Property income	397	38		435
1 864			1 864	Balance of primary incomes, gross / National income, gross				
1 642			1 642	Balance of primary income, net / National income, net				
				Secondary distribution of income account				
				Balance of primary incomes, gross / National income, gross	1 864			1 864
				Balance of primary income, net / National income, net	1 642			1 642
1 212	17		1 229	Current transfers	1 174	55		1 229
212	1		213	Current taxes on income, wealth, etc.	213	0		213
333	0		333	Net social contributions	333	0		333
384	0		384	Social benefits other than social transfers in kind	384	0		384
283	16		299	Other current transfers	244	55		299
1 826			1 826	Disposable income, gross				
1 604			1 604	*Disposable income, net*				
				Use of disposable income account				
				Disposable income, gross	1 826			1 826
				Disposable income, net	1 604			1 604
1 399			1 399	Final consumption expenditure			1 399	1 399
11	0		11	Adjustment for the change in pension entitlements	11	0		11
427			427	Saving, gross				
205			205	*Saving, net*				
	- 13		- 13	*Current external balance*				

Table 16.2:Summary of the accumulation accounts and balance sheets

Changes in assets					Changes in liabilities and net worth			
Total economy	Rest of the world	Goods and services	Total	**Transactions and balancing items**	Total economy	Rest of the world	Goods and services	Total
				Capital account				
				Saving, net	205			205
				Current external balance		- 13		- 13
414			414	Gross capital formation			414	414
192			192	Net capital formation			192	192
376			376	Gross fixed capital formation			376	376
- 222			- 222	Consumption of fixed capital			- 222	- 222
				Gross fixed capital formation by type of asset				
28			28	Changes in inventories			28	28
10			10	Acquisitions less disposals of valuables			10	10
0			0	Acquisitions less disposals of non-produced assets			0	0
				Capital transfers, receivable	62	4		66
				Capital transfers, payable	- 65	- 1		- 66
				Changes in net worth due to saving and capital transfers	202	- 10		192
10	- 10		0	*Net lending (+) / net borrowing (–)*				
				Financial account				
				Net lending (+) / net borrowing (–)	10	- 10		0
436	47		483	Net acquisition of liabilities	426	57		483
- 1	1		0	Monetary gold and SDRs				
89	11		100	Currency and deposits	102	- 2		100
86	9		95	Debt securities	74	21		95
78	4		82	Loans	47	35		82
107	12		119	Equity and investment fund shares	105	14		119
48	0		48	Insurance, pension and standardized guarantee schemes	48	0		48
14	0		14	Financial derivatives and employee stock options	11	3		14
15	10		25	Other accounts receivable/payable	39	- 14		25
				Other changes in the volume of assets account				
13			13	Total other changes in volume	3			3
- 7			- 7	Produced non-financial assets				
17			17	Non-produced non-financial assets				
3			3	Financial assets	3			3
				Changes in net worth due to other changes in volume of assets	10			
				Revaluation account				
				Nominal holding gains and losses				
280			280	Non-financial assets				
84	7		91	Financial assets/liabilities	76	15		91
				Changes in net worth due to nominal holding gains/losses	288	- 8		280
				Neutral holding gains and losses				
198			198	Non-financial assets				
136	12		148	Financial assets/liabilities	126	22		148
				Changes in net worth due to neutral holding gains/losses	208	- 10		214
				Real holding gains and losses				
82			82	Non-financial assets				
- 52	- 5		- 57	Financial assets/liabilities	- 50	- 7		- 57
				Changes in net worth due to real holding gains/losses	80	2		66
				Stocks and changes in assets				
				Opening balance sheet				
4 621			4 621	Non-financial assets				
8 231	805		9 036	Financial assets/liabilities	7 762	1 274		9 036
				Net worth	5 090	- 469		4 621
				Total changes in assets and liabilities				
482			482	Non-financial assets				
523	54		577	Financial assets/liabilities	505	72		577
				Changes in net worth, total	500	- 18		482
				Saving and capital transfers	202	- 10		192
				Other changes in volume of assets	10			10
				Nominal holding gains/losses	288	- 8		280
				Neutral holding gains/losses	208	- 10		198
				Real holding gains/losses	80	2		82
				Closing balance sheet				
5 103			5 103	Non-financial assets				
8 754	859		9 613	Financial assets/liabilities	8 267	1 346		9 613
				Net worth	5 590	- 487		5 103

how much of each of these three items is payable to non-resident units and where comparable items generated in non-resident units are payable to resident sectors.

16.9 In the course of production, producers may have made use of financial and non-produced assets belonging to other units. The payments for the use of these assets are shown as property income. Property income may be payable by residents or non-residents and may be receivable by residents or non-residents. Once the values for three of them are known, the value of the last is necessarily determined. For example, property income receivable by residents must be equal to property income payable by both residents and non-residents less property income receivable by non-residents. Thus property income receivable by both residents and non-residents (shown under resources) must be equal to property income payable by both residents and non-residents (shown under uses).

16.10 Value added as a resource plus the resource entries of compensation of employees, operating surplus, mixed income and property income, less the corresponding entries for these items as uses leads to the balance of primary incomes. This is the balancing item for the allocation of primary income account shown as a use, and the first item, a resource, of the secondary distribution of income account.

16.11 From the balance of primary incomes, another key aggregate of the SNA, national income, is derived. Value added is determined by the criterion of residence; all resident units and only resident units contribute to the total. For the balance of primary income, however, the focus changes not just from production to income but to the residence of the units receiving the income generated by production rather than the residence of the producing units themselves. Further discussion of national income appears below in connection with the discussion of the rest of the world account.

The secondary distribution of income account

16.12 The secondary distribution of income account shows how primary income is transformed to disposable income by the payment and receipt of current transfers. Various factors stimulate redistribution of income between sectors of the economy. One of these is the role of government in levying current taxes on income and wealth; one is the role played by social insurance schemes in redistributing contributions by current workers to retirees; another is the role of insurance in providing a mechanism whereby small regular payments by many units are channelled to a few units suffering predefined sorts of losses. Among other types of current transfers, the role of purely voluntary transfers is of increasing interest. Such transfers may provide the main source of finance for NPISHs, in the form of international cooperation between governments, or may be between resident and non-resident households in the form of workers' remittances.

16.13 Current transfers payable by resident and non-resident units must be equal to current transfers receivable by both resident and non-resident units, and thus total uses and resources are equal as is the case for property income.

16.14 Disposable income is an important balancing item in the accounts since it shows how much can be consumed without the need to run down assets or incur liabilities. It thus corresponds to the economic theoretical concept of income.

The use of income accounts

16.15 The use of disposable income account shows how much disposable income is in fact used for consumption and how much is saved. When looking at the sector accounts, the adjustment for the change in pension entitlements has to be made to ensure that these form part of the saving of households and not of pension funds. However, in the aggregate only flows relating to pension entitlements involving non-resident employees or resident employees of non-resident enterprises appear.

16.16 Table 16.1 does not include the redistribution of income in kind account and the use of adjusted disposable income account but these could be inserted either in place of, or as a complement to, the use of disposable income account.

2. Summarizing the accumulation accounts

16.17 Table 16.2 presents a summary of the accumulation accounts and balance sheets with the same degree of detail as used for the current accounts in table 16.1. In this case, the titles given to the right- and left-hand columns are changed; the columns to the right are described as changes in liabilities and net worth, and those to the left show changes in assets.

The capital account

16.18 The first items appearing on the right-hand side of the capital account are saving and the current external balance. Also appearing as resources are capital transfers receivable. By convention, capital transfers payable also appear under resources but with a negative sign. For the economy as a whole, including transactions with the rest of the world, capital transfers receivable and payable exactly offset one another in the same way that property income and current transfers do. However, this equality is not generally true for the total economy excluding the rest of the world nor for individual sectors within it.

16.19 Together, saving plus capital transfers (net) show how much is available within the economy to acquire non-financial capital, primarily capital formation but also non-produced non-financial assets. This total is shown as a special aggregate called changes in net worth due to saving and capital transfers. It is not a balancing item but has the same characteristic of being an analytical construct of particular interest.

16.20 The uses shown in the capital account are the acquisition of produced and non-produced non-financial assets. The balancing item of the capital account is net borrowing or lending. When there is net lending, it shows the extent to which the sum of saving and capital transfers is actually used to finance the acquisition of non-financial assets and how much is lent to the rest of the world. When there is net borrowing, saving plus capital transfers are insufficient to finance all the acquisition of non-financial assets and borrowing from the rest of the world is necessary.

The financial account

16.21 The financial account shows exactly how net lending or borrowing takes place by showing all the transactions in financial instruments. Transactions in financial assets shown as changes in assets exactly balance the amounts shown as changes in liabilities and net worth because when all transactions of resident units with either other resident units or non-resident units are taken into account, there can be no net lending or borrowing left unexplained.

16.22 Because the financial account does not introduce any new balancing items and only explains how net lending or net borrowing is effected, and because it requires quite different data sources and understanding of the data sources, this account is not always compiled by national accountants. However, without the financial account, the compiler cannot be certain that the estimates for the other accounts are fully consistent and complete. Just as the national accountant must have an understanding of the balance of payments system and ensure that the transactions relating to the rest of the world are fully captured in the accounts, so there is a need to appreciate the implications of systems of monetary and financial statistics. Two later chapters, chapters 26 and 27, discuss the relationships with these other statistical systems in more detail.

3. The goods and services account

16.23 Throughout the sequence of accounts, each transaction line is balanced. For the distributive and redistributive transactions, this is automatically the case if the data are fully reconciled since whatever is shown as payable by one unit must be shown as receivable by another. However this is not obviously the case for the transactions relating to goods and services. In order to preserve the balancing nature of the accounts, a column headed “goods and services” is included on each side of the accounts. In every case where there is a transaction relating to goods and services, an entry in the goods and services column on the other side of the account is made.

16.24 Ultimately the entries on the left-hand side of the account show the value of all goods and services supplied to the economy, either as production or imports, plus the taxes on products less subsidies paid on them. On the right-hand side of the account, the use of the goods and services is shown, as intermediate or final consumption, capital formation or exports.

16.25 Clearly, ex post the total amount of goods and services supplied to the economy must be equal to the total use made of those goods and services. Setting the entries in the left-hand goods and services column equal to those in the right-hand side column gives the familiar goods and services account, described in chapter 14:

Output + imports + taxes less subsidies on products
= intermediate consumption + final consumption + exports + capital formation

16.26 The equation reflects the notion that goods and services produced in the current period are used either to generate more goods and services in the current period (intermediate consumption) or to generate more goods and services in future periods (capital formation) or to satisfy human wants immediately (final consumption). However, because no economy is entirely closed, it is necessary to allow for those goods and services supplied from outside the economy (imports) and those goods and services used by other economies (exports).

16.27 This identity comprises the goods and services account. ***The goods and services account shows the balance between the total goods and services supplied as resources to the economy as output and imports (including the value of taxes less subsidies on products not already included in the valuation of output) and the use of the same goods and services as intermediate consumption, final consumption, capital formation and exports.***

4. The accounts for the rest of the world

16.28 The entries in the integrated accounts for the rest of the world correspond to the entries in the balance of payments as laid out in *BPM6*. Table 16.3 shows the entries for the rest of the world in the structure of the balance of payments accounts.

16.29 There are three current accounts; one for goods and services, one for primary income and one for secondary income. Each of these has a balancing item but, unlike the accounts in the SNA, the balancing items do not carry down from one account to the next. However, other balancing items that do match those in the SNA are allowed for. Thus the external balance of goods, services and primary income is the sum of the [external] balance of goods and services and the [external] balance of primary incomes and corresponds to the balance of primary income for the total economy. When this item is added to the external balance of secondary income, the current external balance is derived which corresponds to saving for the total economy.

16.30 In the capital account of the rest of the world, the only entries are for capital transfers receivable from and payable to the rest of the world and acquisition less disposals of non-produced non-financial assets involving non-resident units. These give the capital external balance. When this is added to the current external balance, the result is net lending to or borrowing from the rest of the world.

5. Integration of stock and flow data

Linking the opening and closing balance sheets

16.31 The balance sheets are an integral part of the SNA. An understanding of the articulation of the balance sheets with the flows relating to assets in the capital, financial and other changes in assets accounts is fundamental to understanding the role capital accumulation plays in the SNA.

16.32 The basic accounting identity linking the opening and the closing balance sheet values for a single type of asset can be summarized as follows:

The value of the stock of a specific type of asset in the opening balance sheet valued at the prices prevailing at the date the balance sheet refers to;

plus the total value of the assets acquired, less the total value of those disposed of (including consumption of fixed capital where appropriate), in transactions that take place within the accounting period;

*plu*s the value of other positive or negative changes in the volume of the assets held (for example, as a result of the discovery of a subsoil resource or the destruction of assets as a result of war or a natural disaster);

plus the value of the positive or negative nominal holding gains accruing during the period resulting from a change in the price of the asset;

equals the value of the stock of the asset in the closing balance sheet valued at the prices prevailing at the date the balance sheet refers to.

16.33 The value of the non-financial assets acquired, less the total value of those disposed of, in transactions that take place within the accounting period is recorded in the capital account and transactions in financial assets and liabilities in the financial account. The value of other positive or negative changes in the volume of the assets held is recorded in the other changes in the volume of assets account. The value of the positive or negative nominal holding gains accruing during the period resulting from a change in the price of the asset is recorded in the revaluation account. This means that the value of each entry in the closing balance sheet can, in principle, be constructed by taking the value in the opening balance sheet and adding to it the entries relating to the same asset in each of the four accumulation accounts.

16.34 A nominal holding gain may be decomposed into a neutral holding gain and a real holding gain. The nominal holding gain indicates by how much the value of an asset has increased over the period. The neutral holding gain indicates the increase that would have been necessary for the asset to exactly maintain its purchasing power over the period. If the nominal holding gain is larger than the neutral holding gain, the owner of the asset has a real holding gain (equal to the difference between the nominal and neutral holding gains). If the nominal holding gain is less than the neutral holding gain, then the owner suffers a real holding loss.

16.35 The identity linking the opening and closing balance sheets and the accumulation account is valid even in the case of assets that are held only temporarily within the accounting period and that do not appear in either the opening or the closing balance sheets. For example, an asset may be acquired in a period, increase in price due to a holding gain and then suffer some destruction before being sold again before the end of the period.

16.36 The nominal holding gains and losses shown in the revaluation account include both realized and unrealized holding gains and losses but the realized holding gains and losses are incorporated in the value of transactions of the assets, leaving only the unrealized holding gains and losses in the closing balance sheet.

Table 16.3:Entries for the rest of the world using the *BPM6* structure of accounts

Uses: Rest of the world	Transactions and balancing items	Resources: Rest of the world
	Goods and services account	
	Imports of goods and services	499
540	Exports of goods and services	
- 41	*External balance of goods and services*	
	Primary income account	
6	Compensation of employees	2
	Taxes on production and imports	
	Subsidies	
44	Property income	38
- 10	*External balance of primary income*	
- 51	*External balance of goods, services and primary income*	
	Secondary income account	
17	Current transfers	55
38	*External balance of secondary income*	
	Adjustment for the changes in pension entitlements	
- 13	*Current external balance*	
	Capital account	
	Acquisitions less disposals of non-produced assets	
	Capital transfers, receivable	4
	Capital transfers, payable	- 1
3	*External capital account balance*	
- 10	***Net lending (+) / net borrowing (–)***	

16.37 The link between the balance sheet and flow accounts in respect of financial assets and liabilities is often recognized and presented. Less attention has been focused on the links for non-financial assets though, as chapter 20 on capital services makes clear, it is no less important, especially as regards an understanding of productivity growth in the economy.

Net worth

16.38 The balancing item on a balance sheet is equal to the sum of all the assets less all the liabilities and is called net worth. The change in net worth between the opening and closing balance sheet can be shown to be composed of three items.

a. The first of these is the change in net worth due to saving and capital transfers. This comes from the capital account and is the item shown as the total of resources on that account.

b. The second item is the change in net worth due to other changes in the volume of assets and is the sum of all the entries for assets in the other changes in the volume of assets account less all the entries for liabilities.

c. The third item is the change in net worth due to nominal holding gains and losses. This is the sum of the entries for nominal holding gains and losses for all assets recorded in the revaluation account less the entries for nominal holding gains and losses on all liabilities. This can be broken down into the change in net worth due to neutral holding gains and losses and the change in net worth due to real holding gains and losses in an obvious manner.

Asset accounts

16.39 The identity linking opening and closing balance sheets holds for assets in total, for every separate class of asset and indeed for every individual asset. An asset account describes the changes in the stock of an asset or class of assets from one balance sheet to the next, itemizing which changes are due to capital transactions, which to financial transactions and which to other changes in volume and revaluation. Asset accounts are described in chapter 13.

6. Consolidating the accounts

16.40 Although it is not usual to present the accounts in a fully consolidated form, it is useful from a pedagogical point of view to consider what results from a full consolidation of the accounts.

Consolidating the current accounts

16.41 All the items in table 16.1 relating to the distribution and redistribution of income appear on both sides of the account. Their inclusion permits the derivation of significant balancing items but it is also possible to consider what entries are left if they are eliminated by consolidation. In fact what remains are the entries in the goods and services columns plus the entries for saving and the current external balance. This result can be seen from the following:

a. Resources

· Imports 499;

· Output 3 604;

· Taxes on products 141;

· Subsidies on products -8;

· Total 4 236;

b. Uses

· Exports 540;

· Intermediate consumption 1 883;

· Final consumption 1 399

· Saving 427;

· Current external balance -13;

· Total 4 236.

16.42 The current external balance (-13) is equal to the external balance of goods and services (-41) plus the flows of income coming from the rest of the world (28). If imports, exports and the external balance of goods and services are removed from the consolidation just described, the following result can be derived:

Output 3 604

plus taxes on products 141

minus subsidies on products 8

minus intermediate consumption 1 883

(result 1 854)

equals

final consumption 1 399

plus saving 427

plus income from the rest of the world 28.

16.43 The first part of this identity is the definition of income generated in the economy. If the income from the rest of the world is regarded as an analogue to saving generated within the domestic economy, this identity can be seen as the simple economic concept that income is equal to consumption plus saving.

Consolidating the accumulation accounts

16.44 When the capital and financial accounts are consolidated, all the entries in the financial account are eliminated and the entries for net lending or borrowing that appear in each account cancel. All that is left is:

capital formation (414)

plus the acquisition less disposals of non-produced assets (0)

equals

saving (427)

plus the current external balance (-13).

Consolidating the rest of the world account

16.45 Looking only at the capital and financial account of the rest of the world:

the current external balance (-13)

plus capital transfers receivable (4)

minus capital transfers payable (1)

equals net lending or borrowing (-10).

16.46 Combining this identity with the previous one reduces to:

Capital formation (414)

plus the acquisition less disposals of non-produced assets (0)

equals

saving (427)

plus net lending or borrowing to the rest of the world (-10)

minus capital transfers payable to the rest of the world (4).

plus capital transfers receivable from the rest of the world (1).

In other words investment is equal to saving generated from within the total economy or drawn in from the rest of the world.

C. The macroeconomic aggregates in the SNA

1. The GDP identities

16.47 Rearranging the order of items appearing in the goods and services account leads to the most familiar definitions of GDP:

Output (3 604)

minus intermediate consumption (1 883)

plus taxes less subsidies on products (141 - 8)

equals

final consumption (1 399)

plus capital formation (414)

plus exports (540)

minus imports (499)

equals GDP (1 854).

There are thus two separate ways in which GDP can be defined:

a. ***the production measure of gross domestic product (GDP) is derived as the value of output less intermediate consumption plus any taxes less subsidies on products not already included in the value of output,***

b. the expenditure measure of gross domestic product (GDP) is derived as the sum of expenditure on final consumption plus gross capital formation plus exports less imports.

16.48 The production measure of GDP can also be expressed as value added adjusted to ensure all taxes less subsidies on products are included. As described in chapter 7, value added can be viewed as the elements comprising income: compensation of employees, operating surplus, mixed income and other taxes less subsidies on production. If separate estimates are available of these components, then a third way of compiling GDP is possible, that is, from the income side. Because other taxes less subsidies on production are included in value added and taxes less subsidies on products are to be included also, the two tax items can be replaced by the term that is the sum of them both, taxes less subsidies on production and imports.

GDP (1 854)

equals

compensation of employees (1 150)

plus gross operating surplus (452)

plus gross mixed income (61)

plus taxes less subsidies on production and imports (191).

The third way in which GDP can be defined is thus

c. ***the income measure of gross domestic product (GDP) is derived as compensation of employees plus gross operating surplus plus gross mixed incomes plus taxes less subsidies on both production and imports.***

2. A note on the valuation of output

16.49 In chapter 6, it is explained that the preferred measurement of output in the system is basic prices. At basic prices, the value of output excludes all taxes on products and includes all subsidies on products. It includes all other taxes on production and excludes all other subsidies on production. However, the data sources in some countries may not permit this valuation to be followed. In this case, output will be valued at producers' prices. All taxes on both products and production (possibly excluding any VAT type taxes) will be included in the value of output and all subsidies on both products and production will be excluded.

16.50 For this reason, the definition of GDP from the production side given above includes the phrase "plus any taxes less subsidies on products not already included in the value of output". When output is valued at producers' prices, there will be no further taxes on products to add in (except possibly VAT type taxes); they will be already included in the measure of output (and similarly subsidies on products will already be deducted). In this case, GDP may be defined as ***the production measure of gross domestic product (GDP) is derived as the value of output at producers' prices less intermediate consumption.*** When output is measured at basic prices (as preferred in the SNA and as followed in the numerical example) the definition can be rephrased as ***the production measure of gross domestic product (GDP) is derived as the value of output at basic prices less intermediate consumption plus taxes less subsidies on products.***

3. Gross and net domestic product

16.51 While the third definition of GDP is correct both economically and statistically, it is held not to be the best measure of income. Income is usually defined as the amount that can be consumed while keeping the level of capital intact. (For further discussion on this see the introduction to chapter 8.) It is for this reason that the item consumption of fixed capital is so important in the accounts and appears in every account as the difference between balancing items on a gross and net basis. To measure domestic production on a net basis, it is necessary:

a. to deduct consumption of fixed capital from the production measure of GDP,

b. to replace gross capital formation by net capital formation in the expenditure measure of GDP,

c. to replace gross operating surplus by net operating surplus and gross mixed income by net mixed income in the income measure of GDP.

16.52 Each deduction from GDP is equivalent because the difference between gross and net capital formation is the consumption of fixed capital as is the difference between the sum of operating surplus and mixed income on a gross basis as opposed to a net basis. Thus, ***net domestic product (NDP) is defined as gross domestic product (GDP) less the consumption of fixed capital.***

NDP (1 632)

equals

GDP (1 854)

minus consumption of fixed capital (222).

4. Gross and net national income

16.53 In some countries, border or seasonal workers may have a significant effect on the amount of compensation of employees that is either payable abroad or receivable from abroad. Compensation earned abroad but repatriated to the country where the employee is resident (as opposed to where he or she works) adds to the income of households available for consumption. The concept of national income as opposed to domestic production is thus another key aggregate of the SNA. As well as labour income from abroad in the form of compensation of employees, income earned abroad on capital, especially financial capital, in the form of property income, is included in national income as well as any taxes on products payable by non-residents. Similar payments flowing out of the total economy to the rest of the world have to be deducted from GDP to reach national income.

16.54 ***Gross national income (GNI) is defined as GDP plus compensation of employees receivable from abroad plus property income receivable from abroad plus taxes less subsidies on production receivable from abroad less compensation of employees payable abroad less property income payable abroad and less taxes plus subsidies on production payable abroad.*** In the terms of an equation,

GNI (1 864)

equals

GDP (1 854)

plus compensation of employees receivable from abroad (6)

plus property income receivable from abroad (44)

plus taxes less subsidies on production and imports receivable from abroad (0)

minus compensation of employees payable abroad (2) *minus* property income payable abroad (38)

minus taxes less subsidies on production and imports payable abroad (0).

16.55 As mentioned above, an income concept is better measured after deducting consumption of fixed capital so ***Net national income (NNI) is defined as GNI less the consumption of fixed capital***.

NNI (1 642)

equals

GNI (1 864)

minus consumption of fixed capital (222).

5. National disposable income

16.56 A further step in examining the impact of the rest of the world on the national economy is to consider current transfers receivable from abroad and those payable abroad. Transfers receivable from abroad include remittances from nationals working abroad for long enough (more than one year) to be treated as resident elsewhere. However, like compensation of employees payable from abroad, these transfers from non-residents can have a major impact on the resources available to the national economy. Overseas assistance, other than development assistance for capital projects, is also shown here. As before, transfers payable abroad must be deducted in moving from national income to national disposable income.

16.57 National disposable income, more often than domestic product and national income, is usually shown on a net basis. ***Net national disposable income (NNDI) is defined as net national income (NNI) plus current transfers receivable from abroad less current transfers payable abroad.*** In equation terms,

NNDI (1 604)

equals

NNI (1 642)

plus current transfers receivable from abroad (17)

minus current transfers payable abroad (55).

D. An example set of integrated economic accounts

16.58 The T accounts shown in table 16.1 and 16.2 can be extended to cover all the sectors of the economy and as much detail as required in the accounts. Such an extended presentation is referred to as a set of integrated economic accounts. An example is tables 16.4 and 16.5 which show, simultaneously, the general accounting structure of the SNA and present a set of data for the individual institutional sectors, the economy as a whole and the rest of the world.

16.59 The table brings together in one presentation:

the institutional sector accounts,

the rest of the world accounts, and

the goods and services account.

16.60 In order to simplify this table while still having it comprehensive, classifications of sectors, transactions and other flows, assets and liabilities are at the highest level of aggregation compatible with understanding the structure of the SNA. However, columns and rows can be subdivided to introduce subsectors or more detailed classifications of transactions and other flows, assets and liabilities.

1. Institutional sector accounts

Current accounts

16.61 As an example of the institutional sectors current accounts, consider the column for non-financial corporations.

16.62 The *production account* shows output (2 808) on the right-hand side, intermediate consumption (1 477) and value added (1 331 gross, 1 174 net, the difference referring to consumption of fixed capital (157), on the left-hand side). Value added, the balancing item of the production account, appears again in the same row as a resource of the *generation of income account.*

16.63 The uses of the *generation of income account* (compensation of employees (986) and other taxes (88) less subsidies on production (35)) are shown on the left-hand side, the balancing item being net operating surplus (135), which appears again as a resource of the *allocation of primary income account*.

16.64 In the *allocation of primary income account*, property income receivable (96), along with operating surplus is recorded on the right-hand side, and property income payable (134) is recorded on the left-hand side. The balancing item is the net balance of primary incomes (97), which appears again as a resource of the *secondary distribution of income account.* The *secondary distribution of income account* shows current transfers, payable (98) and receivable (72), leading to the balancing item of net disposable income (71). This item, which can also be described as the undistributed income of non-financial corporations, appears as a resource in the *use of income account.*

16.65 The only transaction appearing in the *use of income account* for the corporations sectors is an entry for the change in pension entitlements. In this case the entry has a value of zero so the balancing item of the use of income account, saving, has the same value as disposable income.

16.66 The accounts for other institutional sectors may be read the same way, the relevant transactions varying according to the sector involved.

The use of income account

16.67 The presentation of the two ways in which disposable income is associated with final consumption, one taking account of the redistribution of income in kind leading to actual consumption and the other showing final consumption expenditure to disposable income directly, is simplified in table 16.4. The redistribution of income in kind account and the use of adjusted disposable income account are merged with the use of income account as follows. Disposable income, net, is 317 for general government, 37 for NPISHs and 1 219 for households. Final consumption expenditure is 352 for government, 32 for NPISHs and 1 015 for households. Total consumption expenditure is 1 399. Saving is given by disposable income less final consumption expenditure.

The accumulation accounts

16.68 The accumulation accounts follow the sequence of current accounts for the institutional sectors. For example, net saving of households is 192. Households receive 23 and pay 5 as capital transfers. Thus the value of the changes in their net worth due to saving and capital transfers is 210. Households have 48 as gross fixed capital formation (25 as net fixed capital formation after deduction of consumption of fixed capital (23)), changes in inventories of 2 and acquisitions less disposals of valuables of 5. Their acquisitions less disposals of non-produced non-financial assets (land) are 4. The net lending of households is 174. They incur financial liabilities (net) of 15 and acquire financial assets (net) of 189. Other changes in volume of assets are 2. The value of the assets held by households increases by 96 due to changes in the prices of both non-financial assets (80) and financial assets (16); there are no nominal gains or losses on their liabilities, which means that all their liabilities are denominated in monetary terms and probably in the national currency of the economy in question.

The balance sheets

16.69 The balance sheets are also part of the integrated economic accounts. In order to see the relationships between the accumulation accounts and balance sheets, take general government as the example. The opening assets are 1 185 (789 non-financial assets and 396 financial assets) and the opening liabilities 687, net worth thus being 498. The total value of non-financial assets increases by 57, which results from all changes in these assets recorded in the accumulation accounts, gross fixed capital formation (35), consumption of fixed capital (-27), acquisitions less disposals of valuables (3), acquisitions less disposals of non-produced non-financial assets (2), other volume changes (0) and nominal holding gains (44). Financial assets decrease by 9 (net disposal of financial assets, 10, other volume changes, 0, nominal holding gains, 1). On the right-hand side, liabilities increase by 102, which results again from all changes in liabilities recorded in the accumulation accounts (net incurrence of liabilities (93), other volume changes (2), revaluation of liabilities (7)). So the closing assets are 1 233 (846 + 387) and the closing liabilities are 789; closing net worth (444) shows a decrease over the year of 54. The sources of this change in net worth are summarized on the right-hand side of the account showing the change in balance sheets, changes in net worth due to saving and capital transfers (-90, see also the right-hand side of the capital account), to other changes in volume of assets (-2, see also the right-hand side of the other changes in volume of assets account), and to nominal holding gains or losses (38, see also the right-hand side of the revaluation account).

2. The rest of the world account

16.70 As explained earlier, the rest of the world accounts are presented from the viewpoint of the rest of the world. Imports of goods and services (499) are a resource for the rest of the world, even though they represent an outflow from the national economy and exports (540) are a use of the rest of the world. Thus imports appear on the right-hand side of the table and exports on the left. The external account of goods and services is shown at the same level as the production account for institutional sectors. The external balance of goods and services is -41. With a positive sign, it is a surplus of the rest of the world (a deficit of the nation) and vice versa.

16.71 As explained in connection with table 16.3, the external balance on primary income is -10 and on secondary income is 38, giving a current external balance of -13.

16.72 Transactions of the accumulation accounts appear in the columns for the rest of the world when relevant (mainly capital transfers and financial transactions). The rest of the world columns show the assets and liabilities position of the rest of the world vis-à-vis the nation (external assets and liabilities account). The row “changes in net worth due to saving and capital transfers” corresponds, for the rest of the world, to the current external balance and capital transfers.

3. The goods and services account

16.73 In the integrated economic accounts, the goods and services account is shown in a column, not in a row. It reflects the various transactions in goods and services that appear in the accounts of the institutional sectors. Intermediate consumption and final consumption appear as uses in the institutional accounts on the left-hand side of the accounts. For the goods and services account, they appear in the right-hand side column, even though the right-hand side is generally reserved for resources and consumption is a use. This device of using the opposite side of the account from

Table 16.4:Summary current account with sector details – uses

Uses

Transactions and balancing items	Non-financial corporations	Financial corporations	General government	Households	NPISHs	Total economy	Rest of the world	Goods and services	Total
Imports of goods and services								499	499
Imports of goods								392	392
Imports of services								107	107
Exports of goods and services							540		540
Exports of goods							462		462
Exports of services							78		78
Production account									
Output								3 604	3 604
Market output								3 077	3 077
Output for own final use								147	147
Non-market output								380	380
Intermediate consumption	1 477	52	222	115	17	1 883			1 883
Taxes on products								141	141
Subsidies on products (-)								- 8	- 8
Value added, gross / Gross domestic product	1 331	94	126	155	15	1 854			1 854
Consumption of fixed capital	157	12	27	23	3	222			222
Value added, net / Net domestic product	1 174	82	99	132	12	1 632			1 632
External balance of goods and services							- 41		- 41
Generation of income account									
Compensation of employees	986	44	98	11	11	1 150			1 150
Taxes on production and imports						235			235
Taxes on products						141			141
Other taxes on production	88	4	1	0	1	94			94
Subsidies						- 44			- 44
Subsidies on products						- 8			- 8
Other subsidies on production	- 35	0	0	- 1	0	- 36			- 36
Operating surplus, gross	292	46	27	84	3	452			452
Mixed income, gross				61		61			61
Consumption of fixed capital on gross operating surplus	157	12	27	15	3	214			
Consumption of fixed capital on gross mixed income				8		8			
Operating surplus, net	135	34	0	69	0	238			238
Mixed income, net				53		53			53
Allocation of primary income account									
Compensation of employees							6		6
Taxes on production and imports									0
Subsidies									0
Property income	134	168	42	41	6	391	44		435
Balance of primary incomes, gross / National income, gross	254	27	198	1 381	4	1 864			1 864
Balance of primary income, net / National income, net	97	15	171	1 358	1	1 642			1 642
Secondary distribution of income account									
Current transfers	98	277	248	582	7	1 212	17		1 229
Current taxes on income, wealth, etc.	24	10	0	178	0	212	1		213
Net social contributions				333		333	0		333
Social benefits other than social transfers in kind	62	205	112	0	5	384	0		384
Social assistance benefits in cash			52			52			52
Other current transfers	12	62	136	71	2	283	16		299
Disposable income, gross	228	25	317	1 219	37	1 826			1 826
Disposable income, net	71	13	290	1 196	34	1 604			1 604
Use of disposable income account									
Final consumption expenditure			352	1 015	32	1 399			1 399
Adjustment for the change in pension entitlements	0	11	0		0	11	0		11
Saving, gross	228	14	- 35	215	5	427			427
Saving, net	71	2	- 62	192	2	205			205
Current external balance							- 13		- 13

Table 16.4 (cont):Summary current account with sector details – resources

Resources

Transactions and balancing items	Non-financial corporations	Financial corporations	General government	Households	NPISHs	Total economy	Rest of the world	Goods and services	Total
Imports of goods and services							499		499
Imports of goods							392		392
Imports of services							107		107
Exports of goods and services								540	540
Exports of goods								462	462
Exports of services								78	78
Production account									
Output	2 808	146	348	270	32	3 604			3 604
Market output	2 808	146	0	123	0	3 077			3 077
Output for own final use	0	0	0	147	0	147			147
Non-market output			348		32	380			380
Intermediate consumption								1 883	1 883
Taxes on products						141			141
Subsidies on products (-)						- 8			- 8
Generation of income account									
Value added, gross / Gross domestic product	1 331	94	126	155	15	1 854			1 854
Value added, net / Net domestic product	1 174	82	99	132	12	1 632			1 632
Compensation of employees									
Taxes on production and imports									
Taxes on products									
Other taxes on production									
Subsidies									
Subsidies on products									
Other subsidies on production									
Allocation of primary income account									
Operating surplus, gross	292	46	27	84	3	452			452
Mixed income, gross				61		61			61
Operating surplus, net	135	34	0	69	0	238			238
Mixed income, net				53		53			53
Compensation of employees				1 154		1 154	2		1 156
Taxes on production and imports			235			235			235
Subsidies			- 44			- 44			- 44
Property income	96	149	22	123	7	397	38		435
									0
									0
Secondary distribution of income account									
Balance of primary incomes, gross / National income, gross	254	27	198	1 381	4	1 864			1 864
Balance of primary income, net / National income, net	97	15	171	1 358	1	1 642			1 642
Current transfers	72	275	367	420	40	1 174	55		1 229
Current taxes on income, wealth, etc.			213			213	0		213
Net social contributions	66	213	50	0	4	333	0		333
Social benefits other than social transfers in kind				384		384	0		384
Social assistance benefits in cash				52		52			52
Other current transfers	6	62	104	36	36	244	55		299
Use of disposable income account									
Disposable income, gross	228	25	317	1 219	37	1 826			1 826
Disposable income, net	71	13	290	1 196	34	1 604			1 604
Final consumption expenditure								1 399	1 399
Adjustment for the change in pension entitlements				11		11	0		11

Table 16.5: Summary of the accumulation accounts and balance sheets with sector details – assets and changes in assets

Changes in assets

Transactions and balancing items	Non-financial corporations	Financial corporations	General government	Households	NPISHs	Total economy	Rest of the world	Goods and services	Total
Capital account									
Gross capital formation	308	8	38	55	5	414			414
Net capital formation	151	- 4	11	32	2	192			192
Gross fixed capital formation	280	8	35	48	5	376			376
Consumption of fixed capital	- 157	- 12	- 27	- 23	- 3	- 222			- 222
Gross fixed capital formation by type of asset									
Changes in inventories	26	0	0	2	0	28			28
Acquisitions less disposals of valuables	2	0	3	5	0	10			10
Acquisitions less disposals of non-produced assets	- 7	0	2	4	1	0			0
Capital transfers, receivable									
Capital transfers, payable									
Net lending (+) / net borrowing (–)	- 56	- 1	- 103	174	- 4	10	- 10		0
Financial account									
Net acquisition of financial assets	83	172	- 10	189	2	436	47		483
Monetary gold and SDRs		- 1				- 1	1		0
Currency and deposits	39	10	- 26	64	2	89	11		100
Debt securities	7	66	4	10	- 1	86	9		95
Loans	19	53	3	3	0	78	4		82
Equity and investment fund shares	10	28	3	66	0	107	12		119
Insurance, pension and standardized guarantee schemes	1	7	1	39	0	48	0		48
Financial derivatives and employee stock options	3	8	0	3	0	14	0		14
Other accounts receivable/payable	4	1	5	4	1	15	10		25
Other changes in the volume of assets account									
Total other changes in volume	14	- 1	0	0	0	13			13
Produced non-financial assets	- 2	- 2	- 3	0	0	- 7			- 7
Non-produced non-financial assets	14	0	3	0	0	17			17
Financial assets	2	1	0	0	0	3			3
Revaluation account									
Nominal holding gains and losses									
Non-financial assets	144	4	44	80	8	280			280
Financial assets/liabilities	8	57	1	16	2	84	7		91
Neutral holding gains and losses									
Non-financial assets	101	3	32	56	6	198			198
Financial assets/liabilities	18	71	8	36	3	136	12		148
Real holding gains and losses									
Non-financial assets	43	1	12	24	2	82			82
Financial assets/liabilities	- 10	- 14	- 7	- 20	- 1	- 52	- 5		- 57
Stocks and changes in assets									
Opening balance sheet									
Non-financial assets	2 151	93	789	1 429	159	4 621			4 621
Financial assets/liabilities	982	3 421	396	3 260	172	8 231	805		9 036
Total changes in assets and liabilities									
Non-financial assets	300	- 2	57	116	11	482			482
Financial assets/liabilities	93	230	- 9	205	4	523	54		577
Closing balance sheet									
Non-financial assets	2 451	91	846	1 545	170	5 103			5 103
Financial assets/liabilities	1 075	3 651	387	3 465	176	8 754	859		9 613

Table 16.5 (cont): Summary of the accumulation accounts and balance sheets with sector details – liabilities, net worth and changes in them

Changes in liabilities and net worth

Transactions and balancing items	Non-financial corporations	Financial corporations	General government	Households	NPISHs	Total economy	Rest of the world	Goods and services	Total
Capital account									
Saving, net	71	2	- 62	192	2	205			205
Current external balance							- 13		- 13
Gross capital formation								414	414
Net capital formation								192	192
Gross fixed capital formation								376	376
Consumption of fixed capital								- 222	- 222
Gross fixed capital formation by type of asset									
Changes in inventories								28	28
Acquisitions less disposals of valuables								10	10
Acquisitions less disposals of non-produced assets								0	0
Capital transfers, receivable	33	0	6	23	0	62	4		66
Capital transfers, payable	- 16	- 7	- 34	- 5	- 3	- 65	- 1		- 66
Changes in net worth due to saving and capital transfers	88	- 5	- 90	210	- 1	202	- 10		192
Financial account									
Net lending (+) / net borrowing (–)	- 56	- 1	- 103	174	- 4	10	- 10		0
Net acquisition of liabilities	139	173	93	15	6	426	57		483
Monetary gold and SDRs									
Currency and deposits		65	37			102	- 2		100
Debt securities	6	30	38	0	0	74	21		95
Loans	21	0	9	11	6	47	35		82
Equity and investment fund shares	83	22				105	14		119
Insurance, pension and standardized guarantee schemes		48	0			48	0		48
Financial derivatives and employee stock options	3	8	0	0	0	11	3		14
Other accounts receivable/payable	26	0	9	4		39	- 14		25
Other changes in the volume of assets account									
Total other changes in volume	0	0	2	1	0	3			3
Produced non-financial assets									
Non-produced non-financial assets									
Financial assets	0	0	2	1	0	3			3
Changes in net worth due to other changes in volume of assets	14	- 1	- 2	- 1	0	10			
Revaluation account									
Nominal holding gains and losses									
Non-financial assets									
Financial assets/liabilities	18	51	7	0	0	76	15		91
Changes in net worth due to nominal holding gains/losses	134	10	38	96	10	288	- 8		280
Neutral holding gains and losses									
Non-financial assets									
Financial assets/liabilities	37	68	13	5	3	126	22		148
Changes in net worth due to neutral holding gains/losses	82	6	27	87	6	208	- 10		214
Real holding gains and losses									
Non-financial assets									
Financial assets/liabilities	- 19	- 17	- 6	- 5	- 3	- 50	- 7		- 57
Changes in net worth due to real holding gains/losses	52	4	11	9	4	80	2		66
Stocks and changes in liabilities and net worth									
Opening balance sheet									
Non-financial assets									
Financial assets/liabilities	3 221	3 544	687	189	121	7 762	1 274		9 036
Net worth	- 88	- 30	498	4 500	210	5 090	- 469		4 621
Total changes in assets and liabilities									
Non-financial assets									
Financial assets/liabilities	157	224	102	16	6	505	72		577
Changes in net worth, total	236	4	- 54	305	9	500	- 18		482
Saving and capital transfers	88	- 5	- 90	210	- 1	202	- 10		192
Other changes in volume of assets	14	- 1	- 2	- 1	0	10			10
Nominal holding gains/losses	134	10	38	96	10	288	- 8		280
Neutral holding gains/losses	82	6	27	87	6	208	- 10		198
Real holding gains/losses	52	4	11	9	4	80	2		82
Closing balance sheet									
Non-financial assets									
Financial assets/liabilities	3 378	3 768	789	205	127	8 267	1 346		9 613
Net worth	148	- 26	444	4 805	219	5 590	- 487		5 103

normal gives a balance for the row for each of the items appearing in the goods and services account. On the resources side of the table, the figures appearing in the column for goods and services are the counterparts of the uses made by the various sectors and the rest of the world: exports (540), intermediate consumption (1 883), final consumption expenditure or actual final consumption (1 399), gross fixed capital formation (376), changes in inventories (28) and acquisitions less disposals of valuables (10). On the use side of the table, the figures in the column for goods and services are the counterparts of the resources of the various sectors and the rest of the world: imports (499) and output (3 604). On the same side taxes less subsidies on products (133) are shown directly in the column for goods and services. They are a component of the value of the supply of goods and services that has no counterpart in the value of the output of any institutional sector.

4. The total economy column

16.74 The columns for the total economy remain to be explained. Except for taxes less subsidies on products and gross and net domestic product, the figures in these columns are simply the sum of the corresponding figures for the institutional sectors. The production account for the total economy includes, as resources, output (that is, the total output of the economy (3 604)) and taxes less subsidies on products (133), the latter being the counterpart of the figure appearing on the left-hand side in the column for goods and services. The uses side of the production account for the total economy shows intermediate consumption (1 883) and domestic product at market prices (1 854 gross, 1 632 net). The latter is the sum of value added of the various sectors and taxes less subsidies on products. Domestic product then appears on the right-hand side as a resource of the generation of income account for the total economy. Taxes less subsidies on products are shown again on the left-hand side in the column for total economy and on the right-hand side as a resource of government (and the rest of the world if relevant). This double routing of taxes less subsidies on products is made in order to get domestic product, gross and net, directly in the overall accounts, as explained above.

16.75 The other items in the columns for the total economy are self-explanatory. Net national income at market prices (1 642) is shown directly as the sum of balance of primary incomes of the various sectors; national disposable income, national saving, etc. are also obtained directly.