

A NOTE ON BASIC CONCEPTS OF NATIONAL ACCOUNTS

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SUMMARY

An attempt is made to define and represent basic concepts for national accounts in matrix form. By means of this attempt three basic forms of national accounts are derived, so that the distinction of domestic and national concepts is founded on a firm conceptual basis. The scope of this system is further extended so as to include stock concepts, both assets and liabilities. A stress is laid on the real and financial aspects of national accounts. Subsequently a comprehensive scheme of national accounts which contains both aspects is constructed in this connection.

I. *A Matrix Presentation of Basic Concepts*

One of the dominant characteristics any system of national accounts possesses is the conceptual interconnection. The concept of "saving", for example, can not be formulated without determining clearly the correlated concept of "income". A convenient device which exhibits this interconnection is a matrix presentation of national accounts, in which matrix some basic concepts serve as constituent elements. As a point of departure for our discussion, let us suppose flows of goods and services within a closed unit. The flows of goods and services are called *real flows* in contradistinction to *financial flows*, which will be described in the later stage of this paper. A unit may be regarded as a single decision unit, such as a consumer or a firm, or as a set of these units. A national economy is a particular example of the latter. A system of basic concepts is formulated by a matrix form in Table 1. Here, the corresponding rows and columns express three basic activities. These are (i) production, (ii) income and its appropriation, and (iii) accumulation of real capital stocks respectively. Each row in the matrix of Table 1 indicates outflows of goods and services and each column of the same matrix stands for inflows of goods and services. Based on the two-way classification of real flows and the distinction of three basic activities, nine basic concepts are derived. For example, a crossing element between the outflow and the inflow of the same production boundary brings about the flows of intermediate products. Following a similar line of reasoning other basic concepts are easily defined. A presentation of basic concepts in a square matrix has double advantages. First, applying a summation vector to this matrix twice, i.e. pre-multiplication and post-multiplication, the result represents a balance between debtor and creditor sides in accounting form. In other words, sums of corresponding row and column stand for a balance equation with respect to a particular activity. Thus a presentation of basic concepts in matrix form at the same time implies that a fully articulated system of accounts is derived from the matrix. Second it is observed from the matrix in Table 1 that

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TABLE 1. A SYSTEM OF BASIC CONCEPTS FOR A CLOSED UNIT

	(i)	(ii)	(iii)
(i)	flows of intermediate products	consumption	gross capital formation
(ii)	net products	income transfer	dissaving
(iii)	capital consumption	saving	transfer of real capital

each symmetrical element pertains to a distinction between "gross" and "net" concepts. For example, the element which occupies a symmetrical position regarding with "gross capital formation" is "capital consumption". Suppose that the same amount as capital consumption is subtracted from both "gross capital formation" and "capital consumption". The result will be that instead of "gross capital formation" the element is replaced by "net capital formation" and that the position which is occupied by "capital consumption" becomes empty. In the usual sense "saving" is used as the net concept. This means that the term is defined as the difference between "saving" and "dissaving" in the terminology of Table 1.

II. "Domestic" and "National" Concepts

So far the scope of basic concepts has been limited to those which arise from activities within a given unit. In this section an enlarged system of basic concepts for national accounts will be discussed. From a logical viewpoint an introduction of activities between units represents an outward extension of scope of basic concepts. Among relations between units the relation between the national economy and the rest of the world is of enormous importance for national accounts. Subsequently, we take up the relation between the national economy and the rest of the world and construct an enlarged system of basic concepts as an example for the outward extension. The distinction between the national economy and the rest of the world is made according to the territory where normal residents live. For a simplification of subsequent discussion, the following notations are used:

U : flows of intermediate products

C : current expenditure on goods and services for consumption

I^* : gross capital formation

Y : net products or factor income

T' : income transfer

D : capital consumption

S : saving defined as saving minus dis-saving in the terminology of Table 1.

In the subscripts attached to these notations, 1 and 2 stand for the national economy and the rest of the world respectively, and the first subscript indicates the origin of real flows, the second the destination of the relevant one. For example, U_{11} stands for the flows of intermediate products produced and used as input within the national economy. The only exception to this rule appears in the term "increase of lending", which is expressed by L^n . In this case the first subscript indicates the asset holder, and the second stands for the liability holder.

The mutual relationship of activities between the national economy and the rest of the world is represented in Table 2. It consists of four sections which are expressed by respective sub-matrices as follows ;

TABLE 2. AN ENLARGED SYSTEM OF BASIC CONCEPTS FOR OPEN ECONOMY

		(1)		(2)	
		C_{11}	I_{11}^*	U_{12}	C_{12}
(1)	Y_{11}			Y_{12}	T'_{12}
	D_{11}	S_{11}			L_{21}^n
	U_{21}	C_{21}			I_{22}^*
(2)	Y_{21}	T'_{21}		Y_{22}	
			L_{12}^n	D_{22}	S_{22}

(1)×(1) sub-matrix, which stands for the activities within the national economy,

(1)×(2) sub-matrix, which stands for the activities between the national economy and the rest of the world, indicating real flows from the former to the latter,

(2)×(1) sub-matrix, which stands for the activities between the rest of the world and the national economy, indicating real flows from the rest of the world to the national economy,

(2)×(2) sub-matrix, which stands for the activities within the rest of the world.

It turns out in Table 2 that each sub-matrix consists of five components which are defined below :

For (1)×(1) sub-matrix,

C_{11} : current expenditure on goods and services for consumption within the national economy

I_{11}^* : gross domestic capital formation in the national economy

Y_{11} : factor income accrued within the national economy and paid to its normal residents

D_{11} : capital consumption in the national economy

S_{11} : saving in the national economy.

For (1)×(2) sub-matrix,

U_{12} : flows of intermediate products from the national economy to the rest of the world

C_{12} : flows of goods and services for consumption from the national economy to the rest of the world

Y_{12} : factor income accrued in the rest of the world and paid to the national economy

T_{12}^f : income transfer from the rest of the world to the national economy

L_{21}^n : increase of lending of the rest of the world to the national economy.

For (2)×(1) sub-matrix,

U_{21} : flows of intermediate products from the rest of the world to the national economy

C_{21} : flows of goods and services for consumption from the rest of the world to the national economy

Y_{21} : factor income accrued in the national economy and paid to the rest of the world

T_{21}^f : income transfer from the national economy to the rest of the world

L_{12}^n : increase of lending of the national economy to the rest of the world.

For (2)×(2) sub-matrix,

C_{22} : current expenditure on goods and services for consumption within the rest of the world

I_{22}^* : gross domestic capital formation in the rest of the world

Y_{22} : factor income accrued in the rest of the world and paid to the rest of the world

D_{22} : capital consumption in the rest of the world

S_{22} : saving in the rest of the world.

Supposing that the components in Table 2 are valued at market prices, three different systems of national accounts follow from a consolidation of sub-matrices related to the rest of the world, i.e. (1)×(2), (2)×(1) and (2)×(2) matrices respectively, into the relevant row and column which indicates the rest of the world. This consolidation essentially pertains to the difference in "national" and "domestic" concepts.

1. Mixed system

A system of national accounts which comprises both "national" and "domestic" concepts as its components is called the mixed system of national accounts. The construction of mixed system is shown in Table 3.

The shaded area in the right-hand scheme of Table 3 represents activities which are related to the rest of the world and consolidated into the row and column vector. The following balance equations are established on the left-hand scheme of Table 3.

(1) production account

$$(1.2.1) \quad Y_1^d + D_{11} + U_{21} = C_1^d + I_{11}^* + U_{12}$$

$$Y_1^d = Y_{11} + Y_{21}, \quad C_1^d = C_{11} + C_{12}$$

(2) income and outlay account

$$(1.2.2) \quad C_1 + S_{11} + T_{21}^f = Y_1 + T_{12}^f$$

$$C_1 = C_{11} + C_{21}, \quad Y_1 = Y_{11} + Y_{12}$$

TABLE 3. MIXED SYSTEM OF NATIONAL ACCOUNTS

	(1)	(2)		(1)	(2)
	C_{11}	I_{11}^*	$U_{12} + C_{12}$		
(1)	Y_{11}		$Y_{12} + T_{12}^f$	(1)	
	D_{11}	S_{11}	L_{21}^n		
(2)	$U_{21} + Y_{21}$	$C_{21} + T_{21}^f$	L_{12}^n	(2)	

(3) capital formation account

$$(1.2.3) \quad I_{11}^* + L_{12}^n = D_{11} + S_{11}$$

$$L_{11}^n = L_{12}^n - L_{21}^n$$

(4) rest of the world account

$$(1.2.4) \quad U_{12} + C_{12} + Y_{12} + T_{12}^f = U_{21} + C_{21} + Y_{21} + T_{21}^f + L_{11}^n$$

Comparing (1.2.1) with (1.2.2) it easily turns out that (1.2.1) and (1.2.2) adopt different concepts. As Y_1^d and C_1^d , net domestic products and domestic consumption respectively, indicate, (1.2.1) is based on "domestic" concept. On the other hand (1.2.2) adopts the "national" concept, because Y_1 and C_1 are net national product and national consumption respectively.¹ It is interesting to note that in appearance the mixed system no longer makes a fully-articulated system. This is because both "national" and "domestic" concepts take place concurrently in the mixed system.

2. National system

A national system, which consists of national concepts, is constructed on the consolidation shown in Table 4.

A distinctive feature of this consolidation is shown by the shaded areas in the right-hand scheme of Table 4. Since each shaded area is consolidated along the national economy's production activity, such matrix as Table 4 is derived. Equating rows of the matrix with corresponding columns, we get the following national system of national accounts.

(1)' production account

$$(1.2.5) \quad Y_1 + D_{11} + M_1^* = C_1 + I_{11}^* + X_1^*$$

$$M_1^* = U_{21} + C_{21} + Y_{21}, \quad X_1^* = U_{12} + C_{12} + Y_{12}$$

¹ A similar attempt to distinguish national and domestic systems of national accounts has already been made by Stuvell. See his "The Use of National Accounts in Economic Analysis", International Association for Research in Income and Wealth, *Income and Wealth*, Series IV, London 1955, and "A System of National and Domestic Accounts" *Economica*, August 1955.

TABLE 4. NATIONAL SYSTEM OF NATIONAL ACCOUNTS

	(1)		(2)		(1)		(2)
		$C_{11} + C_{21}$	I_{11}^*	$U_{12} + C_{12} + Y_{12}$			
(1)	$Y_{11} + Y_{12}$			T_{12}^f	(1)		
	D_{11}	S_{11}		L_{21}^n			
(2)	U_{21} + Y_{21} + C_{21}	T_{21}^f	L_{12}^n		(2)		

(2)' income and outlay account

$$(1.2.6) \quad C_1 + S_{11} + T_{21}^f = Y_1 + T_{12}^f$$

(3)' capital formation account

$$(1.2.7) \quad I_{11}^* + L_{12}^n = D_{11} + S_{11}$$

(4)' rest of the world account

$$(1.2.8) \quad X_1^* + T_{12}^f = M_1^* + T_{21}^f + L_{12}^n$$

Two points deserve special notice in this consolidation. First, against the fact that a fully articulated system is not maintained in the mixed system it is observed that the national system produces a fully articulated system. Second, imports and exports in production account (1)' include the factor income to and from the rest of the world respectively, so that the derived national accounts can construct the national system.

3. Domestic system

A slightly different consolidation to what has been applied for the construction of the national system produces the domestic system which is shown in Table 5.

Each shaded area in the right-hand scheme of Table 5 is particularly relevant to the derivation of the domestic system. In contrast to the preceding consolidation the shaded area is consolidated with the national economy's consumption activity. Equating the sums of corresponding rows to those of columns for the matrix of domestic system in Table 5, the domestic system of national accounts follows:

(1)'' production account

$$(1.2.9) \quad Y_1^d + D_{11} + U_{21} = C_1^d + I_{11}^* + U_{12}$$

(2)'' income and outlay account

$$(1.2.10) \quad C_1^d + S_{11} = Y_1^d + {}^nT_1^f$$

$${}^nT_1^f = (C_{12} - C_{21}) + (Y_{12} - Y_{21}) + (T_{12}^f - T_{21}^f)$$

(3)'' capital formation account

TABLE 5. DOMESTIC SYSTEM OF NATIONAL ACCOUNTS

	(1)	(2)	
	$C_{11} + C_{12}$	I_{11}^*	U_{12}
(1)	$Y_{11} + Y_{21}$		$C_{12} + Y_{12} + T_1^f$
	D_{11}	S_{11}	L_{21}^n
(2)	U_{21}	$C_{21} + Y_{21} + T_2^f$	L_{12}^n

(1)					
(2)					

$$(1.2.11) \quad I_{11}^* + L_{11}^n = D_{11} + S_{11}$$

(4)'' rest of the world account

$$(1.2.12) \quad U_{12} + {}^nT_1^f = U_{21} + L_{12}^n$$

It obviously turns out that this system of national accounts, particularly for (1.2.9) and (1.2.10), consists purely of "domestic" concepts such as C_1^d and Y_1^d . Particular attention is drawn to the newly introduced term ${}^nT_1^f$. Having been scanty in use this may be conveniently termed "net receipts of current transfer from the rest of the world".² It must be remembered that it comprises not only of the net transfer from the rest of the world in the ordinal sense but also of other kinds of receipts arising from the net amounts of non-residents' consumption and the net factor income from the rest of the world. What is demanded for the full realization of the significance of these three systems of national accounts is that the choice of "mixed", "national" or "domestic" system is fundamentally rooted in the consolidation of activities between the national economy and the rest of the world in an enlarged system of basic concepts. It is pointed out as a conclusion of the preceding discussion that for these three systems an equal claim is put forward for a construction of the system of national accounts. Though we have no logical reasons for sticking to one particular system of national accounts, it is noticed that the United Nations' system of national accounts follows the mixed system but the OEEC's system adopts the national system. It also deserves to be remembered that the enlarged system of basic concepts established at the beginning of this section provides an appropriate point of departure for the integration of national accounts. However, before we proceed to the discussion of the integration, it is required that a new light be thrown on a transformation of our conceptual framework.

² A similar terminology has been introduced in P. A. Ady and M. Courcier, *System of National Accounts in Africa*, OEEC Paris, 1960, p. 25.

III. A Transformation of a System of Basic Concepts

A proposal for the revision of the United Nations' *A System of National Accounts and Supporting Tables*, 1952, referred to as SNA in short, has recently presented by a group of experts which convened by the United Nations and headed by Professor Stone.³ Sharing the identical thought that a system of national accounts has to be firmly established on a consistent and logical conceptual framework, the proposal not only sets forth a conceptual framework at the beginning of the discussion but also uses it throughout the entire discussion as reference framework. The system of basic concepts in this proposal which is compared with our Table 3 is written as follows:

TABLE 6. A SYSTEM OF BASIC CONCEPTS IN UN'S PROPOSAL
FOR THE REVISION OF SNA

	production 1	income and outlay 2	capital forma- tion 3	rest of the world 4
production 1		C	I^*	X
income and outlay 2	Y^d_*		$-D$	Y^f
capital forma- tion 3		S		K
rest of the world 4	M	T^f	L^n	

Note: Notations follow what has been used in the present text, so that they differ from those which are used in the UN Proposal for the Revision of SNA, except X and M . These are defined as $X = U_{12} + C_{12}$ and $M = U_{21} + C_{21}$.

It is easily realized by a comparison of Table 3 with Table 6 that some differences exist between these tables. The major one arises in the sub-matrix which consists of the corresponding first three rows and columns of Table 6. Two points must be mentioned in this connection. First, the difference lies in the concept for "domestic" product. In Table 3 the domestic product is defined as a "net" concept, while in Table 6 it is expressed as gross domestic product. Second, not only does the location occupied by the capital consumption differs

³ This proposal has been circulated as a document of United Nations Economic and Social Council. Its title is: *A System of National Accounts (Proposals for the Revision of SNA, 1953)*, E/CN. 3/320, 9 February 1965, Original: English. It is subsequently quoted as UN's Proposals for the Revision of SNA.

plus capital consumption ($Y^d + D$), the OP-II is applied to the newly derived system (ii). In this operation D is subtracted from both elements which occupy the cross positions of 2nd row and 3rd column on the one hand and of 3rd row and 2nd column on the other. The virtually identical system with that shown in Table 6 follows from this operation.⁴

One system of basic concepts is called equivalent to the other if one can be derived from the other by means of the operations defined above and vice versa. The result is called the product of the operations. Thus it turns out that system (iii) is equivalent to system (i) and is derived as a product of OP-I and OP-II.

It is also noted that there exist minor disagreements between Table 3 and Table 6. The net capital transfer from the rest of the world K which disappears in Table 3 is inserted in Table 6. The factor income and current transfer from the rest of the world are expressed in net terms in Table 6, but in terms of gross concept in Table 3.

An interesting implication is carried by the transformation of the system (i) into the system (iii). In view of the fact that the location of D in (i) is in a symmetrical position with the location of I^* , it is reasonable to assume that D possesses a common property with I^* . This amounts to saying that D is deemed as a physical consumption of real capital stocks occurred in the production process. But D in (iii) is in a position which is symmetrical with S . This suggests that D possesses a common property with S . Putting it in another way, D is interpreted as depreciation reserves which together with saving constitute a financial source for capital formation. The dual characteristics of capital consumption, i.e. its physical and financial aspects, are faithfully reflected and sharply contrasted in respective systems of basic concepts.

IV. *National Accounts with Stock Concepts*

As an interesting exercise for enlarging the scope of national accounts it has often been proposed that national balance sheets be incorporated in a system of national accounts to provide a comprehensive and systematic description of various economic activities. The idea of national balance sheets is caused by two reasons. First, drawing an analogy between national accounts and business accounts, it is originated in the accounting principle of business accounts. Second, as entries of a balance sheet consist of stock concepts, an extension of scope is attained by incorporating such stock concepts in national accounts which are entirely made by flow concepts.

Let A_0 and A_1 stand for the initial and closing balance of assets of normal residents respectively, and L_0 and L_1 express the initial and closing balance of liabilities for normal residents. Obviously assets and liabilities consist of two major categories of capital stocks. These are (1) real capital stocks and (2) financial capital stocks.⁵ *Real capital stocks* are defined as a collection of goods and services termed real objects. *Financial capital stocks* consist of what is called financial objects, which are created by the transfer of financial claims. It should

⁴ Although no established terminology has ever been proposed for these operations, it appears that "Operation I" and "Operation II" are relevant to what Stuvell has employed naming, "rentability approach" and "liquidity approach" respectively. (See his, "The Use of National Accounts in Economic Analysis", *Income and Wealth*, Series IV, London 1955, p. 293)

⁵ For a rigorous definition of real and financial capital stocks see O. Aukrust, *Nasjonalregnskap, teoretiske prinsipper*, Oslo 1955.

be noted here that the financial capital stocks are defined in terms of their ownerships, because the transfer of certain financial claim is necessarily accompanied by a change of ownership of the financial claim. As a basis to introduce stock concepts in national accounts, it is postulated that assets and liabilities are necessarily equal to each other both at the initial and at the closing point of an accounting period, i.e.

$$(5) A_0 = L_0$$

and

$$(6) A_1 = L_1$$

Applying "operation II" to the system of basic concepts in Table 6 a system of national accounts which incorporates stock concepts follows :

TABLE 8. A SYSTEM OF BASIC CONCEPTS INCORPORATING INITIAL AND CLOSING BALANCES OF ASSETS AND LIABILITIES

	initial balance	produc- tion	income and outlay	capital for- mation	rest of the world	closing balance
	1	2	3	4	5	6
initial balance 1				A_0		
produc- tion 2			C	I^*	X	
income and outlay 3		Y_*^d		$-D$	Y^f	
capital formation 4	L_0		S		K	L_1
rest of the world 5		M	T^f	L^n		
closing balance 6				A_1		

The construction of Table 8 is further clarified in Table 9. In Table 9 the shaded area indicates the same matrix of basic concepts as Table 6. For deriving Table 8 from Table 6, the original matrix is bordered by the first and sixth rows and columns respectively. Putting A_0 in the element of first row and fourth column, L_0 is correspondingly recorded

in the symmetrical position with A , i.e. the element of forth row and first column, according to "operation II" and the postulate expressed in (5). A similar step is taken for the elements of A_1 and L_1 using the same postulate expressed in (6).

TABLE 9. THE STRUCTURE OF STOCK AND FLOW CONCEPTS

	1	2	3	4	5	6
1				A_0		
2						
3						
4	L_0					L_1
5						
6				A_1		

The system of national accounts thus derived is the same as what has been shown in (1)–(4) except for the capital formation account and the balance sheet relations.⁶ It is written as

- (1) initial balance sheet
- (5) $A_0 = L_0$
- (2) production account
- (7) $Y_*^d + M = C + I^* + X$
- (3) income and outlay account
- (8) $C + S + T^f = Y_*^d - D + Y^f$
- (5) rest of the world account
- (9) $X + Y^f + K = M + T^f + L^n$
- (6) closing balance sheet
- (6) $A_1 = L_1$

The capital formation account is represented by a compound statement of the following relations:

- (5) $A_0 = L_0$ (initial balance sheet)
- (10) $I^* - D + L^n = S + K$ (original capital formation account)
- (6) $A_1 = L_1$ (closing balance sheet).

The compound statement also implies that

- (11) $A_1 = A_0 + I^* - D + L^n$
- (12) $L_1 = L_0 + S + K$

Two marked differences between national accounts and business accounts are pointed out for

⁶ It is easily demonstrated that the system of national accounts as (1)–(4) is derived from Table 6.

the balance sheet relation. First, it differs in representation. Instead of (5) and (6), in business accounts it is written by

$$(13) \text{ assets} = \text{liabilities} + \text{net worth.}$$

The second difference follows from the first. Due to the absence of the term net worth in national accounts, an important relationship for business accounts, which connects the profit and loss statement (flow concepts) and the balance sheets (stock concepts), is expressed by

$$(14) \text{ increase of net worth} = \text{profit.}$$

Such relation does not take place in national accounts. At a glance (14) appears to be comparable with (11) and (12) apparently indicating that (12) stands for the increase of net worth in national accounts. But it obviously turns out that this is not the case, because (11) has no necessary connection with the profit of the national economy as a whole.

TABLE 10. A SYSTEM OF BASIC CONCEPTS INCORPORATING
INITIAL AND CLOSING BALANCE OF ASSETS
AND LIABILITIES WITH THEIR REVALUATION

	initial balance	produc- tion	income and outlay	capital forma- tion	rest of the world	Revalua- tion	closing balance
	1	2	3	4	5	6	7
initial balance 1				A_0			
Production 2			C	I^*	X		
income and outlay 3		Y_*^d		$-D$	Y^f		
capital forma- tion 4	L_0		S		K	R	L_1
rest of the world 5		M	T^f	L^n			
Revalua- tion 6				R			
closing balance 7				A_1			

With the introduction of stock concepts in national accounts it becomes necessary that value changes of assets and liabilities particularly for financial capital stocks due to their price fluctuations should be taken into consideration.⁷ Accordingly it is suggested that an account which is particularly designed for making adjustment for these valuation changes be introduced. No difficulties are caused from the introduction of the adjustment account so far as the conceptual framework of national accounts is concerned.

Table 10 follows from a slight modification of Table 8. For the derivation of Table 10 from Table 8 it is only necessary to insert a new row and column which stands for the valuation adjustment into the matrix in Table 8. "operation II" is applied for the relevant symmetrical elements in this revaluation row and column. Accordingly R is recorded as the element of the sixth row and fourth column in parallel with the recording of the same amount in the element of the fourth row and sixth column. The recording amounts to saying that the same amount of valuation adjustment has to be incurred for the owner of real or financial capital stocks as liabilities once the valuation adjustment accrues to the owner of relevant capital stocks as assets. Correspondingly the capital formation account in Table 10 becomes the compound statement consisting of the following relations:

$$(5) \quad A_0 = L_0$$

$$(10) \quad I^* - D + L^n = S + K$$

$$(15) \quad R = R$$

$$(6) \quad A_1 = L_1$$

The statement also implies that

$$(11)' \quad A_1 = A_0 + I^* - D + L^n + R$$

$$(12) \quad L_1 = L_0 + S + K + R$$

V. *Real and Financial Aspects of National Accounts*

The valuation adjustment is particularly relevant for financial capital stocks, because they are vulnerably subject to changes in their value. Thus the importance of the financial aspect within the conceptual framework of national accounts is especially stressed once their scope is enlarged, so that a system of national accounts including assets and liabilities is constructed.

The so-called "real and financial dichotomy" affords a fresh insight into the relationship between the real and financial aspects of national accounts. Following this idea it is important that the two aspects are distinguished by separate accounts. This is particularly true for the capital formation account. Being a description of accumulation of wealth, it naturally has both the real and financial aspects. The real aspect is represented by the real capital formation account which lays particular stress on describing how real capital stocks are accumulated. The financial aspect of capital formation, on the other hand, is described by a newly designed account for this purpose called the capital finance accounts, where scope focusses on uses and sources of financial capital stocks. Supposing that the income and outlay account is regarded

⁷ The idea that an account which represents the valuation adjustment for assets and liabilities is systematically incorporated into a system of national accounts is not new. Stuvell has already attempted to construct a system of national accounts which contains the revaluation account. See his, "Assets Revaluation and Terms of Trade Effects in the Framework of National Accounts", *Economic Journal*, June 1959. Also see my, "Some Aspects of a System of Integrated National Economic Accounts", *Hitotsubashi Journal of Economics*, October 1962.

as the description of the financial aspect of current income and expenditure, national accounts are again sorted out according to these two aspects as follows:

- (I) national economy
 - (I.1.) real aspect
 - (I.1.i) production account
 - (I.1.ii) real capital formation account
 - (I.2.) financial aspect
 - (I.2.i) initial balance
 - (I.2.ii) income and outlay account

TABLE 11. A SYSTEM OF BASIC CONCEPTS RECLASSIFIED
BY REAL AND FINANCIAL ASPECTS

			I							II	
			I.1.		I.2.					II.1.	II.2.
			I.1.i	I.1.ii	I.2.i	I.2.ii	I.2.iii	I.2.iv	I.2.v		
I	I.1.	I.1.i		I^*		C				X'	
		I.1.ii					I^*-D				
	I.2.	I.2.i					A_0				
		I.2.ii	Y_*^d	$-D$						Y'	
		I.2.iii			L_0	S		R	L_1		K
		I.2.iv					R				
		I.2.v					A_1				
II	II.1.		M			T'					CS
	II.2.						L^n				

- (I.2.iii) capital finance account
- (I.2.iv) revaluation account
- (I.2.v) closing balance
- (II) rest of the world
 - (II.1.) real aspect (real account)
 - (II.2.) financial aspect (financial account)

Following this classification a system of basic concepts is represented in matrix form in Table 11.

Two arresting features are contained in this table. First, a particular attention is drawn to the form of capital finance account. It is pertinent to a doubly framed area in Table 11 which might be called a purely financial domain of the national economy. The capital finance account is connected not only to the purely financial domain but also to the term expressed by I^*-D . Thus the capital finance account indicates a compound statement consisting of the following relations:

$$(5) \quad A_0 = L_0$$

$$(10)' \quad (I^*-D) + L^n = S + K$$

$$(15) \quad R = R$$

$$(6) \quad A_1 = L_1$$

It is easily seen by (10) that I^*-D stands for the net increase of real capital stocks in the sense of net worth within the national economy. Second, one more term is demanded for the completion of this system. The term is CS and is called a current surplus of the national economy. Looking at the financial account of the rest of the world, the following relation is held for this account:

$$(16) \quad K + CS = L^n$$

For furthering analysis of the financial aspect of national accounts much elaborations on the purely financial domain still remain to be done. But it admits of no doubt that the system of basic concepts derived from the so-called "real and financial dichotomy" provides an appropriate point of departure for this aim.⁸

⁸ So-called "real and financial dichotomy" has been hinted in UN's Proposals for the revision of SNA.