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Change of Ownership and Time of Recording in the National Accounts 1/

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Abstract

This paper establishes "economic ownership" as a crucial concept in analyses of the flows of goods and services in the production and consumption processes, and of income to the factors of production. The paper argues that an approximation to economic ownership or control is legal ownership, which will serve in most cases but requires modification when legal title is established for taxation or regulatory purposes unrelated to economic risks of ownership. It is recommended that national accounting standards recognize the economic ownership concept and be consistent and flexible in its implementation to avoid asymmetry yet accommodate evolving commercial accounting practices.

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1/ This paper was originally submitted for discussion by the Expert Group on External Sector Transactions that met under the aegis of the Intersectretariat Working Group on the Revision of the SNA (comprising the EEC, the OECD, the UNSO, the World Bank, and the Fund) at Fund headquarters during March 23-April 2, 1987.

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Summary

Accounting systems can be and have been designed to monitor a vast array of activities. Each accounting system has its own purpose, such as personnel management, cost control, and work performance reporting. National accounts are designed to monitor the economic performance of economies (and subsets of economies) through analysis of both the real and financial stocks held by the economies and of the flows of these resources.

Any consideration of accounting regimes for the external accounts and the balance of payments in isolation may involve a system of commitment or contingency recordings to provide plausible forecasting scenarios, cash-based recording to monitor not financial but cash flows, or a transactions-based system designed to record real and financial resource flows. The choice of any such system is obviously at the discretion of the authorities.

The choice of a balance of payments accounting system harmonized with the goals and objectives of national accounting implies correlation between the balance of payments and the external accounts of the United Nations A System of National Accounts. To achieve such harmonization, the time of recording transactions within the system must be consistently applied so that ownership (however approximated) is the measure of economic wealth, ownership is uniquely determined for any occurrence, and the real and financial aspects of any transaction are consistently recorded.

If ownership is not the measure of economic wealth, the usefulness of the accounts for their stated purpose is diminished or lost. If ownership is not uniquely determined for any occurrence, asymmetry may result, with transactors disparately recognizing transactions. Lack of consistent recording of the real and financial aspects of any transaction leads to asymmetry, as the articulated nature of the accounts breaks down. All three factors must consequently be harmonized in the national accounts.

I. Introduction

The current review and forthcoming revision of the System of National Accounts (SNA) may change the boundary of production, modify concepts and definitions used in identifying transactors and transactions, and develop improved methodologies for approximating transactions. They will not change, however, the nature of the SNA from an integrated set of economic accounts depicting the economic life of a nation through the aggregation and categorisation of its stocks and of the transactions (and revaluations) that give rise to changes in those stocks. The recording of transactions in the external accounts, therefore, cannot be considered in isolation from the rest of these integrated accounts. In Section II, this paper, therefore, examines the analytic needs to be served by the change-of-ownership concept, while Section III reviews the ownership concept and develops criteria for approximating that concept.

Section IV of the paper reviews the issue of when to record changes of ownership in the national accounts. Specific problems in implementing the principle in the external accounts are taken up in Section V, to highlight the need for a careful consideration of the rules to be applied to external transactions in order to ensure consistency with the overall aims of analytical usefulness and symmetry. A brief summary of the issues and conclusions appears as Section VI.

II. The Analytic Needs to be Served by the Change-of-Ownership Concept

The government of an economy will wish to formulate macro-economic policy so as to influence both the availability of goods and services to the residents of that economy 1/ and the allocation of those resources between the different sectors of that economy. Access to the consumption of those goods and services will depend on that economy's command over the factors of production, both domestically and internationally. In deciding whether any policy initiatives are necessary or desirable to promote access for its residents to material wealth, a government would be aided by a knowledge of the state of such access and the historical trends that culminated in that state. Continued observation would be necessary to monitor the outcome of those initiatives and to dictate any necessary changes.

In a purely subsistence economy where the producing and consuming units are identical the economic policy problem is precise. Consumption equals production and expanding consumption requires the greater usage of the factors of production, such as land and labor, or a change in the production function. Measuring consumption and measuring production

1/ The concept of residency is discussed in another paper, prepared by Fund's Bureau of Statistics, titled "The Residents of an Economy." The concepts and definitions discussed in that paper are assumed here.

represent the same task. Promoting production promotes consumption. Under these circumstances the change of ownership 1/ is an irrelevant concept.

More complex economies, where the producing and consuming units are not the same, require correspondingly more complex analysis and policy action. Promoting production in a complex economy may increase the income accruing to nonresident owners of the factors of production; promoting consumption may not expand production, but rather run down economic wealth, with consequent adverse effects on future production capacity and income and, therefore, future consumption. It is in these more complex economies that the identification and classification of transactors and transactions become important and the change-of-ownership concept is of paramount importance.

Ownership is a crucial concept for determining to which economies, and to which residents in those economies, the income from the application of the factors of production will accrue, and whether that income is expended by its recipients on goods and services. Unless the ownership of the factors of production can be uniquely determined, the income accruing from the application of those factors cannot be unambiguously allocated. Unless the ownership of goods and services can be identified, and changes of ownership measured, the various stages of the production process will not be identifiable.

III. Ownership - What is it?

In the previous section it was argued that for governments to recognize the production and consumption process and to influence their development it was necessary to identify the ownership of capital and labor used in production, as well as the ownership of the goods and services produced. It was not determined how such ownership could be identified.

The nature of ownership is the capacity that it provides to the owner to determine the disposition of an asset. Only the owners control whether assets are employed or remain idle, whether assets are passed to another, and whether assets are consumed or destroyed. The existence of such control usually exposes the owners to the risk of changes in the price of his assets and, more in general, to regulatory strictures and other economic forces. Without such exposure, the intervention of governments in the market could do little to alter economic behavior.

In most cases legal ownership is equivalent to the physical or economic control as described above. In our organized world, the rule of law is generally applicable and the legal owner can be said to exercise control over his assets. Labor is the most compelling example.

1/ Change of ownership is here used in a broad sense and is intended to imply economic, rather than legal control. The nature of ownership is dealt with more fully in Section III of this paper.

The laborer is unambiguously the owner of his labor, which is to be employed at his discretion and the income from which will accrue to the owner. However, legal title need not always imply control and, therefore, the economic responsiveness required for the analytic purposes outlined in Section II of this paper. The following three examples illustrate the need for an ownership concept that is broader than legal ownership.

1. Illegal transactions. Where both the production and consumption of certain goods violates the laws of an economy trade may occur and involve changes in possession without a change in legal ownership taking place. Neither the trafficker nor the user of illicit drugs is in a position to enforce ownership title in a court of law or to prosecute for nonpayment. In other instances the trade may be illegal for only one of the transactors. In either case, however, the principle of "change of ownership" exists, and is recognized, but without its legal aspects; claims to control are normally sufficient evidence of such control. Certainly, the transactors respond to economic forces as would legal owners, but the illegality of the trade removes them from the application of legislative control.

2. Transfers of resources between parts of a single legal entity

In the paper titled "The Residents of an Economy," the definition of an enterprise recognized branches located in one economy belonging to head offices located elsewhere. Whether actual or notional, these branches hold assets and engage in economic activity.

In analyzing the activities of and formulating the policies for the residents of their economies, governments of the economies where these branches are located will view the economic activities of these branches as falling under their sway and as quite distinct from the activities of the head offices over which their influence will be tenuous, at best. For such analysis, the assets of the branch must be separated from the assets of other entities, including those of the head office. However, where an asset passes between a branch and its head office, legal title cannot change, as only one legal entity is involved in the transaction. Nevertheless, if all aspects of control pass from an entity located in one economy to an entity located in another economy, the absence of a change in legal title is not relevant. Ownership has changed when control over the asset has changed.

The above argument applies irrespective of where the branch and its head office are located. Thus, for the purpose of any industry classification, or functional or institutional sectoring, branches (or establishments) and other quasi-corporate enterprises are accorded the status of transactors, distinct from the status of their owners.

3. Financial leases and similar financing arrangements. Financial leases and similar financing arrangements have many of the hallmarks of a legal change of ownership by passing control of an asset to the user,

but preserving legal title to the asset with a financing entity. These arrangements are similar to illegal transactions and transfers of resources between parts of a single legal entity in that legal ownership is different from economic control, but they differ by virtue of the legality of the arrangements and the existence of legally distinct transactors, respectively.

Financial leases are a well-known financing arrangement whereby economic control is passed from the legal owner to the lessee via the lease. Other financing arrangements may employ different forms, such as management contracts, which provide an entity with the control of an asset and the risks of ownership normally borne by a legal owner. For such transactions, the criteria employed in approximating economic control must be sufficiently broad. Otherwise the creativity of the legal and accounting professions has the potential to render successive editions of national accounting standards, incorporating more narrowly defined criteria, obsolete before their final drafting and dissemination is effected. In view of these considerations, the change-of-ownership principle must be retained as the principle for recognizing transactions but the criteria for identifying ownership could be stated as follows:

Ownership is presumed to be identical to legal ownership with the following exceptions:

1. When legal ownership cannot be granted, as in the case of illicit drugs, or cannot be established, as in the case of smuggled goods normally available in the legal market. In these circumstances, the entity that has control over the disposition of the asset is taken to be the owner.

2. When the transactions are between two transactors that are part of the same legal entity, in which case the transfer of the control over the resources between the parties is recognized as being accompanied by a change of ownership. Where resources are physically moved without a change in control over those resources, no change of ownership is assumed. For example, agency arrangements, such as arrangements with representative and sales offices, involve the sale of goods and the receipt of monies by a branch not for its own account but as an agent for its parent. The relationship between the branch and its parent is subsidiary to the agent/principal relationship. Similarly, where goods are moved for repair or processing by an enterprise to its branch the presumption of a change of ownership is not required. Control over the goods has not been transferred but rather a service is being provided.

3. When the resource is provided under a financing arrangement (including financial leasing) that transfers economic control and most of the risks of ownership of the asset to another party without transferring legal ownership. The transfer of the risks of ownership and control over the asset would normally arise through a noncancellable financing arrangement that lasts for the residual economic life of the asset.

It may also arise through a financing arrangement that lasts for a shorter period but is coupled with a disposal agreement that significantly shifts the risk of holding the asset from the legal owner to the user. The adoptiopn of the third exception with as broad a specification as possible should enable evolving types of financing to be captured without regard to their outward form.

IV. Timing - When is Change-of-Ownership Recorded?

The previous section of this paper developed the principle of economic ownership and proposed criteria that may be used for identifying such ownership. In this section the implications of that principle will be considered for the time of recording changes in economic ownership.

If governments are to analyze the processes of production, consumption, and accumulation, the statistics produced for that purpose must reflect all resource flows, including the financing aspects of those resource flows. The time of recording changes in ownership is critical for that purpose.

A change in ownership typically arises from an exchange of resources, and through the double-entry system of accounting both sides of the exchange, i.e., the provision of one resource in exchange for the receipt of another, are reflected in the accounts. The two sides of such exchanges should not be confused, however, with the two stages that such exchanges may entail, namely, (a) the provision of one resource, financed by the acquisition of a financial claim on the recipient of that resource, and (b) the provision of the other resource, financed by the extinguishing of that claim.

The above-mentioned analysis of the nature of transactions applies to all exchanges, whether of real resources for financial resources, real resources for real resources (barter), or financial resources for financial resources. (Where a resource is provided without any quid pro quo the double entry system requires the raising of an entry for unrequited transfers, to offset the recording of the change in ownership of the transferred resource.) In choosing just when to record the two sides of each transaction the following criteria must be observed:

1. The two sides to a transaction must be recorded simultaneously in an economy's accounts. The omission of either side, for example, the running down of one real resource through exports without any offsetting increase in another real or financial resource, or an unrequited transfer, would create asymmetry. Such asymmetry would be reflected as a statistical discrepancy in the accounts and would reduce their analytic value.

2. The two transactors to a transaction must record the two entries simultaneously. Otherwise, the same physical or financial resource might be recorded as owned either by both or by neither transactor

and asymmetry would result. For example, production would not be matched by consumption or accumulation; the disposal of an asset by one sector would not be matched by its acquisition by another sector; or income generated but would not be attributed to factors of production.

3. The time of recording of the transactions must have economic significance and be broadly appropriate for the economic analysis to be applied to the data. The macro-economic analysis of, and intervention in, economies by governments rest on the exercise of control or ownership over economic resources. The time of recording must, therefore, reflect changes in ownership of those resources.

It follows from a government's need for information on the resources, real and financial, at the disposal of its residents and the changes, including the flows, in these resources, that the national accounts must, at least in concept, comply with the above three criteria. Adherence to these criteria will also generate statistics that display intertemporal and interspacial consistency.

The only accounting framework to meet each of the three criteria listed above is accrual accounting. It provides for the recording of all transactions and captures all resource flows resulting from a change of ownership between economies and between sectors within an economy. Such an accounting system recognizes the change in ownership as the critical event in any transaction process at which to recognize the flow of resources from factor markets and to product markets, whether of real or financial resources.

However, as already discussed above, transactions typically involve a process incorporating several critical events. These cover the contract, the delivery of a resource, and the payment for that resource. Whereas the accrual approach regards this process as entailing two transactions, each involving a delivery and financing aspect, payments - based accounting recognizes one transaction only. Under this accounting regime transactions will be recorded only when a payment of cash is involved and such transactions will be recorded when that payment is made. Transactions covering the supply of resources without cash payments will not be covered, while the financing (or credit) associated with transactions that involve cash payments will not be recorded. In a world where transfers between economies are significant, barter and financing transactions are voluminous, and the many forms of financing are of concern to governments, the coverage and timing characteristics of a payments (or cash) based system of accounting make its application for meaningful national accounting compilation unsuitable.

The time of contract might also be considered an interesting piece of information. Contracts can be used for planning purposes, to meet delivery targets, muster financial resources, and project resource flows. However, a contract is by its very nature contingent. Resource flows do not accompany the creation of a contract, but rather the parameters for subsequent resource flows are set by the contract. The time of the contract itself is, therefore, of no analytic value, but the informational content of a contract, such as prices, volumes, delivery dates, etc., is relevant.

V. Implementation of the Change-of-Ownership Principle

The Appendix to this paper provides the rules of thumb for recording transactions given in the fourth edition of the Balance of Payments Manual. It is felt that these rules generally closely approximate the broader principle of ownership described in Section III. This section discusses some possible improvements to some of these rules to more closely approximate the time of recording to the general principle (points 1 to 3 below) together with some discussion of particular issues where the application of the rules of thumb may not be obvious (points 4 and 5 below).

1. Transactions between affiliates

Goods and services passing between components of the same legal entity should be recorded when control of the goods passes from one component to another. The capital account entries reflecting the financing of the goods and services should be recorded simultaneously.

However, the often-used data sources for balance of payments compilation, i.e., the customs and the exchange records, may not achieve the correct timing or can omit the transactions completely. Therefore, asymmetries may develop because recording of the goods and services flows is not matched by the recording of the corresponding financial flows or because the two transacting economies record the transactions at different times. (These problems also arise when transactions are to be recorded on the basis of the legal change of ownership.) As it is likely that the transacting entities' records will reflect the principle of change in control, data from those entities should either replace the data from the customs and the exchange records or should be used to adjust them for the more significant transactions. The time of recording under this recommendation is obviously associated with the general principle and may be different from the rule of thumb currently recommended, viz., the crossing of the exporter's customs frontier.

2. Financial leases and similar arrangements

Goods transferred under a financial lease present a problem similar to that for affiliated enterprises. Since legal change of ownership does not occur, a point for recording must be chosen that most closely approximates the change in control.

As with goods transferred under a legal change of ownership and those transferred between affiliates, trade and exchange record data will not necessarily reflect a change in control. Control will pass, in the case of financial leases, at the commencement of the lease. Data sourced from enterprises, used for either compiling or for adjusting other sources, should reflect this point in time.

For arrangements similar to financial leases, a suitable trigger that identifies the change of ownership or control must be sought. Because of the variety of forms these financing arrangements may take the guidelines cannot be specific. A long-term purchase contract or management contract (or both) might provide evidence of a shift in control and the risks of ownership. If so, then the commencement of these contracts would indicate the change of ownership. In other circumstances, different vehicles might be used and the point that most closely approximates the change in ownership should be used for recording the transactions. Again, these points need not accord with the existing rule of thumb which recommends the crossing of the exporter's customs frontier as the point at which entries are recorded.

3. The time of recording for income

The currently recommended rule of thumb for recording interest in the national accounts is on a due-for-payment basis. However, this rule can produce some anomalous entries in the balance of payments and reconciliation accounts of an economy. Consider the following example of a bond issued on day 1 of year 1, by economy A to economy B. The face value of the bond is 100 units, bearing annual interest coupons worth 12 units. The passage of time between coupon dates will result in economy B holding an additional asset, accrued interest. Such an asset must be recognized, but no flow can be recorded to explain its emergence because the income, which gives rise to the asset, cannot be recorded until coupon date. The reconciliation accounts must therefore show an unrealized valuation change.

Further to the above example, economy B sells the bond to economy C eleven months after issue. Economy C sells the bond to economy D the day after coupon date (day 1 of year 2). The following balance of payments statements summarize these transactions:

	Year 1 Credit	Year 1 Debit	Year 2 Credit	Year 2 Debit
Economy A				
Interest paid				12
Bonds issued	100			
Foreign currency balances		100	12	
Economy B				
Bonds purchased		100		
Bonds sold	100			
Accrued interest asset	11			
Foreign currency balances		11		
Economy C				
Interest received			12	
Bonds purchased		100		
Bonds sold			100	
Accrued interest asset		11		
Foreign currency balances	111			112
Economy D				
Bonds purchased				100
Foreign currency balances			100	

The current rule of thumb, together with the trading in the bond, require, inter alia, the following entries: the recording of an unrealized capital gain in the balance sheet for economy B to be realized in the balance of payments accounts at sale; no income to be recorded for economy B despite the provision of capital; for economy C, a large income entry to be recorded, relative to the value of the asset and the holding period; the reconciliation accounts for economy C will also show a large unrealized capital loss over the short period for which the bond is held.

The adoption of accrual accounting for interest income would see the recording of income, both payable and receivable, commensurate with the provision of capital. Thus the increasing value of the asset, accrued interest, held by economy B would be recorded as a flow in the capital account and would be matched by income receivable in the current account. Economy C would record interest income only in proportion to the period for which it held the asset, and it would be measured as the difference between the amount paid for the accrued income asset and the amount received, which in this example is the coupon payment of 12 units less the purchase price of 11 units. No unrealized valuation changes are necessary for either economy B or C. Economy D would also record interest income, reflecting its provision of capital for year 2.

The following balance of payments accounts present the entries appropriate under accrual accounting:

	Year 1		Year 2	
	Credit	Debit	Credit	Debit
Economy A				
Interest payable		12		12
Bonds issued	100			
Accrued interest liability	12			
Foreign currency balances		100	12	
Economy B				
Interest receivable	11			
Bonds purchased		100		
Bonds sold	100			
Foreign currency balances		11		
Economy C				
Interest receivable	1			
Bonds purchased		100		
Bonds sold			100	
Accrued interest asset		12	12	
Foreign currency balances	111			112
Economy D				
Interest receivable			12	
Bonds purchased				100
Accrued interest asset				12
Foreign currency balances			100	

Adopting the accrual method of accounting for income not only avoids the need for the valuation changes, but matches the cost of capital with the provision of the capital. It results in a more meaningful analysis of debt servicing in the short term and avoids the possible understatement of current income and, therefore, of current account surpluses that, under a due-for-payment basis, could be achieved through judicious acquistion and disposal policies timed to avoid coupon dates.

A particular distortion arises in the case of deep discount bonds. These are issued with zero or low coupon rates and at a discount which, on bonds with maturities of ten years or longer, can be 70 percent or more of the face value of the bond. The due-for-payment basis requires reporting this interest at maturity.

An argument for recording interest on a due-for-payment basis is that some instruments are not negotiable and the income cannot be realized prior to coupon date. This is analogous to recording wages only on pay day or goods transactions according to payment terms. Another argument is that data are only available for contract terms. This is unlikely given modern commercial accounting standards and practices.

Adopting the accrual method would result in interest being matched to the life of the debt while the capital account would reflect the increasing debt associated with accumulating interest. Stock data, incorporating the accrued interest (and dissected by maturity) would better reflect the liability of the debtor and the causes of that liability. Any asymmetry in current account measures of interest paid/received due to the inability of economies to report interest earned or accrued would be matched, and possibly be identifiable, by the asymmetry in the interest liability/asset reflected in the capital account.

Where royalty and other property income payments are also payable at discrete points in time and such payments represent the use of an intangible asset over a number of time periods, again the accrual basis, rather than the due-for-payment basis, would result in a proper matching of the use of an asset and the cost of that use.

4. Provision and time of recording for financial items

The Manual defines transactions in financial items to generally involve change in legal ownership (Manual paragraph 360). The exceptions it allows to legal change of ownership are the substitution of an imputed financial claim for (i) immovable assets held abroad and for nonfinancial intangible assets issued abroad, (ii) assets attributed to a notional branch; and (iii) goods transferred under a financial lease. In these instances real resources are deemed to have changed control and a financing transaction is imputed as the balancing entry in the accounts.

It is useful to consider generally what legal change of ownership of a financial claim means. Must the claim be legally enforceable? Outstanding claims for payment of smuggled goods might not be legally enforceable but certainly should be recognized, as noted earlier, if the change of ownership of the physical asset has been recognized. For that matter the claims to contraband might not be legally enforceable but, as noted above, this paper recognizes claims to ownership for goods as sufficient. The corollary is to similarly recognize claims to financial claims. (Similar problems will apply to the valuation of claims, where the (black) market price may not be legally enforceable but will be honored.)

Contingent claims and liabilities are an area of possible confusion. For example, a transactor A expects to recognize a liability to another party B, but subject to the latter's having fulfilled certain terms and conditions of a contract. Presumably the liability is not legally enforceable until those terms are met. Such contingent liabilities will, in the normal course of events, be replaced by actual liabilities, and the recognition or otherwise of the contingent liability might largely be regarded as an issue of timing. In the above example, a buyer A enters into a purchase contract. At the time of the contract he recognizes a contigent liability to pay and arranges his finances accordingly. Upon delivery from B (or whenever stipulated by the contract) a legal liability is generated to replace the contingent liability. His accounts might look as follows:

		Cr.	Dr.
Contract			
Period 1	Contingent liability for goods	$100	
	Contingent asset		$100
Delivery			
Period 2	Contingent liability for goods		$100
	Contingent asset	$100	
	Liability for payment	$100	
	Purchase		$100
Payment			
Period 3	Bank balance	$100	
	Liability for payment		$100

The first four entries in the above accounts represent useful planning and budgeting information. However, they do not represent flows of real resources, nor do they represent the financing of resource flows or financial assets that can be utilized in final consumption or traded for assets that could be so used. Doubtless, the information is useful, but it does not find a place in the national accounts, which are designed to capture events, not anticipations. The appropriate time of recording is at the creation of the actual liabilities.

5. Overdue obligations

The failure to deliver real resources according to contractual arrangements will not be recorded in the balance of payments. Shipping delays, production stoppages or other impediments to supply, or the refusal of buyers to take contracted tonnages, are obvious concerns for balance of payments managers, but they do not represent transactions. No real resource has changed ownership. The failure to meet financial obligations, however, although not representative of a change of ownership, may result in a change in the nature of financing arrangements and may therefore require recording in the balance of payments.

The classification of financial assets and liabilities in the Manual calls for the identification of these items as to whether they have a contractual maturity which is long-term or short-term. When the issuer of a long-term liability fails to met that liability the nature of the liability changes from one which was redeemable at a specific maturity to one immediately payable. Financing of a long-term nature, initially raised to finance real or other resource acquisitions, essentially expires at the due date and a new liability, one for immediate payment in the form of an overdue obligation, is raised to finance the previous financial instrument. The balance of payments recording would include entries for the repayment of a long-term liability and for the net increase in short-term liabilities, which represents the overdue obligation.

Short-term liabilities that are not met will likewise be deemed to be settled and a new short-term liability generated to replace it. Normally, such changes will not be distinguishable in the net presentation adopted for short-term assets and liabilities. However, where the cause of the overdue obligation was balance of payments difficulties, the newly created short-term obligation would be identified in analytic presentations as exceptional financing.

What if a financial liability was due to be settled by delivery of a real resource? In a barter or prepayment situation a transactor will be due to settle an outstanding financial liability through the delivery of a good. Failure to make the delivery does not require any entry in the current account. As noted above, no change in ownership has occurred. Rather, the financial liability, financing an earlier delivery of goods (barter) or cash (prepayment) for which a specific maturity applied has been replaced by a new obligation which calls for immediate settlement. The same treatment accorded long and short-term financial obligations discussed above will apply in these instances.

VI. Summary and Conclusions

Accounting systems can and have been designed to monitor a vast array of activities. Each such system has its purposes, e.g. personnel management, cost control, work performance reporting. The national accounts are designed to monitor the economic performance of economies (and subsets of economies) via analysis of the real and financial stocks held by the economies and the flows of these resources.

Any consideration of accounting regimes for the external accounts and the balance of payments in isolation may involve: a system of commitment or contingency recordings to provide plausible forecasting scenarios; cash based recording to monitor not financial but cash flows; or a transactions based system designed to record real and financial resource flows. The choice of any such system is obviously at the discretion of the authorities.

However, the choice of a balance of payments accounting system harmonized with the goals and objectives of national accounting implies correlation between the balance of payments and the external accounts of the SNA.

To achieve such harmonization it is necessary that the time of recording transactions within the system is consistently applied so that:

1. Ownership (however approximated) is the measure of economic wealth;

2. Ownership is uniquely determined for any occurrence; and

3. The real and financial aspects of any transaction must be consistently recorded.

Without point (1) the usefulness of the accounts for their stated purpose is diminished or lost. The absence of (2) could result in asymmetry, with transactors disparately recognizing transactions. Lack of (3) leads to asymmetry as the articulated nature of the accounts breaks down.

This Appendix identifies the paragraph references in the fourth edition of the Balance of Payments Manual which deal with either the general principle of change-of-ownership, together with the rules of thumb for identifying such changes, or the rules of thumb for the time of recording such transactions in the balance of payments accounts.

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