FLOW-OF-FUNDS ACCOUNTS IN EASTERN EUROPE*

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There is increased interest in flow of funds analysis due to the greater role assigned to money and to financial processes in the economic reforms now being implemented in Eastern Europe. After presenting a history of financial flows analysis, the paper describes data sources, and sectoring procedures. The efforts of particular countries are then reviewed and compared.

In recent years, considerable progress has been made in several socialist countries towards developing flow-of-funds tables integrated with other social accounts and financial plans. These efforts enjoy a varying degree of official sponsorship. But even in countries in which flow-of-funds tables are prepared regularly by official institutions, as in Poland, rather than merely being advocated by individual scholars, as in Rumania, their use for policy formulation and in current analysis is very limited—in part because preparation of such tables is much retarded by delays in obtaining the required statistical data.

The history of the relationship between financial planning and planning in material balances in the Soviet Union, and of the role of financial planning and accounting in relation to other social accounts in all socialist countries is still largely unexplored. The present paper is limited to one category of such accounts, the flow-of-funds accounts, defined as a set of interlocking statements for major sectors of the economy, showing at least each sector's sources and uses of funds. While in the non-socialist countries the emphasis in the flow-of-funds analysis is on changes in sector acquisition of financial assets and liabilities, in the socialist countries the emphasis is on the role of the budget in the redistribution of the social product. As long as practically all financial resources for financing capital formation were obtained through taxation and through the budget in the form of non-returnable grants, flow-of-funds analysis could, in fact, remain limited to combining flows through the budget with funds (profits) retained by firms ("enterprises").

In recent years, two developments have increased interest in money flows analysis: one was the advent of economic reforms, which assign a larger role to financial processes and incentives, and the introduction, as a part of the reform, of alternative techniques of financing fixed investment where previously only one avenue was available. The other was the centralization of information and more rapid processing of financial data made possible by the increased use of electronic computers. The recent interest in the flow-of-funds analysis along the lines of the system originally developed in the United States and the United Kingdom, and subsequently in many other industrially developed countries, stems, no doubt, from the greater role assigned to money and to financial processes in the

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economic reforms now being implemented in Eastern Europe. Another factor is the increased size of household savings, largely as a result of rising standards of living.

Obviously, increased emphasis on market processes and financial incentives has stimulated concern with their effect on intersectoral financial flows. Yet, in the socialist countries much of the discussion of money flows is still concerned with establishing the value of this branch of social accounting for economic planning as well as for current economic analysis. The purpose of this paper is to review efforts to develop flow-of-funds tables in the countries of Eastern Europe other than Yugoslavia, for which a very adequate discussion is readily available.[1]

History of Financial Flows Analysis

In a broad sense, interest in developing a comprehensive picture of financial flows originated in the socialist countries much earlier than in the Western countries. In fact, economic planning based on real flows ("material balances") required from the very beginning preparation of a number of financial plans for the guidance of the various administrative agencies involved. Endeavors in the Soviet Union to construct a "financial balance" to show sources of funds for planned capital investment and social (budget-financed) consumption preceded efforts in the various Western countries to develop any of the types of national financial accounts distinguished by Graeme S. Dorrance,[2] and in particular the money flows analysis pioneered by Morris Copeland. Endeavors to develop national financial accounts can be traced in the Soviet Union to the middle twenties. Even though economic planning in the Soviet Union has been in terms of material balances, the need to identify the sources of investment funds in the socialized sector of production, and for sources of funds for meeting general expenditures of government on all levels, required preparation of a financial plan which brought together the relevant data from the national budget, the accounts of the individual enterprises and from all other sources, and which indicated the use of these funds. Similarly, efforts to avoid an inflationary overhang of demand for consumer goods led to the construction of a flow-of-payments account for the combined household and collective farming sectors.[3]

[1]See the following publications by Dimitrije Dimitrijevic: "The Use of Flow-of-Funds Accounts in Monetary Planning in Yugoslavia," *Review of Income and Wealth*, 1969, No. 1; *Financial Accounts in Yugoslavia* (I.A.R.I.W., 11th General Conference) and *Monetary Policy Issues in Yugoslavia*, Center for Slavic and East European Studies, Florida State University, Tallahassee, 1969. See also the *Annual Reports* of the National Bank of Yugoslavia for 1966 and 1967 which contain tables for 1958 to 1967, and for 1968 which contains tables for 1968 on a revised basis showing sources and uses of funds for each sector.

[2]"The Role of Financial Accounts," *The Review of Income and Wealth*, June 1969.

[3]N. S. Margolin, *The Balance of Money Income and Expenditures of the Population*, Moscow, 1940 (in Russian); for an earlier statement, see his article in *Planovoe Khoziaistvo*, 1937, No. 11–12.

For a discussion of financial plans in the Soviet Union, see my "The Role of the State Bank in Soviet Planning," in *Soviet Planning*, Essays in honor of Naum Jasny, Oxford, 1964, and the chapter "Monetary and Credit Plans" in my *Money, Banking, and Credit in Eastern Europe* (Federal Reserve Bank of New York, 1966).

After World War II, the Soviet system of financial planning was introduced in the various countries which came into the Soviet orbit. In each country, the various financial plans, such as the budget, the balance of payments, and the credit plans of the State Bank are integrated into a single financial plan showing the industry, origin, initial distribution of the social product in monetary terms, its redistribution, and the role played by the unified national budget and of the retained income and depreciation reserves of the socialized sector in this process. Data for one or another of the financial accounts have been published for some countries for individual years, either as plans for the coming year, or as actuals for past periods. But little has been published about the structure of the summary plan, which shows the flow of funds within the socialized sector and which is usually referred to as the "financial balance." So far, it has remained a confidential internal document. Considerable detail has been published, however, on the historical evolution of the financial balance and of related investment financing accounts, in particular in the Soviet Union and in Poland.

Statisticians of the socialist countries have also developed a uniform national accounting system, known as the Material Product System (MPS) which, however, dispenses with the concept of saving and in which only two financial flows are identified: those involving the budget and those originating in the banking system.[4] While possibly this matrix is actually used in one or another of the socialist countries, no actual figures have been published, to my knowledge. While the financial balance as well as the MPS matrix contain elements for an interlocking flow-of-funds accounting, efforts to construct such account have been proceeding in some countries independently.

Since even those of the socialist countries which have made significant efforts to use the market process still rely to a considerable extent on central planning, flow-of-funds analysis is not designed, as in Yugosavia, to provide a quantitative framework for monetary and financial policy. But proponents of such accounts go to considerable lengths to point out the value of money-flow models, in particular when tied to production and investment plans, for instance, in proving quantitative indications of credit requirements of alternative patterns and rates of projected growth and of related flows of consumer purchasing power. They stress the value of integrated flow-of-funds projections for checking the consistency of the plans couched in real and in monetary terms, respectively, and the availability of resources to implement the intended levels and patterns of investment.

The basic problem has been to make use of information now embodied in the traditional financial planning and accounting in the socialist countries in the form of "balances" (double entry tables) for individual sectors or activities for the construction of flow-of-funds matrixes. Input–output tables could be taken as a starting point to a limited extent only, since many additional money flows are generated by the redistribution of the social product, by socialized and private consumption of services and by the process of socialized accumulation,

[4]See János Árvay, "Development of the National Accounting System in Hungary," *The Review of Income and Wealth*, June 1969, which contains the MPS matrix. A complete version of the MPS system was presented at the first Regional Seminar on Planning, held in Prague by the Economic Commission for Europe of the U.N. in September 1967.

while some transfers of goods do not involve money payments. Also, the role of credit and of various other types of financial transfers, as well as changes in the distribution of money balances and their growth—in short, the role of the financial-credit system in a socialist economy—needed to be identified specifically in relation to the production, distribution and utilization of the social product, and flows needed to be related to changes in balances. It was easy to show that a self-balancing flow-of-funds matrix was superior to the traditional efforts to plan for macroeconomic equilibrium by correlating a set of separate sectoral balances.

Poland is the only socialist country, except Yugoslavia, in which flow-of-funds accounts have been actually constructed and published for a number of years. The other efforts which I shall try to summarize briefly are mostly of an exploratory nature, with work going forward on the proper scope and structuring of accounts as well as determining the best way of obtaining the required data. In Hungary, as in Poland, the National Bank has taken the leadership in developing flow-of-funds accounts. In Czechoslovakia construction of flow-of-funds accounts is the result of efforts of a joint team of the Prague School of Economics, the State Bank, and the Ministry of Finance. In East Germany the work is apparently concentrated in the Ministry of Finance. In the Soviet Union, work on developing a comprehensive flow-of-funds statement is only now getting under way.

THE FINANCIAL SYSTEM AS A SOURCE OF DATA

It is easy to see why the nature of financial flows in socialist countries considerably facilitates construction of money flow tables.

(1) In the socialist countries, financial assets are not differentiated and financial flows are reduced to money flows or changes in indebtedness to the banking system. Payments flows are strictly separated into two circuits. Currency is used for all payments between the socialized enterprise sector and the population and by the population. Payments within the socialized enterprise sector and between this sector and government are made through a system of credit and debit transfers.

(2) The banking system consists, in fact, of one single institution;[5] the few specialized banks, such as the foreign trade bank, account for only a small share of domestic payments.[6] Thus, the overwhelming bulk of payments associated with the production and distribution of the national product, as well as with its redistribution, is reflected on the books of one single financial institution.

(3) The semiautomatic tying of payments flows to the movement of goods, and the use of various payment constraints (such as the detailed control of wage payments) facilitates reconciling money flows with real flows. In fact, in the socialist countries flow-of-funds accounts are essentially a tableau of real flows

[5]I have dubbed it the "monobank." See G. Garvy, *Money, Banking, and Credit in Eastern Europe* (Federal Reserve Bank of New York, 1966).

[6]None of the socialist countries has followed the example of Yugoslavia in relieving the National Bank of the paper work involved in credit transfers by shifting it to a separate "social accounting center"—in fact, a universal giro center.

expressed in monetary terms. The fact that the banking system is the only available source of credit further simplifies the financial part of the accounts. The foreign exchange monopoly of the government facilitates tracing and classification of all international payments.

(4) With the exception of the household sector, which can hold savings deposits (and also government bonds), and with the exception of a limited amount of trade credit and debt, money is the only financial asset and bank indebtedness the only financial liability. Mainly as a result of recent reforms, in some countries, not including the Soviet Union, certain individual enterprises may also hold directly claims against foreign banks. Financial flows involve neither non-bank credit or securities. The resulting structure of the flow-of-funds accounts is therefore relatively simple. Investment banks and separate (central or decentralized) investment funds are intermediaries only in an administrative, not in an economic, sense. The channeling of financial resources is still achieved mostly by centralized administrative decisions, including those pertaining to the budget and to credit expansion, rather than by relying on allocation through financial markets. All receipts and payments of the unified national budget, which is the principal means for redistribution of the social product and for financing investment, pass through the monobank. Similarly, transactions of decentralized investment funds, the importance of which has been increasing as a result of the recently initiated economic reforms in the individual countries, also leave traces in the records of the monobank.

(5) Finally, mandatory current (monthly, but in some cases even more frequent) reporting of a wide range of data required for the preparation of a variety of annual and quarterly financial plans related to the economic plan and of reports on their current fulfillment makes construction of flow-of-funds tables much easier than in Western countries.

Given these basic features of financial structure common to all socialist countries of Europe, it is not surprising that endeavors towards developing financial flow accounts within the framework of interlocking social accounts focus on two problems: tracing the distribution of value added in the process of material production ($v+m$ in Marxist terminology)[7] through the budget and other transfer and allocative mechanisms, and the financing of the investment account. In view of the nature of the underlying transactions prior to the reform, and since financial resources contributed by the household sector and channeled almost exclusively through the savings bank system have been playing only a marginal role; the second problem consisted essentially in detailing the nature of the various transfers between the government-owned enterprises, the unified national budget, the various special investment funds, and the banking system.

Obviously, in the absence of financial liabilities other than bank loans and financial assets other than money, and in the absence of financial markets, the investment finance account differs considerably in substance and presentation from the flow-of-funds accounts in non-socialist countries which focus on the

[7]For a succinct discussion of the Marxian national income theory, see Paul Studenski, *The Income of Nations*, New York University Press, New York, 1958, pp. 21–25; see also the chapter on Soviet Russia, pp. 349–73.

role of markets and instruments in the formation and transfer of current savings and the use of financial assets acquired in previous periods in financing real capital formation and government deficits.

In the socialist countries, the structure of financial balances is focused on the transfer of the social product generated in the production sector into investment and collective consumption in the form of free social services. It shows flows between enterprises, the budget, and the various funds and institutions and also covers the centrally redistributed part of depreciation allowances and taxes on income, including income of cooperatives and of the private sector. Such transfers take different legal forms, including turnover and other taxes, administrative transfers, nonreturnable grants and, since the initiation of the reform, medium- and long-term loans. Bank loans—the only form of outside nongrant financing available—still play a minor role in the socialist countries, while household savings continue to be an almost negligible source of financing. Consumer saving is largely pre-empted for providing resources for extension of consumer credit and for cooperative and individual housing construction. Only when demand for such credit falls short—usually for brief periods only—of the net accumulation of consumer savings does such savings become a source of funds for the extension of credit to the socialist sector.

Because of the very nature of financial flows in socialist economies, flow-of-funds analysis focuses on institutional arrangements and from-whom-to-whom information rather than on financial markets and instruments. As long as there is no attempt to use the market mechanism for allocating at least part of the funds available for financing investment, the new arrangements for financing fixed investment, by loans rather than by grants which represent one of the conspicuous aspects of the economic reforms now being introduced in the various countries, are unlikely to do more than change the relative size of the various flows.

Methods for Constructing Flow-of-Funds Accounts

Three basic ways are open in the socialist countries for constructing a comprehensive national financial account. One is the already discussed combining of the national budget, which accounts for the bulk of financial flows,[8] with the various other financial plans to obtain an overall "financial balance." In Yugoslavia, construction of such an account was the first step in developing flow-of-funds accounts and this was also the road first followed by Poland.

Another approach is to take the aggregate accounts of goods-producing enterprises as a starting point. An aggregation of these accounts provides a basis for measuring the flow of payments to the population, into the budget, and to the various categories of separate investment funds, in addition to those retained by the generating economic unit. Enterprise accounts (or their financial plans) can then be combined with estimates for service-supplying units (see below), for voluntary organizations and for all private (non-socialized) activities.

[8] N. S. Margolin, *The Planning of Finances* (Moscow, 1961, in Russian) estimates that in 1960 the budget accounted in the Soviet Union for about 80 per cent of the flows shown in the financial balance (p. 82).

Combined with the national budget and the credit plan, aggregate enterprise accounts, supplemented by estimates for the other economic sectors, would show the distribution and redistribution of surplus product (m) and the distribution of labor income (v). This is the technique favored in East Germany and its feasibility has been discussed in Hungary.

A third approach is to use data generated by the banking system for the construction of flow-of-funds accounts. This method, also explored in Hungary, has the distinct advantage, in particular in countries which have not as yet abandoned the monobank system, of obtaining most required data from one central source. An additional advantage is that such data would be the by-product of operations to which uniform classifications and accounting procedures apply.

Sectoring

In Eastern Europe, flow-of-funds accounts are generally presented in the form of a matrix (usually referred to as a chessboard table). All three approaches outlined above involve complex conceptual as well as technical problems of sectoring and in filling the cells of double-entry tables. They all have in common the problem of overcoming the obstacle that all data are available only on the basis of the specific organizational structure of the respective countries, which in most cases involves the subordination of all enterprises in a given branch to a ministry in charge of the given industry or to a central nationwide or regional organization. Thus the structuring of accounts typically represents a combination of institutional and functional principles. Even regrouping of data collected from various ministries and other organizations by the main industry branches or major economic sectors presents in some cases considerable difficulties. At the same time, any changes in economic organization or budgetary procedures automatically require a restructuring of accounts.

The main difference between the scheme used and the one recommended by the Statistical Commission of the United Nations (SNA accounts) is rooted in the concept of national income used by the socialist countries which identifies production with goods production. Some services are provided by units which use business accounting (khozraschet), but they do not necessarily price services to cover factor costs; other services are provided free, or for a nominal fee, by units that are financed from the budget.

The typical sectoring in the flow-of-funds accounts in socialist countries is:

(1) Goods-producing units (in some countries also including enterprises providing services which operate on a business accounting basis and are known as "khozraschet units");
(2) Units supplying non-productive services ("non-khozraschet units," as well as civic and other nonprofit organizations);
(3) Government (all levels);
(4) Households;
(5) Rest of the world;
(6) The banking system (in some cases shown as "credit flows"); and
(7) Suppliers of investment funds. (This corresponds to the capital finance account of the SNA framework.)

There are few deviations from this basic scheme in the individual countries. Minor differences are largely a result of differences in administrative and organizational arrangements.[9] Since the household sector is defined essentially as the currency-using sector, it also includes whatever private production and service activities exist in the given country. No distinction is, or can be, made between the monetary authorities and the banking sector.

Soviet Union

Little progress has been made in the Soviet Union in developing flow accounts since P. Studenski[10] reported a decade ago on the first moves in this direction. Attempts to develop proper methodology for preparing integrated financial plans that would be roughly the equivalent of capital finance accounts in contemporary terms go back in the Soviet Union to 1927, and overall flow-of-funds statements for the entire socialized sector had been first constructed in connection with the first five-year plan.[11]

The government adopted in 1930 a program to initiate preparation of an "overall financial plan" that would tie together the national budget with estimates of money flows in the socialized sector of the economy and to the population. Work towards constructing such a plan was undertaken at the Commissariat (Ministry) of Finances, but progress was slow and those efforts were discontinued in 1932. No visible progress in this direction was acccomplished until World War II, even though shortly before its outbreak the framework for a complete flow-of-funds matrix, showing considerable detail by major industries (more precisely, by each industry ministry) was worked out by the finance section of the State Planning Commission (Gosplan).[12]

The Balance of the Economy, which has been prepared in recent years, is, in fact, a collection of related, but not integrated documents covering various aspects of social accounting in real as well as in monetary terms. Each of these balances shows sources and uses of certain categories of resources but not their inter-relations and no inter-sectoral flows, and it is not possible to trace the effect of changes in one balance on other self-contained balances. Some important processes, such as capital formation as a whole, are not shown at all. Within the framework of the annual Balance of the Economy is included a skeletal version of an overall "Financial Balance" (which is also attached to the Budget) as shown below; it is also known as "Summary Financial Balance" and "Balance of Production, Distribution, Redistribution and use of the Social Product and National Income."

[9]Thus, for instance, the insurance sector is shown separately in the proposed structure for East Germany.

[10]P. Studenski, *op. cit.*, p. 373.

[11]For a history of these efforts, see A. Liando, *Questions of a Financial Balance of the National Economy* (Moscow, 1963, in Russian). Professor S. G. Strumilin has been a leading proponent of such accounts since 1924. See his numerous writings on this subject; in particular "On the Theory of a Balance of the National Economy," *Planovoe Khoziaistvo*, 1936, No. 9–10.

[12]See I. Nusinov, *Methods of Financial Planning* (Moscow, 1937, in Russian) (quoted by Liando, p. 86).

FINANCIAL BALANCE

Formation and Distribution of Income	Productive Enterprises (by branch of industry)	Nonproductive Enterprises	Population
Net national income			
Primary distribution			
(a) labor income			
(b) net income of productive enterprises			
Redistribution of income			
(a) payments into redistribution funds			
(b) receipts from redistribution funds			
Final income and its use			
(a) consumption			
(b) accumulation			

Interest in integrating the various financial plans, including the national budget, with the production and income accounts and to complement them by a sources-and-uses-of-investment-funds account was revived in the late fifties. Thus in 1957, A. Notkin submitted to a conference of statisticians held at the Central Statistical Office of the U.S.S.R. a proposal for a flow-of-funds account.[13]

Another effort to show financial flow within an integrated system of social accounts was undertaken when developing the inter-industry production and income tables for 1959. The matrix was divided into four blocks (quadrants) the last of which showed the use of the main components of income by the main expenditure categories of the household and of the capital formation accounts.[14] While work along these lines has continued in subsequent years, no figures for the fourth block have been published for 1959 or any subsequent year.

After a decade of discussion, in which many leading economists participated,[15] a group of experts at the Research Institute of the Ministry of Finance under the leadership of S. Sitarian has now begun working on the elaboration of a comprehensive set of flow-of-funds accounts.

B. L. Isaev, of the Central Economico-Mathematical Institute of the Academy of Science of the U.S.S.R. has advanced a proposal for an integrated social accounting matrix which would show the flow of financial resources.[16]

[13]See M. B. Bor, *Questions of Methodology of a Prospective Balance of the National Economy of the U.S.S.R.* (Moscow, 1960), pp. 66–68.

[14]See M. R. Edelman, *The Inter-sector Balance of the Social Product* (Moscow, 1966), in particular the table following p. 80.

[15]See, in particular, V. S. Nemchinov, *On the Further Perfection of Planning and Steering of the National Economy* (Moscow, 1960, in Russian). Other leading proponents, in addition to A. Liando and M. B. Bor, include I. Slavnij and N. M. Voluiski.

[16]B. L. Isaev, *Integrated Systems of Balances in the Analysis and Planning of the Economy* (Moscow, 1969, in Russian). Table 27, p. 276 is the "minimum variant." An alternative real-financial matrix, actually constructed on an experimental basis for 1961 and 1966 for the Federal Republic of Estonia, is shown on pp. 296–97 (Table 28). (See also pp. 269–70 for an enumeration of various social accounting documents now prepared in the Soviet Union.) For a short statement in English, see his "Block Matrix of Financial Flows," *Econometrica*, Vol. 35 (1967), No. 5, Supplementary issue, pp. 65–68.

In its "minimum variant," this scheme would not break down these flows by financial instruments. But Isaev favors a matrix that would give considerable emphasis on funds flows, arguing that the economic reforms initiated in 1965 require such an approach to social accounting inasmuch as the reform places great emphasis on financial stimulation. Specifically, a fully developed flow of funds matrix could identify the various "funds of material stimulation" of enterprises which are being relied upon to achieve increased efficiency of the Soviet economic system. He also argues strongly for using micro-accounting data in building up macro-matrixes, given the large degree of standardization of accounting prescribed for individual enterprises.

Isaev believes that the State Bank, being the accounting center of the country by virtue of the fact that payments of virtually all transactors, except households, are made through credit transfers on its books, ought to be a main source of information for constructing flow-of-funds accounts.

POLAND

In Poland, efforts to prepare interlocking tables of the flow of money and credit between the main sectors of the economy go back in time almost as far as the initial efforts to develop such accounts in the United States. Flow-of-funds accounts were originally developed at the National Bank under the leadership of Professor Sulmicki who constructed such "synthetic accounts" for the first half of 1957. Subsequently (from 1963 on), work along similar lines has been carried forward at the Financial Institute of the Ministry of Finance.[17] The financial flows tables of the National Bank and of the Ministry of Finance are integrated with production and income accounts. The required data are derived from a variety of sources and some bold estimating is involved, for instance, for service transactions. In addition to retrospective tables, projections were prepared for the first time for the year 1966. While the emphasis is on financial flows in relation to capital formation, the tables also show sector changes in assets and liabilities. The main matrix shows separately, depreciation and net capital formation, the sale and purchase of real assets, as well as flows into and from institutions and agencies that finance capital formation.

HUNGARY

Considerable efforts have been made in Hungary to investigate the feasibility of flow-of-funds accounts under the sponsorship of the National Bank,

[17]P. Sulmicki: *Przeplywy Miedzygaleziowe* (Warsaw, 1959) and "Bilanse syntetyczne" in *Finanse*, 1961, No. 9. J. Wierzbicki: "Bilans przepeywow zeczowo-finansowych," 2a, 1962. *Econometria a praktyka planowania* (Warsaw, 1965), and "Zastosovanie metody nakladowwynikow w tablicach przeplywow rzeczowo-finansowych," *Studia Finansowe*, 1965, No. 1. See also A. Wakar, ed., *Teoria Pieniadza w Gospodarce Socjalistycznej* (Warsaw, 1969), in particular the section on the system of financial plans, pp. 172–196, and the table on pp. 190–191. All items quoted are in Polish. See also Z. Pirozynski, "Finanzielle Verflechtungsbilanzen und ihre Ausnutzung in der Wirtschaftsplanung der V. R. Polen," *Deutsche Finanzwirtschaft*, 1963, No. 3.

In recent years, the Central Statistical Office has been developing inter-sector flow tables limited to tracing payments flows which are related to the production and primary distribution of the national product.

which in 1961 established a special commission for this purpose. Much of the published research is associated with the name of Dr. Joseph Sári. No tables have been published as yet to my knowledge, but a number of exploratory studies conducted by the National Bank have been published in Hungarian, and some in English and German.[18]

While the Hungarian flow model is designed to relate payment flows to the production and income account, it has serious limitations and it will not incorporate information on depreciation allowances or changes in inventories and thus will not reveal all sources for financing investment. Other limitations arise from the fact that the implementation of the scheme developed at the National Bank is to be based on bank payments records. It thus will cover only those payments which leave a trace in these records; it will not cover inter-sector payments which use currency rather than credit transfers. It is thus incapable of providing an adequate picture of total money flows and of their relationship to the distribution and use of income.

In Hungary, the uniform MPS matrix has been expanded to introduce the concept of savings and to make a systematic distinction between capital formation and consumption expenditures. Furthermore, three sources of financing of capital formation—retained earnings, funds supplied by the budget and bank borrowing—are shown separately.[19]

The feasibility of using banking data has been tested by analyzing actual bank entries for one single day (December 29, 1962) in the county of Fojer. On that day, fewer than 9,000 vouchers and other accounting documents were actually processed in the six banking offices of that county. They were subsequently coded and classified into categories corresponding to the flow-of-funds matrix designed by the research team of the National Bank. One specific problem which had to be resolved—and one which, of course, is not peculiar to banking in socialist countries—was to sort out transfers between separate accounts of the same unit from payments to different units, to the budget, and to various autonomous investment funds. An experimental flow-of-funds table covering the fourth quarter of 1965 was to be constructed, but I have not seen it in published form.

Implementation of the Hungarian flow-of-funds project apparently hinges on the acquisition of adequate electronic data processing equipment by the National Bank. In the meantime, further work is being down on achieving a better integration of the designed account structure with output and income accounts. Apparently, the conclusion has been reached that bank data will have to be supplemented by information supplied by the individual enterprises, by the Investment Bank, and from other sources. This may introduce delays which are likely to wipe out many of the advantages ascribed to the initial approach, namely, the almost instantaneous availability of data from bank records.

[18]A. Gyory and J. Sári, *The Increased Utilization of Money Circulation Data in Economic Analysis* (1965), and J. Sári, *Anwendung der Geldumlaufsdaten in höherem Masse für die ökonomische Analyse* (1969). Both published (processed) by the National Bank of Hungary. See also Jeremi Wierzbicki, Wegierska koncepcja wykorzystania informacji bankowych do zestawienia bilansów przeplywow pieniadza (Hungarian scheme of utilizing bank information for the preparation of the monetary flow balances). *Studia Finansowe*, No. 4 (Warsaw, 1967), pp. 118–63.

[19]For details, see János Árvay, *loc. cit.*, which shows and discusses the Hungarian matrix.

Flow-of-funds accounts of Czechoslovakia have been developed following the framework of the SNA system of the United Nations, and thus are tied to the product and income account.[20] While there are differences in detail, the Czechoslovak accounts follow fairly closely UN recommendations.

The stated objective of the Czechoslovak flow-of-funds accounts, which are prepared at the Ministry of Finance, is to provide the basis for analyzing short-term effects of financial, monetary, and price policies on economic conditions.[21] The Czechoslovak product and income accounts are more condensed than the detail recommended by the SNA, but emphasis is placed on showing payments credit, and other financial flows in considerable detail.[22] In view of the introduction of a federal political structure in 1969, the accounts are so structured as to provide separate tables for Bohemia and for Slovakia. The flow-of-funds accounts are basically derived from monthly and quarterly financial reports required from all enterprises and from the standard financial accounts prepared in the socialist countries.

The Czechoslovak financial accounts are integrated with the national balance sheet which shows real and financial assets and liabilities of each sector at the beginning and close of the year as well as the value added. In contrast to the previously prepared national accounts, the new scheme provides a full statement of financial flows and shows the financing of capital formation in each sector. Since one of the main purposes of the accounts is to show the short-term effects of changes in economic conditions and in policy, the product and income account focuses on net income, while financial flows identify the size of the various kinds of subsidies, including price subsidies.[23]

In contrast to the other socialist countries, and consistent with UN recommendations, the "nonfinancial enterprise sector" includes most service industries, except those which are not operated for profit, such as theatres. Considerable detail is given by subsectors. For instance, the nonfinancial sector provides in addition to the usual breakdown between goods-producing and service industries, a further breakdown between industries that are centrally and those that are locally controlled. Finally, detail is given for the main industries, which are represented in each of these subsectors. Cooperative enterprises are shown separately, with several subsectors, including one for collective farms. The banking sector is broken down in no fewer than five subsectors, and deposit and credit flows between them are shown in great detail. Presumably, because of the lack of appropriate data the household sector includes all private production and trade activities, including all non-socialized agriculture. It covers, in fact, all transactions of the non-socialized sector.

[20]An unpublished report by V. Klima of the Research Institute of the Ministry of Finance, Prague, December 1966, proposed a scheme based on the old U.N.O. system. For early work along the lines of the Polish "synthetic financial plan," see D. Lubnar and K. Spacek, *Uhrnny financni plan* (Prague, 1961).

[21]Vladimir Simunek, *Czechoslovak Economic Papers*, 1969, No. 3, and "Financni ucty CSSR" in *Finance a Uver*, 1969, No. 4.

[22]Actually, one of the two versions provided includes all imputations recommended by the Statistical Commission of the United Nations.

[23]See Vladimir Simunek, *Metodika financnich uctu a kratkodobeho modelu peneznich a financnich vztahu*, Prague, 1969 (processed).

East Germany

In East Germany there has been considerable interest in developing money flows matrixes. Helmut Egerland[24] a pioneer in this field, has attempted since 1959 to derive such an annual matrix from the various types of available financial balances for various sectors of the economy. Experimental work has been done at the Ministry of Finance with his cooperation to construct a flow-of-funds table for 1961,[25] and a conference was held at the end of 1962 with participants from other socialist countries in which work on flow-of-funds tables was being carried forward.[26] Another working party on constructing flow-of-funds accounts is sponsored by the State Planning Commission.[27] So far however, all these efforts have produced a good deal of interesting discussion, but few tangible results, although a decision to produce a flow-of-funds matrix as part of the economic balance sheet prepared by the Central Statistical Office, and certain steps in this direction had been taken as early as when the balance for 1963 was being prepared.[28]

The endeavors to develop flow-of-funds accounts are directly related to the economic reform; it is not clear whether the slow progress being made is solely due to difficulties in obtaining and correlating the required statistical information.

Rumania

In Rumania, the capital finance account has been prepared for many years along the lines of synthetic balances by using the standard set of financial plans prepared in socialist countries. An attempt to construct such an account on the basis of actual figures rather than by using projections (plans) for the coming years has been made for the first time to cover 1968. The construction of a flow-of-funds matrix has been advocated by Professor Dan Grindea of the University of Bucharest.[29] Implementation of his proposals is going forward at the Center of Economic Computation and Economic Cybernetics of Bucharest.[30]

[24]"Verflechtungsbilanz der Geldbeziehungen der Volkswirtschaft," *Finanzpolitische Information* (East Berlin), 1962, No. 2. See also his "Finanzielle Perspektivplannung und Verflechtungsbilanzierung," *Deutsche Finanzwirtschaft*, 1963, No. 3, and "Verflechtungsbilanz des Geldumlaufes" in *Geld und Kreditwesen*, 1963, Nos. 21 and 22.

[25]See a report in *Deutsche Finanzwirtschaft*, 1963, No. 8.

[26]For a report on the Conference, as well as the basic paper given by Friedmar John of the Superior School of Economics, see *Deutsche Finanzwirtschaft*, 1963, No. 2.

[27]For a discussion of some of the conceptual and technical problems encountered by the working party, see E. Seifert and E. Vogel, "Zur Notwendigkeit der Entwicklung und Anwendung von Geldverflechtungsbilanzen bei der Leitung," *ibid.*, 1965, No. 2.

[28]See Wolfgang Schmidt, "Die Verflechtungsbilanz der Geldbeziehungen weiterentwickeln," *Deutsche Finanzwirtschaft*, 1965, No. 3.

[29]*Ventitul National în Republica Socialistă România* (Bucharest, 1967, in Rumanian), in particular Part Two, Ch. III (5), "Proposals for a synthetic table of redistribution of national income" (pp. 378–83), and Part Three, Ch. V, "Balance sheet of the production, distribution and of the final use of national income" (pp. 544–52).

[30]See Radu Mănescu and associates "Un modèle mathématique des relations monétaires dans l'économie," in *Economic Computation and Econometric Studies and Research* (Bucharest), 1966, No. 2, which contains the proposed matrix and also a separate matrix of flows through the financial system.

BULGARIA

While no flow-of-funds tables are compiled in Bulgaria, considerable attention has been given for many years to the development of an integrated set of social accounts, broadly along the lines of the inter-industry flow table constructed in the Soviet Union for 1959. However, adequate data are not presently available for providing even the very broad information on the financing of capital formation and on the expenditures of the household sector embedded in the fourth field of such a table.[31]

CONCLUDING REMARKS

In socialist countries, policy requirements make in some cases desirable preparation of additional and subsidiary flow-of-funds tables for certain sectors, such as the "rest of the world." Another example is non-socialized agriculture in the few countries in which it represents an important segment of economic activities.

I have not seen any tables for any socialist country for non-socialized economic activities by sector, such as agriculture, or the entire private production sector, which is of some importance in several of the countries. For Czechoslovakia, however, Professor Simunek has developed a table to show all flows related to all private production and trade activities. In Poland, Miłosław Pietriewicz, of the Institute of Finance, has proposed construction of flow-of-funds accounts for the non-collectivized sector of agriculture.[32] His matrix would roughly parallel that used for the economy as a whole, and cover production, income distribution, financial flows and changes in assets.

The great dependence of the countries of Eastern Europe on foreign trade (since in all socialist countries of Eastern Europe, other than the Soviet Union, foreign trade accounts for between one-fourth and one-third of the national income) explains why considerable efforts are being made to identify the extent of this dependence for the individual segments of the economy and to trace in considerable detail the related financial flows. A meaningful measurement of such flows requires complex adjustments to allow for the differentiation of domestic and foreign prices for identical products, for the use of multiple exchange rates and for the fact that much of the trade among the socialist countries is, in fact, on a barter basis so that nominal prices play a secondary role. Yet, since optimal allocation of resources (including between production for the domestic and for the foreign markets) requires realistically determined relative prices, the problem of price conversion is crucial for the success of the economic reforms now under way in the individual countries as well as for the proper interpretation of flows in financial accounts.

[31] The second edition of Eugeni Mateev, *Balans na Narodnoto Stopanstvo* (Sofia, 1966) contains (Chapter 9) a discussion of an overall financial balance along the lines of the table used in the Soviet Union, but with considerably more detail on financial transactions (table on p. 301).

[32] "The method of physical-financial flows and the scope of its use in analyzing the peasant farming," *Studia Finansowe*, No. 6, 1969, pp. 117–45 (in Polish, English summary).

Hungary, which, among the socialist countries, has perhaps the largest percentage of foreign trade to national income, provides in its flow-of-funds model for a breakdown between enterprises that produce for foreign trade and those which do not. Plans for future refinements include a breakdown of the rest-of-the-world sector into socialist, capitalist, and developing countries, and to show the relevant flows separately (because of differences in foreign exchange requirements). Another project is designed to show the effect of foreign payments on the economy of each of the major administrative subdivisions of Hungary.