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Chapter Author: Morris Mendelson

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The Optimum of Grossness in Flow-of-Funds Accounts

MORRIS MENDELSON

UNIVERSITY OF PENNSYLVANIA

IN A very real sense this paper is premature, and I make no pretense about being original. Until the flow-of-funds accounts have been used more analytically, we will not even know which net flows are essential, to say nothing of gross flows. Little analysis has been undertaken so far, and there has been little demand for flows grosser than those already available. Undoubtedly, some work is in progress, and the people involved may feel the lack of grossness with varying degrees of acuteness.

I

It should be clear that in the flow-of-funds accounts there are changes other than the introduction of gross flows to which I am inclined to attach higher priorities. In some instances, grossing is incidental to the introduction of other desirable changes. Since this paper is not concerned with the need for grossness per se, I shall not refrain from discussing the cases in which it is actually incidental. One of the most important such cases, really a variant of grossing, is the disaggregation of financial claims by maturities.

In this paper, however, I shall not attempt to assign priorities to the various proposed changes. I intend to confine the discussion to the question of which flows would contribute substantially more to our understanding of the economy if they were gross rather than net, and make a few observations on the gross flows that can be developed without too great expense.

The concept of grossness is not a simple one. Consider the various degrees to which one can gross (or net) acquisition of Treasury securities by the life insurance sector. As the data now stand, they are about as net as can be. For each company, the purchase of each issue is netted against sales of that issue. Net purchases of each issue are also netted against net sales of other issues. Finally, when one company is a net buyer and another is a net seller, the transactions of the two companies are netted against each other. Elimination of either the first or second netting operation, in effect, eliminates

intraportfolio netting.¹ Elimination of the third netting operation eliminates intracompany netting. The existence of the three netting operations makes possible² seven different measurements, each of which would be grosser than the current measure.³

If we consider uses and sources of funds as positive and negative flows, respectively, the essence of grossing flows is the segregation of these plusses and minuses. The degree of grossness depends upon the extent to which the signs are kept separate. From that point of view, almost any form of disaggregation is, in general, a step toward grossness. This is true not only of the disaggregation of sectors, but also of the disaggregation of transactions. If the insurance sector sells utility bonds and buys an equal dollar volume of railroad bonds, net bond acquisitions would be zero. Finer transaction categories would result in grosser estimates.

Even the present flow-of-funds accounts would be somewhat grosser if decreases in financial assets were treated as sources rather than as negative uses. However, an even greater degree of grossness would be achieved if the negative changes in the holdings of an asset by one subsector were not offset against the positive changes in the same assets of another subsector. To be sure, even if this operation were performed on the accounts, the degree of grossness would still not be very large.

It should be clear from the above discussion that the distinction between greater grossing and greater disaggregation of sectors or transactions is necessarily fuzzy. We must, however, distinguish between the observation that a particular disaggregation can contribute to the grossing of a particular flow and the need for less aggregated figures. In some instances, additional grossing would be a convenient by-product. In other instances, where gross measures were important, the disaggregation would be incidental. This is not the place to discuss the relative merits of particular disaggregations and grossings. Disaggregation is discussed here in part to indicate the great range of degrees to which one can gross flows, and in part to indicate routes by which some flows might be made grosser than they now are.

II

In the preceding paragraphs, consideration of specific flows was only incidental. Consideration of such specific flows is expanded in this

¹ Obviously the degree to which a measure is gross of intraportfolio transactions depends on whether or not both of the above netting operations are eliminated.

² At least conceptually.

³ The present degree of netting of most financial flows is the result of accident rather than design. It results from approximating flows by increments in sector balance sheets, with or without valuation adjustment.

section under four general headings: Accuracy; decision making; the interplay of financial and nonfinancial markets; and financial-market analysis.

ACCURACY

Even if gross flows per se were of no particular interest, consideration of the advisability of grossing some of the financial flows could not be avoided. The estimation of financial flows poses some problems that do not occur as often in the estimation of most nonfinancial flows. In the measurement of most nonfinancial flows, the major problem is often to cover the flows of all transactors rather than to decide whether or not the proper thing is being measured. Coverage is also a problem in measuring financial flows, but in addition there is often a question of whether the steps taken to estimate the flows result in measurements of the phenomena we claim to be measuring.

Most financial flows are derived by calculating changes in the holdings of the transactors involved.⁴ For fixed-value instruments such changes measure the net flows with reasonable accuracy.⁵ Unfortunately, changes in holdings of other financial instruments often reflect large valuation changes as well as net purchases or sales. Each category of financial instruments gives rise to its own problems.

Stock is often valued at market prices, but not always the ones prevailing on the last day of the fiscal year. Fixed-income securities, on the other hand, are usually valued at amortized costs. But whether or not the security is actually amortized may depend upon whether or not the purchase price was above or below par.

The type of valuation adjustment required for transforming balance sheet increments to true flows differs for balance sheets that are at market prices and balance sheets that are at book. Unfortunately, accounting procedures are far from uniform, and estimation of the proper valuation adjustment is hazardous. The data available for making them are rarely complete. The information usually available either applies to the entire portfolio (see fire and casualties companies) or, at best, to large groups of items (see commercial banks). There is little or no information on how adjustments should be apportioned among the transaction categories.

To be sure, the Federal Reserve Board has made some progress with this problem. In my own development of quarterly flow-of-funds

⁴ Cf. Morris Mendelson, *The Flow-of-Funds through the Financial Markets, 1953-1955*, Working Memorandum, National Bureau of Economic Research, 1959, pp. 30 and 33-63 *passim*.

⁵ Even the change in cash holdings may reflect something in addition to the cash flow, e.g. errors of measurement, losses of currency, etc.

accounts⁶ and experiments with extending Raymond W. Goldsmith's savings study data to 1956,⁷ I did manage to achieve some allocation. Nevertheless, the situation is still far from satisfactory, especially in the area of capital market flows.

The difficulties are compounded in estimating quarterly flows. Even when the valuation basis at which securities appear on fiscal year-end balance sheets are known, the frequency with which the securities are revalued is not. Even within a given sector the practice varies from firm to firm. Some life insurance companies revalue their portfolios only once a year. Others do so almost every month. If at the end of the year life companies had retained every security that they had owned at the beginning of the year and only these and the number of life companies did not change, the Institute of Life Insurance would still report a different value for securities held each month.⁸ Consequently, it is virtually impossible to allocate valuation adjustments over quarters with any degree of accuracy. Under the circumstances, even if interest centers only in net flows, development of true gross flows would contribute considerably to the accuracy of the data.

I have used the word "true" advisedly. The possibility exists of developing gross-flow data that would be useful from an analytic point of view, but would not contribute one iota to the accuracy of net estimates. For analytic purposes it may be sufficient to measure gross flows by measuring net flows and either gross purchases or sales, and deriving gross flows by subtraction. For example, data on gross acquisition of securities by life insurance companies are available. A rough allocation of valuation adjustments among the different types of securities can be made. Consequently, the derivation of gross sales is possible. Such gross-flow estimates cannot contribute to the accuracy of net-flow estimates, since the gross flows are not independently derived. Finally, grossing is, obviously, only one of several possible statistical techniques to improve accuracy. Valuation bases could be investigated directly.

DECISION-MAKING

If the only need for gross measurements was to improve the accuracy of net-flow measurements, the evaluation of the importance of individual gross measurements would derive strictly from the importance of the corresponding net measurement. But gross flows often supply information which may be of crucial importance. With new flows, action corresponding to some decision-making processes

⁶ Mendelson, *loc. cit.*

⁷ Unpublished.

⁸ In their monthly release. *The Tally*.

are offset by action corresponding to other decision-making processes. The basic economic processes that we seek to understand are masked. Furthermore, decision-making processes may also be masked by flows that are not at all the product of decision-making.

The degrees of control over sources and uses of funds are not always the same. With some exceptions, transactors have more control and discretion over uses than over sources of funds. Flows over which transactors have control are more likely to be the results of the decision-making process involved.

The Decision to Save

The development of flows that contribute to our understanding of important decision-making processes is not always simply a matter of grossing. However, it is often a matter of the closely related need for disaggregation. The development of data with which to analyze voluntary saving is such an instance.

With the accounts as they now stand, a number of savings concepts can be derived both for individuals and for other sectors. However, regardless of the concept used, a fair amount of the saving done by individuals is contractual rather than voluntary. The extent of their control over the voluntary component is much greater than over the contractual component. Forgoing either component involves a cost, but forgoing contractual savings involves additional costs. It is safe to assume that this part of saving is less often sacrificed than the other. To the extent that individuals forgo saving in any period, they are poorer at the end of the period than they would have been otherwise. However, to the extent that individuals fail to meet their contractual obligations, not only are they poorer at the end of the period; they have also jeopardized their credit standing and, to some extent, their moral fibre, and are often subject to some monetary penalty.

In the flow-of-funds accounts, two flows in which voluntary and contractual saving are at present inseparable are consumer and mortgage debt. The volume of changes in such debt or credit outstanding is the result of several factors: extension for purchases, cancellation prepayments due to the transfer of ownership of the asset being financed, regular repayments, and other prepayments. Only prepayments reflect voluntary saving. Before these can be segregated, repayments in general must be segregated from credit extensions.

Fortunately, there are other reasons for grossing these net credit flows and disaggregating the repayments. These reasons will be discussed later.

The Decision to Invest

In the evolution of the flow-of-funds accounts in the United States, nonfinancial flows have become increasingly net. Copeland minimized netting insofar as he was able to do so. More recently, however, in an attempt to extend the flow-of-funds accounts to a quarterly basis, nonfinancial flows have been netted considerably.⁹ It is only fair to note that this was done because it was the only way by which quarterly data could be developed, and not because it was felt that the grosser flows were unnecessary. The degree of netness in the Federal Reserve accounts is less than in the National Bureau quarterly accounts, where the only operating flows presented are net inside funds.¹⁰

In the corporate nonfinancial business sector the new Federal Reserve accounts show, in addition to capital expenditures, merely the following nonfinancial flows: profits after inventory valuation adjustment, capital consumption, net profits tax payments, net dividends and branch profits paid, and current surplus. Some of these are very net indeed.¹¹

The substitution of profits for its component flows is unfortunate indeed. To be sure, there are many who would consider this an improvement. An examination of the Dawson-Meiselman-Shapiro¹² corporate accounts will show that they use this net format. Alternatives may not have been available; but the fact remains that even if that were not so, it is not clear that the accounts would have been presented differently. They seem to have considered their formulations of the flows more revealing than more detailed presentations. They may have been right, but I doubt it. The proper choice of transaction categories depends upon the nature of the question being asked, but most questions to which these flows are pertinent are closely related.

The decisions to invest and to borrow are largely inseparable. No one borrows unless he has to, and given inside funds, the decision to invest implies a decision to borrow (in the flow-of-funds sense) any needs in excess of those inside funds. The breakdown of inside funds into net profits and depreciation is an arbitrary accounting

⁹ "A Quarterly Presentation of Flow of Funds, Saving, and Investment," and related tables, *Federal Reserve Bulletin*, August 1959, pp. 828-859 and 1046-1062.

¹⁰ Mendelson, "The Flow-of-Funds."

¹¹ See citation in note 9; note especially page 1050.

¹² John C. Dawson, "Fluctuations in U.S. Corporate Investment and Finance 1931-1950," unpublished Ph.D. thesis, Cornell University, 1957; and David Meiselman and Eli Shapiro, "Corporate Sources and Uses of Funds," (annually 1950-1955; quarterly, 1953-1955), forthcoming report for the NBER Postwar Capital Market Study.

allocation of flows. These two concepts may be important as determinants of capital formation, but the same may be true of the receipts and expenditures components.

A rise in net profits can be the consequence of proportionate increases in receipts and expenditures. It may also be the consequence of a relatively rapid rise in receipts, while expenditures rise only slowly. The implications for the future course of capital formation are considerably different in the two instances. The first may give rise to more optimistic expectations than the latter. The latter may simply have been the consequence of the failure of input prices to rise as rapidly as output prices. The consequent expectation could easily be for net profits to fall, whereas no such expectations may be generated by the first instance. This is obviously speculation. To my knowledge such relationships have not yet been investigated. The impact of net profits on the decision to invest may be invariant with respect to the receipt-expenditure composition of the flows that make up inside funds. However, if such invariance does exist, it would be peculiar indeed.

THE INTERPLAY OF FINANCIAL AND NONFINANCIAL FLOWS

Nonfinancial sources and uses are accompanied by financial uses and sources, respectively. The flow-of-funds accounts were largely developed to permit the study of the interrelationships and interactions among the financial and nonfinancial flows and between the financial and nonfinancial markets. A number of flows will have to be on a grosser basis if this objective of the flow-of-funds development is to be fully realized and if the potential contribution of these accounts to the development and improvement of macroeconomic tools is to bear fruition.

A primary example of the need for grosser flows obtains in the field of real estate transactions. The accounts would be much improved if they provided measures of purchases of new homes and of gross real estate transfers. Gross purchases of new homes are already found in the accounts, but real estate transfers are net. While transfers do not have the same significance for employment as new-home purchases, they do have some indirect significance.

If all real estate transfers were intrasector transactions, net real estate transfers would be nil. On the surface, these transactions would generate no demand for capital market funds. But this is nonsense. It presupposes that the new owner is going to incur a mortgage debt equal to the one that is canceled by the seller. In a growing economy, where families gradually move up the income scale, many real estate transfers are from families who have outlived their present

homes to families who have only recently been able to afford them. The selling families have acquired a good deal of equity in the properties they sell, but these equities are smaller fractions of the value of the more expensive houses they buy than of the houses they sell.

The selling families often wait until they can afford the higher maintenance costs of the new homes rather than until they can acquire the new homes without incurring additional mortgage indebtedness. Instead of the net change in mortgage debt being nil as a consequence of offsets, it must tend to be positive. We would hardly argue that every single real estate transfer is of this nature, but in growing economies such transactions are likely to result in considerable demand for mortgage funds. Unless measures of real estate transfers are gross, the apparent impact of these transactions on the mortgage market is minimized; and the impact of the availability of mortgage credit on the demand for homes is beclouded.

While such considerations are not quite as important in the realm of consumer durables, some of the considerations are still pertinent, especially in the matter of automobile purchasers.¹³

There are other grounds for grossing real estate, consumer durable, and related credit flows. In some respects, the demand for consumer durables is much like the demand for producer durables, and has proved to be the most recalcitrant component of consumer purchases to explain. Logically, the volume of consumer durables and real estate purchases (used as well as new) are more highly correlated with gross credit extensions than with net credit extensions. The latter are the result of several factors: extensions for purchasers of new products, extensions for purchasers of secondhand products, and a number of types of repayments. Some of these flows have nothing to do with current consumer capital formation. Conceivably, a careful examination of the role of gross credit extension, however, would contribute insight into the consumer decision-making process.

In many respects, the relation of credit flows to durable goods purchases may be more significant for consumer than for business capital formation. Business gross capital formation is largely offset by inside funds, and demands upon the credit market are thus minimized. The impact of changes in credit conditions are thus reduced. In both residential real estate and consumer durable purchases, on the other hand, inside funds play relatively minor roles. Although individuals frequently refer to the depreciation on their

¹³ The segregation of new and used automobile purchases is not to be found in the flow-of-funds statistics. To be sure, the need for such a segregation is only incidentally a problem of grossing.

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assets, they rarely seem to charge it against income. In the case of automobiles, far from supplying funds which the consumer can use for a new car, depreciation merely increases the need for external funds. Under the circumstances, surely it is proper to argue that as much light as possible should be cast on these financial markets and that gross flows can contribute to this light.

FINANCIAL-MARKET ANALYSIS

I have already indicated that gross flows would contribute to our understanding of the complex changes that take place on the financial markets. The contributions that gross flows can make are, fortunately, not confined to those already discussed. Further analytical potentialities will be discussed in this section under the following broad, and to some extent overlapping, categories: by-whom-to-whom analysis, interest rate studies, short-term investments, and maturity distributions.

By-Whom-to-Whom Financial Analysis

The flow-of-funds accounts present a multitude of financial-market facts. They record the net changes in the financial claims held by the various sectors and the net changes in the liabilities of borrowers. All this is presented in considerable detail. The accounts disclose those who ultimately obtained and those who ultimately advanced funds by type of instrument. This is still not enough. To understand fully the operations of the financial markets and the impact of monetary policy, we need to know not only who lent and who borrowed funds, but also the channels by which the funds were transferred from the ultimate lenders to the ultimate borrowers. Otherwise, our ability to anticipate the impact of economic changes on the financial markets and the consequent impact of the developments of the financial market on the economy as a whole is hampered.

Consider, for the moment, the mortgage market. Pure theory, unsullied by institutional fact, would lead us to believe that the impact of a restrictive monetary policy would decrease the flow of mortgage funds only through the impact of the policy on the term structure of interest rates and the consequent improved relative attractiveness of shorter-term instruments. In fact, this is not the only way in which monetary policy makes itself felt in the mortgage market. As Klamman has pointed out,¹⁴ mortgage companies play an important role in the origination and distribution of mortgages. These functions, however, can only be performed as long as the mortgage

¹⁴ Saul B. Klamman, *The Postwar Rise of Mortgage Companies*, Occasional Paper 60, National Bureau of Economic Research, 1959.

companies have access to bank funds for financing their activities until the mortgages have been distributed. The reduction in the availability of bank credit that results from restrictive credit policies tends to choke funds off from the mortgage market even though the ultimate lenders, in this case primarily insurance companies, are quite willing to invest in mortgages at the prevailing yields. Similarly, the placing of new corporate securities depends upon access to short-term funds by the investment bankers.

Actually, gross flows are only indirectly pertinent to this problem. The above argument is, in fact, an argument for expanding the present flow-of-funds structure to make possible a to-whom-from-whom matrix. It should be clear that the development of gross-flow data by itself would not make the preparation of such a matrix possible. It would bring us nearer, but it would not eliminate many of the problems and obstacles that currently interfere with the construction of to-whom-by-whom accounts. Nevertheless, the development of at least a greater degree of grossness than is now available is a necessary step, and the fact that it is such an intermediate step is in itself an argument in favor of the development of such flows.

Interest Rate Studies

Grosser flow data would contribute even more to studies of interest rates than to the matrix studies described in the preceding section. Often, the needs are not for gross flows per se, but for measurements that automatically provide grosser estimates.

The complex of interest rates is determined by the flows within the various maturity sectors, flows that are hidden if netted. If the Treasury has no need for new funds and engages only in refunding operations, the financing operations do not necessarily leave the market untouched. The maturities of the newly issued and maturing securities are obviously different. The demand represented by issues of bonds and notes is a demand upon the capital market. The funds invested in maturing securities are often money market funds. Under the circumstances, the impact of Treasury debt operations on market yields can hardly be investigated adequately by an examination of the net issue of Treasury securities only. Offsetting flows from different segments of the financial market are inevitable when the transactions of debt issuers are dealt with in a net-flow framework.

From the point of view of the capital market as a whole, the proceeds of maturing securities held by long-term investors continue to be available to that market, but not necessarily to the same segment from which they came at the prevailing obligor structure of interest

rates. Furthermore, in analyzing the effect of the demand for funds upon any segment of the capital market and in listing the determinants of the obligor structure of interest rates, sales of outstanding obligations must be included. An examination of net trading may easily fail to reflect the intensity of relative demands and, under the circumstances, may hardly produce an adequate explanation of the variations in the yield differentials.

Similarly, attempts to relate changes in the attitudes of financial institutions to changes in the complex of interest rates invariably encounter the frustrating lack of measures of such attitudinal changes. In view of the marked preference of each type of institution for the securities of particular obligors and the consequent marked skewness of the distribution of securities in their portfolios, changes in the ranking or proportions of the different types of securities held hardly prove to be very revealing. Because of that skewness, ranking is also an ineffective measure of changes in the structure of acquisition. Finally, since acquisition may be positive or negative, percentage distributions are meaningless. While the availability of gross flows would not entirely eliminate that problem, a percentage distribution of gross flows would at least reveal the proportions of funds institutions have allocated¹⁵ for the acquisition of the various types of obligations.

More important, we cannot separate maturities from other disposals without grossing. From the point of view of decision-making, the purchase of a security is the result of a decision, regardless of the source of funds. The disposal of a security, however, is the result of a decision only when it takes place prior to the maturity or call date. A separation of maturities from other disposals is also important in relation to the problem of locked-in portfolios. There is no denying that some institutions hesitate to show capital losses. Perhaps it would be more accurate to say that some investment officers hesitate to show such losses. To be sure, an alert trading department will carefully weigh the possibilities of the yield differentials being sufficiently wide for long enough to more than make up for the capital losses. The attractive power of a given differential, however, depends upon the ability of the investors to liquidate their existing holdings without unduly narrowing the differential. To the extent that maturities supply institutions with investable funds, obligor switching is more likely to take place.

There are other interest rate problems for which gross flows do not supply answers, either incidentally or per se; but at least they supply clues to what is happening. In the market, actual purchases and sales

¹⁵ In operations, not in planning.

are always and necessarily equal. The equality may have been brought about by a rise in prices necessary to induce a sufficient supply to meet the demand or by a fall in prices necessary to induce a sufficient demand to absorb the supply. However, the direction in which interest rates move will depend upon whether the buyers or the sellers initiated the transactions. Net flows will ordinarily indicate who were the net buyers and who were the net sellers and, also, what direction the inquiry on the initiating source should take. But net flows will give no such indication if either tax-swapping or switching among the obligations of a given type of issuer occurs. The net flows may be zero, but the interest rates may nevertheless be affected.

In tax-swapping operations the motivations for selling are greater than those for buying, and the net result is very likely to be a rise in yields. The objective of a tax swap is the conversion of a book loss into a realized loss. Once the security has been sold this objective has been realized. While the acquisition of a similar security is often desirable, it is not mandatory; and on many occasions, it is not effected. When that happens, net sales appear in the accounts. However, even when there are no net sales, the selling pressure on yields exceeds the buying pressure; and gross, not net, flows will indicate the existence of such pressure.

In an obligor switching operation the opposing pressures are also uneven. The higher-yielding security will attract funds which in turn will tend to depress its own yield. The switching operation itself results in a concentration of flows toward these higher-yielding securities. The securities sold, however, need not be confined to a single issue. In view of the imperfections of the market, the impact on yields of the sales can be minimized by spreading the sales among several issues and choosing those issues which are likely to result in the least price sacrifices. Net flows may be zero; but as a consequence of the transactions, average yields will change. The over-all change may be slight, but the change in the differentials between various issues of corporate bonds may be considerable.

Short-Term Investments

Among other possibilities of analysis opened up by the availability of gross flows, one of the most important, a development of the postwar improvement in the control over cash flows, is the intensification of the use of highly liquid substitutes for cash. The need for liquidity instruments arises from the lack of synchronization of inflows and outflows of cash and of speculative interest. Even if flows were known with certainty, many money market investors would usually hold some short-term instruments as a buffer against

the lack of synchronization. The development of closer controls of cash flows had increased the volume of funds available for investment in these instruments. The extent to which they are utilized, however, is difficult to measure with only net flows. The significance of the development among nonfinancial corporations is understated by net flows, since these often measure the change in the holdings of short-term instruments from window-dressing date to window-dressing date. A given annual net flow is consistent with both a great deal or very little activity within the year.

Maturity Distributions

In the earlier discussion of maturity distributions, gross flows were incidental to the fact that the desired measures were incompatible with net flows. In this subsection, gross flows are more central in that they may be the only indication we have of the changing maturity composition of portfolios when no direct measures of that composition exist. As an example, we might cite the case of bank loans. We know something about that composition late in 1946, late in 1955, and late in 1957. Information about the composition in the intervening years is strictly limited, and most of the data that does exist is the product of heroic assumptions. Gross flows will not produce precise measurements. But gross flows would make possible the measurement of changes in commercial bank loan turnover. From that, inferences about the change in the maturity composition could be made. Even though the information thus derived is limited, who would deny its value?

Similar inferences could be made for consumer credit and mortgages. To be sure, for short-period analysis it is not at all clear that much could be learned about the maturity composition of mortgages. For longer periods, however, this type of computation could be quite revealing.

In a similar vein, gross flows should cast some light on the theory, currently enjoying some vogue, that there exists a tie-in between the life of assets (maturities, in the case of financial instruments) and the maturity distribution of liabilities. These ideas have never been subjected to rigorous empirical analysis. It would be interesting to see the extent to which such a theory could, for example, explain the differences in portfolio composition of financial institutions. In particular, it would be interesting to see a comparison of savings and loan associations with mutual savings banks. If the theory is valid, there should be some relation between the turnover rates of the deposits or shares of these institutions and the maturity composition of their assets.

III

Granted that the development of gross flows is desirable, what can be done about that development? There is little doubt that most of these flows are difficult to measure. Fortunately, the measurement of some of the more important gross flows is feasible.

On the liability side, net issues of corporate securities are derived by subtracting redemptions from new issues. The conversion to gross flows is thus relatively simple. The data needed for the development of gross flows of federal obligations are available, though not necessarily in the most convenient form.

In the area of security flows, the major problems lie with holder rather than obligor data. While it is unlikely that gross flows for all sectors could be developed in the foreseeable future, gross-flow data on at least some securities can be derived for some of the major sectors.

For federal obligations, an approximation of sector gross flows can be made for most of the major holders or, more specifically, for commercial banks, mutual savings banks, life insurance companies, and fire and casualty companies. In the "Treasury Survey of Ownership," published regularly in the *Treasury Bulletin*, the federal obligation portfolio of the above sectors are given in considerable detail. If the amount of a specific issue held by a sector increases, it is obvious that the sector has purchased at least that amount of the issue. If the amount held falls, the security must have been sold, exchanged, or redeemed to at least that extent. To be sure, measures constructed in this way are not truly gross, since they ignore intra-sector trading. Nevertheless, they yield lower limits to the figures for purchases and sales.

The sector for which gross flows can be measured most easily is the life insurance sector. The Institute of Life Insurance has long estimated gross acquisitions, and they have developed data on sales since 1957. Their reluctance to publish such data in the *Fact Book* is understandable, as the ordinary reader might easily be confused if acquisitions minus dispositions did not equal the changes in the amounts held. Nevertheless, the I.L.I. would perform a considerable service to the financial and academic communities if it would undertake to make available data on disposals of securities.

The data necessary for similar estimates for fire and casualty companies theoretically exist in the annual reports the companies submit to the various state superintendents. Unfortunately, these data are nowhere systematically tabulated.

The National Association of Mutual Savings Banks, which already produces a good deal of excellent data on mutual savings banks,

would be the obvious vehicle for the collection of gross data on security transactions by these banks.

The only other group for whom comprehensive gross-flow data might become available is the open-end investment companies. The National Association of Investment Companies already reports purchases and sales of portfolio securities other than federal obligations.¹⁶ The possibility of having these transactions broken down by major type of securities (at least, bonds and preferred and common stock) and of having data on federal obligations added should be explored.

Finally, there exist possibilities of estimating some gross flows of mortgages. A good deal of exploratory work in this field was done (but never published) for the Postwar Capital Markets Study by Klamon. He also discussed the problems and potentialities of developing gross mortgage flows at the 1959 meetings of the American Statistical Association. That talk will undoubtedly be published. Unfortunately, as far as I can gather, aside from the thought that Klamon has given the problem, work in the area at the moment is dormant.

IV.

The discussion in this paper implies that partial grossing of the flows will not damage the significance of the totals now found in the sector accounts. Fortunately, this is true. All flow-of-fund totals are net; so even if gross details were given they would be netted in summing. If it is desirable to have some flows on a gross basis, it is at least not necessary to put every little flow on the same basis. The accounts can tolerate any degree of mixing of degrees of grossness that is found useful.

This is equally true of transaction accounts. At present, the degree of homogeneity in the transaction accounts tends to be greater than that in the sector account, but this is a statistical accident. Mixing gross and net flows does not destroy the equality between sources and uses. Netting of flows is equivalent to subtracting the same quantity from sources and uses. Similarly, the grossing of flows would be the equivalent of adding the same quantity to sources and uses.

C O M M E N T

EDWARD F. DENISON, Committee for Economic Development

Morris Mendelson has provided this conference with a very thoughtful and informative paper. It clarified my own thinking in

¹⁶ See *Investment Companies, A Statistical Summary, 1940-1957*, New York, p. 15.

a number of respects. Except perhaps for one general conclusion that he reaches, I found nothing important with which to disagree. Consequently, my comment is more a reaction to, than a critical review of, Mendelson's paper.

Let us think for a moment of the logical limits of netness and grossness in the sources and uses or money-flow accounts. The most net meaningful aggregate we can conceive of in this framework is a statement of the amount of total investment, set equal to total saving. This is done in the national income account for saving and investment for the economy as a whole. The most gross is a statement of the total payments in the economy for all purposes, set equal to total receipts. Mendelson has a good systematic discussion of the types of netting that may be introduced to obtain intermediate degrees of grossing between these extremes.

Grossness or netness in the totals must be sharply distinguished from the detail in which these aggregates are classified. Either total investment or total payments, or any intermediate aggregate, can be classified among any number of sectors or transaction components. However, as Mendelson notes at several points, certain interesting kinds of classification are applicable only to gross flows—for example, a breakdown of debt repayments as between contractually required repayments and voluntary repayments.

The present flow-of-funds accounts are quite close to the nettest basis possible. Indeed, as presented in Table 1 of the August 1959 *Federal Reserve Bulletin*, they are set up so as to aggregate to and provide a breakdown of saving and, in that sense, *are* the nettest possible. As shown in Table 4, they present a breakdown of the income of the sectors, which goes only a very little way toward full grossness. Moreover, transactions are shown on a basis in which receipts are generally netted against payments; and the transaction categories are so broad that the great bulk of receipts and expenditures cancel out, leaving only small net plus or minus entries.

Viewed from another standpoint, the accounts show only the net change in assets and liabilities required to derive for each sector an estimate of saving, with the addition, in Table 4, of the sector's income and current expenditures.

Mendelson's paper could with reason have been included as a sort of negative contribution to this morning's discussion of uses of flow-of-funds accounts. It provides, in effect, a selection of subjects that the flow-of-funds accounts might well be expected to illuminate, but in fact do not because they are insufficiently gross or otherwise inadequate. This list of potential uses for grosser data struck me as fairly impressive. But this may only reflect the often unwarranted

hope that more data will answer significant questions. Mendelson's discussion of uses for grosser data takes up most of his paper.

Mendelson, despite the title of his paper, nowhere states clearly what the "optimum of grossness" is; but if we add up his individual recommendations, it seems fairly clear that, questions of cost aside, they imply that something very close to the extreme of complete grossness is the optimum.

Thus, he wants business receipts and expenditures for goods and services completely gross, because an increase in profits resulting from larger sales may affect investment decisions differently from an increase in profits resulting from a higher profit margin. He wants transactions in used houses and consumer durables on a gross basis, so that they can be related to credit extensions and repayments, as well as for study of decision-making. Together, these recommendations add up to almost complete grossness in transactions involving the sale of commodities.

His recommendations for financial transactions and income transfers similarly add up to a requirement for complete grossness. Extensions and repayments of mortgage and consumer debt must be shown separately for the analysis of decision-making and to trace the interplay of financial and nonfinancial flows. Interbusiness dividend payments (and presumably, by analogy, interest payments) must not be netted, also for the study of decision-making. Study of the interest rate structure requires gross flows, as does study of the significance of the secondary capital markets. Postwar economizing on cash and greater use of liquid cash substitutes can be revealed only by gross flows. In the absence of data on maturity distributions, gross flows would make possible the measurement of changes in the turnover of loans, from which changes in maturities may be deduced. Grossing commercial bank loans would be especially useful from this standpoint. If these recommendations, and others I have not repeated, do not add up to complete grossness in financial transactions, any room that is left for netting of any type must be small indeed.

Mendelson, fortunately, does not stop with a statement of what would be desirable. Part III of his paper is an examination of what could be done with data sources now available or potentially available to introduce more grossness into the accounts. There is little doubt that his suggestions for the provision of such additional information, as distinguished from the way in which it is presented, ought to be taken up. Nevertheless, these feasible additions to available information would not seem to do much to fill gaps in data required for purposes which, he has earlier stated, could be met by

gross accounts but not by existing information. Some of this information, such as gross interest and dividend flows, is already available in the national income tables. Some, such as sales of existing houses and sales of intermediate products, was formerly shown in the flow-of-funds accounts, but was little used, possibly in part because there was inadequate statistical foundation for the estimates. Some, like mortgage recordings under \$20,000, are published elsewhere.

The rest consists of bits and pieces for financial items, relating mainly to federal obligations and to a scattering of gross flows for some financial obligations of some sectors. To make much use of them would require not only gross flows but a good deal of supplementary information that is not available. This is, indeed, so often true of gross flows, as Mendelson's discussion of individual topics brings out very well, that I should like to stress it. Disaggregation of financial claims by maturities is more important than gross flows as such. Gross flows are necessary for "from-whom-to-whom" analysis, but do not themselves make such analysis possible. They are necessary for a distinction between maturities and other disposals of securities, which would be useful for the study of interest rates and decision-making; but it is this *breakdown*, not the gross flows, that would make the main contribution. Gross flows in the real estate and mortgage markets are necessary to study the interplay of real and financial transactions in this area, but the classification of repayments is also necessary. If this is a fair summarization, then the flow-of-funds accounts are not likely in any early period to become useful for the purposes Mendelson discusses. Our expectation of what we can reasonably hope to learn from expansion of these accounts then becomes quite limited. This seems to me to have implications for the presentation of the accounts.

In Part IV of his paper, Mendelson argues for grossing the details of the accounts where feasible. Rather than to move the accounts in a conceptually haphazard fashion toward a greater degree of grossness, it would seem to me better to provide in supplementary tables whatever gross information can be developed. The really significant breakdowns of gross entries that might be developed don't fit readily into the accounts in any case.

I have not yet mentioned Mendelson's discussion of the need for measuring gross financial flows in order to achieve greater accuracy in the net figures. If gross flows were available, net flows could be obtained in the various business and government sectors as the residual of payment and receipts, instead of as the residual of balance sheet figures at different dates. Since gross flows, if themselves accurate, would obviate the need for measuring revaluations for

each transaction and allocating them among types of securities and among time periods shorter than those for which full balance sheet information is available, this, in principle, is an attractive alternative. Unfortunately, it appears to have little to offer in practice because there do not seem to be important cases where direct information for both sales and purchases of securities can be obtained.

Let me close simply by expressing again my admiration for the clarity of thinking and presentation of Mendelson's paper.

