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Developments in the Curriculum and Teaching of Finance: Discussion

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DISCUSSION

CHARLES F. WALKER*: It was Thomas Wolfe who said that you can't go home again, but Professor Robinson's excellent discussion has, for me at least, been the next best thing. It is now approximately 11½ years since I presented my last lecture to a college money and banking class and, as do most all of us refugees from academia, I miss teaching very much. But Professor Robinson's paper almost succeeded in making me feel that I was once again pondering the thorny problem of just what to bring before my students in money and banking.

I really cannot quarrel with Professor Robinson's fundamental conclusions; they are well taken and well said. And I do not believe any useful cause would be served by my engaging in the small amount of nit-picking that would result from our few differences of opinion. Rather, I would like to spend my half-dozen minutes in a more positive vein—in outlining briefly to you a very important area that is all but ignored by the textbooks—and thus I assume by the M and B courses. Frankly, it is an area that I, too, would have ignored a dozen years ago when I was teaching, but one that in the perspective of my present position looms of growing importance. This subject is not only pretty much passed over in the beginning courses, but insofar as I am aware, is not given a great deal of attention in the advanced portions of financial curricula.

I refer to the theory and practice of financial regulation in the United States today, and especially to banking regulation. Time does not permit a detailed review of the several matters that might be included in such a discussion, but perhaps I could illustrate my point by hitting a few high spots.

For example, are beginning students—or, for that matter, advanced students—sufficiently exposed to the basic theory of financial regulation in the United States today? Fundamental to such an analysis would be the public policy efforts to reconcile two conflicting goals: the need to regulate for purposes of safety and liquidity, versus the desire to promote dynamism and innovation through competition. Just how much regulation should there be? Or, conversely, how free should banking (and other financial institutions) be?

Do students really understand what is meant by the term "dual banking" which, because of the tripartite system of federal regulation that has been superimposed on the century-old federal-state system, is a much different animal than originally existed—or which exists today in the minds of many bankers and perhaps some academicians?

With respect to "dual banking," there are many observers who favor centralization of banking regulation, emphasizing the alleged inefficiencies of the existing system. But is this inefficiency so great as some maintain? And, more important, how does the cost of whatever inefficiency and overlapping that exist stack up against what might be significant advantages to the public interest in having three as opposed to one route of entry into banking; or of providing a safeguard against arbitrary and capricious regulation; or, of fundamental importance, of preventing a tremendous amount of financial power from gravitating into the hands of one federal official or one federal board?

What I am trying to say is that "dual banking" today in essence means decentralized banking regulation. Decentralization, whether in government or business, may

* American Bankers Association.

well lead to some inefficiency, some overlapping, and other problems, but it is certainly not without its benefits in terms of avoidance of concentration and arbitrary use of power.

By giving more attention to these important problems in your money and banking courses, you could be providing a service both to your students and to the public interest.

ALLAN H. MELTZER*: Roland Robinson has given a brief but excellent summary of the current status of money and banking courses and has suggested some marginal changes within the present framework, a framework that is largely set by the content of current textbooks. Since I am probably less wise, and certainly less experienced (I have never taught a course with the title money and banking), I will predict the direction in which money and banking textbooks will evolve and go on to discuss whether the changes are desirable. Thus, my conjectures parallel Robinson's, but relax one of his self-imposed constraints.

Let me start by stating a simple proposition about textbooks. The content of textbooks five or six years from now will look very much like the content of the professional journals of the past few years. The process is quite well established, both in economics and in other branches of science. There is little reason to expect a change since the present system is rooted in well-established arrangements: (1) Faculty members choose textbooks. (2) New Ph.D.'s want to teach "new material." (3) It takes about five to ten years for changes within the existing framework of a subject to percolate down to the level of the undergraduate course. (It takes much longer to eliminate invalid theories or for revolutionary changes in theory to appear in textbooks. But, since we have not had a revolution in monetary or banking theory, we need not be concerned with the problem of adjusting to drastic change.)

The Direction of Change

My second proposition is that most of us prefer to talk about things that we know, or think we know, particularly if they are "new." What are the main topics in the professional literature on money and banking, monetary theory, macroeconomics, or whatever title one chooses to use? I find four main lines of research or discussion: (1) the question of the monetary standard, (2) the portfolio balance or wealth adjustment approach, (3) the microanalytic theory of the bank or financial institution as a firm, and (4) the accumulation of empirical knowledge. Let me discuss the effect each of these is likely to have on the money and banking course.

Since the theory of international trade and finance belongs to another course, I do not foresee much change in that direction. We have enough to do in our own field without encroaching on the jurisdictional prerogatives of our colleagues. Textbook authors will make a bigger bow in the direction of discussing the monetary standard, and textbook publishers and salesmen will herald this as a new approach to the subject. But we really don't have much to say. Students are likely to yawn uncontrollably—or shuffle their papers if they are more polite—as we run through the comparative merits of the Bernstein, Roosa, Despres, Posthuma, Triffin, and Group of 10 plans. In a field where even the economic historians are becoming econometricians, only that vanishing breed, the institutionalists, will find much excitement in all this. A brief flurry or interest, and it will all be over. Those who lived through the Keynes, White, etc. plans will recognize the discussion for what it

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* Carnegie Institute of Technology. I am indebted to Karl Brunner with whom I have discussed this topic many times during the past 10 years.

is: A new set of facts, and, like most facts, neither exciting nor memorable for their own sake. How many of us recall the details of the Dawes Plan?

The economics of money and banking has always had too much money and banking and not enough economics. This unfortunate tradition that separates us from many of our fellow economists is bound to disappear. Monetary theory is, after all, a part of capital theory, and capital theory or its application is back in the forefront of attention. One need only look at recent work on growth, investment, education, the cost of capital, consumption theory, and monetary theory as well, to recognize this resurgence. The revised theory may reach the textbooks under the banner of the "modern quantity theory," the "portfolio approach to money and other assets," or the "wealth adjustment process," probably all three. This is grist for the money and banking mill, because money will have a clear and definite place in the theory rather than entering as an afterthought, as it now does in many of the textbook versions of the income expenditure theory. Moreover, this change will permit us to do the things that many of us have wanted to do for a long time, *viz.* discuss financial intermediaries, the demand for loans, alternative forms of credit and of financial liabilities, etc. I regard this as a highly desirable change and one that will be more far reaching than the use of flow of funds as an organizing device that Roland Robinson suggested. Parenthetically, I would add that the introduction to capital theory in the M and B course provides a useful start for the study of business finance.

Let me make clear that I am not talking about the manipulation of highly abstract mathematical models. Some may try to pass off such esoterica as money and banking, but fortunately the course appears to be moving toward more rather than less content. The theory is becoming much richer and will permit us to discuss many details of financial behavior that have escaped us before. The economic man of the money and banking textbook is going to optimize the composition of his assets and liabilities by making marginal decisions. He will decide to go into debt—there will be a desired debt position—and he will begin to worry much more about the difference between certain and uncertain streams than he has in the past. Needless to say, I regard these changes as a series of steps in the right direction. But, I hasten to add that I do not think that we will or should move the discussion to the highest level of abstraction. By definition, good textbook writers make difficult material simple without destroying the content and there is ample reason to believe that the task can be performed in our field. Indeed, textbooks are probably the principal means by which we educate the young and retrain the old in new or revised theories.

Recent work on banking theory runs parallel to the developments in monetary theory just discussed. There is substantial interest in the bank as a firm and in such questions as economies of scale, optimal portfolio policies, the return from holding alternative assets, the management of reserve positions, etc. There are policy problems of substantial interest in this area, as Charles Walker suggests in his paper. Moreover banks have themselves undertaken new and exciting research using the methods developed by management scientists and economists. Can we afford to ignore some of these developments? I think not. The question is, how much are we going to do?

If our course is to retain a public policy, liberal arts flavor, we cannot venture far into the problems of managing a bank. But a departure from the simple, homely example about how banks "create" money is long overdue. We have taken a step in this direction by eliminating the mythical dialogue between the dull banker—who "knows" that he never creates money—and the wise economists who can demonstrate that he does with nothing more sophisticated than chalk, blackboard, and balance sheet. But, the textbooks do not answer such questions as: (1) Why does

the banker hold excess reserves? (2) What determines the amount of excess reserves in the banking system? (3) Can commercial banks "create" time deposits? Or, if the answers are given, they are not very closely tied to what passes for theory. Where is the textbook that answers these questions and relates the answers to the questions: What is the size of the actual, rather than the hypothetical, money or bank credit multiplier, and on what does it depend? Like Roland Robinson, I hope that we will retain enough of the banking in money and banking to connect central bank policy, institutional arrangements and the behavior of the banks and the public in a theory of the determination of money supply and bank credit. Some movement in this direction has started, and I expect to see it accelerate.

This means that there will be major changes in the theoretical content of the course. Let me list a few of the more obvious changes. We will learn to distinguish between money and credit. Stocks, flows, and changes in stocks will be recognized, so that students will be better informed about what we are saying when we talk about "an increase in credit." Supply and demand functions will play a much larger role. This will not only renew our credentials as economists, it will reinforce the material to which students are exposed in the principles course. If we ever agree among ourselves on the difference between money and other liquid assets, we will certainly want to inform the next generation about the distinction. Once we have started along this path, we will not stop until the money and banking course becomes a course in the theory of financial markets and interest-rate determination. Even undergraduates will be able to distinguish between saving and portfolio changes, or flow of funds as it now is known. If we go that far, how can we avoid a discussion of fiscal policy that places much greater emphasis on the means by which the deficit is financed?

Turning in another direction, let me talk about one effect of technological change. I will not be the first to remind you that we live in the age of the computer. The costs of storing and reacquiring information have been reduced sharply, and they are going to fall even more. It is not hard to foresee that policymakers in the future are going to use models and empirical estimates, and will press buttons to get an estimate of the quantitative effect of any proposed change in policy. We need only look at the procedures now used in the Department of Defense, and extrapolate a bit, to fix the picture in our minds. If there was ever a reason for forcing students to memorize facts, that reason has been removed by technology.

Changing technology is going to improve our course by forcing us to discuss actual or expected rather than hypothetical effects. I fully agree with Roland Robinson that this change should not be avoided; it is all to the good, and it will have a profound effect on the content of the money and banking course.

Let me summarize the changes in content. The course that I see is going to have more economic theory at the micro and macro level. It will have more than a sprinkling of capital theory and a rich mixture of models and empirical estimates. But what will happen to the old topics—monetary history, monetary policy, and fiscal policy? Can anyone imagine a course in which the instructor doesn't spend part of his time second-guessing the Federal Reserve, the Secretary of the Treasury, the Council of Economic Advisers, and Congress? I certainly hope not. Whatever else it may be, economics is a policy-oriented discipline, and our course is likely to retain its present emphasis on public policy.

Methods of Teaching History and Policy

This brings me to the last question. How are we going to find time to do all of the new things and discuss history and policy as well? The obvious answer is to change our methods of teaching.

In most of the textbooks I have seen, the discussion of monetary history and monetary policy is treated as an afterthought. One reason that students never learn to apply theory is that we don't make much use of the theory in discussing policy or history. This amounts to giving a vote of "no confidence" to the theory, and equally important, it suggests to the student that the theory is not a very useful abstraction. Most important of all, we miss an opportunity to reinforce the teaching that we did in the theory section of the course.

If the theory section of the course takes the form I have outlined, policy and history will be treated as applications of theory. In place of balance sheet examples, we will use examples drawn from history. Instead of exercises in the manipulation of "fund flows" in a mythical kingdom, examples will be drawn from history. What better way is there to teach theory *and* policy or theory *and* history than to teach them all at once with policy and history treated as an application of an empirically valid theory rather than as a recitation of events organized as a chronological sequence?

EDGAR PESKE*: As I reread this presentation, I was again greatly and most favorably impressed with Ezra's historical review of instruction in business finance, deriving as it does from—

Institutional economics

The ubiquity of the corporation

Dewing's descriptive classic on financial policy

The reformist social controls of the thirties, and

The challenges which arose both from the management of internal funds within the corporation, and the change to the case method of instruction without.

As a corporate treasurer, I was both pleased and flattered when he found that "financial management is an integral part of overall management rather than a staff specialty concerned with fund-raising operations."

Similarly, I applaud greatly his view that education in business finance should move and has moved from the introspective, the descriptive, and the encyclopedic, with "the central emphasis on the procurement of funds" to the explicit and the analytical—to the setting of profitability standards by which a company "can assay the use of funds"; the extension of scientific management "into a field which previously had been reserved for judgment at the top"; and the introduction of a new approach "concerned with the optimal usage of funds" by government as well as business, both national and international.

So far, so good. But when Ezra moves further afield, even good friends must reluctantly part company. Few, perhaps, have found more use for the computer as an analytical tool and a mass data processor than we in the Bell System. But when Dr. Solomon finds that "computers do not take answers like, 'well you use a little judgment'" and concludes that "computers like numbers and so we have to find and use these numbers"—then I must depart from him to take the low road, though, in today's vogue, he's on the very high road indeed!

Such devoted adherence to computer methodology is only the first step in my fault-finding. After all, the use of the computer is merely the end result of economic model-building. And often in our building of economic models, we too hastily construct assumptions (valid or invalid as they may be). Then we painstakingly apply mathematical formulae of unimpeachable veracity which—in the inexorable mode of the computer—reduce all logic to "Yes" or "No" answers. But as an end

* Illinois Bell Telephone Company.

result, we obtain positive or negative electrical output whose quality can do no better than to match that of its programmed input.

Given valid assumptions, there's nothing wrong with mathematical constructs and electronic computers in themselves. But a second common fault, I would submit, is to mistake method for purpose, to confuse the means to a solution with the solution itself. As a tolerably modest layman, looking in at the academic world from the outside, I am frequently moved to marvel at the casualness of the assumptions so frequently poured into the machine on one side, and the uncritical acceptance of the highly precise and presumably objective answers turned out on the other side. How far, one might ask with Walter Morton, have we departed from inductive reasoning with its unlimited dimensions, and misconstrued mathematics and the computer—most useful and invaluable tools as they are—for the end results we are seeking.

By no means do I mean to imply that a scholar as intellectually able and conscientious as Ezra would work in such irresponsible fashion. But even he makes much, for example, of "measuring the cost of capital for any given society or any given industry" as a "minimum yardstick" to appraise the potential investment of funds. And with some frequency he dwells upon determinations of the "optimal fund mixtures," by which I take it he means the particular financing mix which will produce the lowest cost of capital.

Again, I don't quarrel with the desirability of attempting to ascertain such answers or the use of mathematical techniques to help achieve them. But I can't help wonder how objectively you can measure investors' expectations of earnings growth which since at least 1959 have driven the dividend yields on equities well below bond yields; how you average out long-term swings in market prices, as well as the shorter term vagaries; how you appraise the investor's discount of inflation in an economy where the dollar itself is inconstant; how you equate business risk, which is in the future, with debt ratio, which is in the present; how you retire long-term bonds to adjust the debt ratio to changes in the optimum capital structure, if cut you must; how—as a prudent business manager—you set aside a margin of borrowing power against possible future need; or, in the extreme, how you take into account the propensity of many a management to put the cut-off point for new investment far above the cost of capital.

Of course, we must try for the best answers we can obtain to the increasingly complex financial management problems confronting business today. And despite my reservations, I join heartily with Ezra in the belief that education in financial management should be based heavily on the more analytical techniques. There is much to be learned by the use of mathematical models. Especially with computer technology we can go far to reduce our areas of ignorance. I believe that every graduate of a collegiate school of business ought to have an appreciation of what computers can do today and what they will probably be able to do tomorrow. But this knowledge must be tempered with a realization of what they cannot do. I know of no man better qualified to teach the one in addition to the other than Professor Ezra Solomon.

BION B. HOWARD*: Professor Solomon has provided an excellent summary of the development of the field of business finance, and in the second part of his paper raised a number of problems that confront us currently in the teaching of the subject. In my brief comments, I will elaborate on a few of his observations, raise a

* Northwestern University.

question or two on matters of emphasis, and perhaps differ from him slightly as to the appropriate content of the beginning undergraduate course in the field.

There has been a substantial evolution in the teaching of business finance, and, as Professor Solomon points out, to those of us currently in the midst of it, the rate of change seems to be increasing. It will be interesting to look back ten or fifteen years hence. My guess is that we will not be nearly so impressed with current developments as we are at the moment.

An important factor that has contributed over the years to changes in our teaching has been the amount and character of information available. Some of you may have had occasion to go back to the Moody's and Poor's manuals of the 1920's or even earlier. One is immediately struck with the paucity of financial data that was reported on even some of our largest corporations, and closer inspection shows its frequent unreliability and incompleteness. Very little aggregative data was published. The evolution in our teaching of business finance has been made possible because of the tremendous improvements in information sources; we have had continued improvement in the adequacy of corporate reporting, more information about the money and capital markets, the reporting of aggregate data by government agencies and other sources that could be used as norms, and finally a substantial development and refinement of accounting principles that give credence and reliability to financial reports. We have built up a substantial body of knowledge on the characteristics of business performance under varying conditions. We are of course adding to this daily. All this has contributed to more sophisticated financial management, and has enabled us as teachers to make the changes that Professor Solomon has pointed out.

The advances in computer technology and the rapidly spreading use of computers by business, and as teaching aids in our business schools will no doubt, through making more complete and detailed information available, contribute to continued change in our methods of teaching the subject.

It seems to me that Professor Solomon makes too sharp a distinction between his "second postwar development"—the development of the body of underlying theory and analysis which grew out of work in the field of capital budgeting, and the changes that immediately preceded it. As he points out, some of the changes that took place in the immediate postwar period were—more concern with fund flows, asset management, and the internal work of the financial manager. Back of these changes, or a unifying thread, was certainly the placing of greater emphasis on maximization of the profitability of the business. The concepts of capital budgeting and cost of capital are concerned with this same element of profitability.

The problem of course construction is one which I am sure will never be settled. As my final comment I would like to state my reasons for believing that we should not go "whole hog" for the newer theoretical framework as the central emphasis of the beginning course in business finance at the undergraduate level. Professor Solomon acknowledges that the capital budgeting framework encompasses "fairly sophisticated theory." My feeling is that beginning finance students are not ready for sophisticated theory.

Most undergraduate business school students take only one course in *business finance*. Most are not finance majors. They may or may not come to the course after first having a course in money and banking. For the most part they have very little knowledge of business and even less of an understanding of anything to do with financing of business.

These students need substantial background before they can make use of the theory. I am really questioning whether there is room for both in a single beginning course. They lack judgment and experience in the mores of the market. They must

have some feel for the institutional setting that limits business action, and the fund flows in different types of businesses. I believe we can teach beginning business finance within an analytical framework, but I am dubious of the amount of capital budgeting theory that can be included.

When we come to the second course in business finance at the undergraduate level or even the beginning course at the graduate level I find myself much in accord with the views as expressed by Professor Solomon.

JOHN P. SHELTON*: My approach to a six-unit, graduate course in Investments diverges from Professor Wendt's recommendations in three major ways: (1) I emphasize the theoretical underpinnings of investments more than he does, (2) more use is made of the computer, (3) there are several topics he failed to mention (perhaps to save space) that warrant specific enumeration.

Consider the matter of economic principles underlying investment decisions. Students need to understand thoroughly the idea that the price of a stock represents, in a normative sense, the present value of the future stream of dividends and eventual sale price. For this purpose I have students derive the calculations on which bond tables are based. It is my experience that once students accept the role of present value in bond pricing they are willing to extend this concept to common stocks, recognizing of course that it is much more difficult to predict dividends and the final sales price than it is to forecast bond coupons and maturity price. Having discussed bond tables, it is appropriate then to take up bond ratings, the factors affecting bond valuation, the relation of yield and maturity as represented in the yield curve,¹ and the effect of changes in interest rates on bond prices.

Another principle that provides a fundamental theme for investments is the concept that investors desire gain but want to avoid risk. The complication, of course, arises from the fact that risk and return are positively correlated, so that all investment decisions must grapple with both horns of the dilemma.

This leads to analysis of ways to deal with risk, of which portfolio selection is the main technique. Here I have found it is necessary to work fairly hard on the concept of covariance and its implications. Obviously, this draws heavily on the models of portfolio selection developed by Markowitz, Tobin, Sharpe, and others. To indicate the importance of this area, I predict that just as the techniques of security analysis became prominent over the past two or three decades, so will the concepts and practices of portfolio selection become more significant in the coming decade. Since UCLA has computer facilities readily available, the IBM Portfolio Selection program is used to demonstrate the concepts and implications of portfolio decisions.

A third area where economic principles are emphasized is the role of efficient capital markets in helping a free enterprise economy grow and prosper. In our economy the financial community (including bankers, investment counsellors, stock exchanges, etc.) fills the role, to a large extent, that is undertaken by state planners in a communist economy, because capital resources are allocated in our economy via the flow of savings. Intelligent investment and well-organized capital markets are as important to a free enterprise economy as, for example, competition among suppliers, mobility of labor, or consumer knowledge.

* University of California, Los Angeles.

1. As specific indications of some of the subject matter covered in connection with bonds, two references are especially useful: Lawrence Fisher, "Determinants of Risk Premiums on Corporate Bonds," *Journal of Political Economy*, June, 1959 and Burton Malkiel, "Expectations, Bond Prices and the Term Structure of Interest Rates," *Quarterly Journal of Economics*, May 1962.

Mention of the economic role of investments leads to a comment about the results of Prof. Wendt's survey on the prevalence of Investments courses. I share Wendt's view that Investments should be taught mostly as a graduate course, so it was provocative to learn from his research that Investments was more prevalent at the undergraduate level, by a factor of almost two to one. This fact gives inferential support for a point of view that I have sensed but never documented. The point of view is this: among business administration or economics faculty a course on Investments seems to rank lower on the prestige scale than courses in Corporation Finance, Marketing, or Production, for example. If this observation is correct, it may stem from the belief that firms produce goods and services, so therefore the functional courses are important because they show how firms can operate more efficiently and improve the allocation of resources.

In contrast, Investments seems to have an aura of a course on "How to Beat the Market" or, somewhat more charitably, a narrow, professionally oriented course that compares to other job-oriented programs such as Hotel Management or Grocery Store Operations.

To the extent my observations about the status of Investments are accurate, an important aspect of the course has been overlooked. For a free-enterprise economy to function effectively, there must be an efficient capital market that encourages individuals to save and provides mechanisms for those savings to be transferred to business firms needing capital. This line of thought is not meant simply to establish the value of a well-taught course in Investments (and hopefully increase its acceptance in graduate programs) but also to underscore the need to emphasize the economic principles underlying investments.

Professor Wendt undoubtedly uses economic principles in his courses, so our difference is probably more one of degree than of kind, but the degree is important. My Investments course builds on three basic economic concepts: (1) the investment process allocates capital goods, (2) the price of a security should be the present value of its future cash flow, and (3) investors have to pay the cost of higher risk if they seek greater yield.

Security analysis, of course, must be taught. A useful tool in this section is the computer program developed by my colleague, Professor David Eiteman, that generates not only the standard ratios, but other information not usually produced by slide rules or desk calculators.² In the security analysis area, students are required to deal in a fairly sophisticated fashion with accounting data. This includes such topics as distortion of reported earnings (e.g. by different treatments of depreciation, the effect of merger pooling-of-interests, etc.) and whether leases should be capitalized on the balance sheet. We also evaluate the validity of cash flow as a measure of earning power and make sure the students know how to make source and application analyses.

Instead of merely confining security analysis to the traditional techniques exemplified by Ben Graham's classic work, students are shown how computer simulation of a firm's operations gives security analysis more precision, more flexibility, and more of a forward view.³

Security analysis is incomplete if not carried to security valuation. At this point, the economic principles and models taught earlier are utilized. What does the security analysis indicate about future dividends, earnings, and appropriate discount rates?

2. David K. Eiteman, "A Computer Program for Financial Statement Analysis," *Financial Analysts Journal*, Nov.-Dec. 1964.

3. The financial simulation is done with a computer program I have developed at UCLA. It is still in the experimental stage and is not yet generally available.

What has the analysis of the firm suggested about the correlation of income and price changes between this security and others? The valuation of growth stocks offers some of the more interesting opportunities to test the mastery of valuation concepts.

Professor Wendt chose not to mention many special topics that warrant some coverage in a six-unit graduate course on Investments. These include:

- (1) The role of preferred stock in an investment portfolio
- (2) Evaluation of decision rules for investing, such as formula timing plans and dollar-averaging
- (3) The advantages and disadvantages of mutual funds as an investment vehicle, and criteria for evaluating the performance of funds
- (4) Is short-run stock price behavior random? What does the research in this area imply about the credibility of market-forecasting techniques?
- (5) The effect of taxes on investment decisions, including the way investors should evaluate the lock-in effect of the capital gains tax, and the tax-exempt nature of municipal bonds
- (6) The role of industry analysis, as contrasted to security analysis
- (7) The effect of inflation on investment decisions.

Finally, graduate students taking six units of Investments should be involved in some original research that culminates in a term paper.

RAGNAR D. NÆSS*: Professor Wendt has a paper of $13\frac{1}{2}$ pages but few of these pages actually deal with the problem of "What Should We Teach in an Investments Course?" The first three pages deal with the reasons why there should be courses in investments and the next $4\frac{1}{2}$ pages deal with the present courses that are given by business schools, undergraduate and graduate. While these two subjects may be of interest, they are really not applicable to the subject at hand.

In this extremely interesting field, which is highly complex, there are many valuable lessons that could be taught to the student, either in undergraduate or graduate schools. I agree with the conclusions of Professor Wendt that prerequisites to taking a course in Investments should be some preparation in Finance as well as in Money and Credit, but beyond that there should be preparation in other subjects such as Statistics, Accounting, and Economics, in order to obtain the greatest benefits from a graduate course in Investments. If a graduate student has a background in these various subjects, or at least in most of them, I feel strongly that a most interesting course could be set up in the field of investments as a part of the curriculum for a M.B.A. degree.

Some of the most interesting facets of such courses would deal with the whole philosophy of investments, contrasting investments for the individual against the investments of institutions, and their requirements.

In the case of investments for individuals, if a student could begin to recognize some of the underlying principles of and benefits from common stock investment, for example, it would be very important. In such a course it should be shown that for a young person who had already accumulated some savings, had some life insurance, and perhaps his own home, building a portfolio over the years could be of great benefit to him; and perhaps a course of this sort could teach him what approach to take in building such a portfolio. Professor Wendt seems to stress yields. For an individual in this position, yields would be unimportant and long-term capital gain should be his investment goal.

* Naess and Thomas.

The next step should be to show him what he should look for in terms of industries and companies, what he should know about the business cycle and its impact upon business management or investment portfolios, how he should treat and deal with these problems in developing his own investment program, what kind of a portfolio he should develop, and what techniques should be used in doing it. This would involve consideration of the risks involved against potential benefits, whether he should try to vary his investment exposure to risks in common stocks for the business cycle or just accumulate stocks on an average basis over the years, what the mutual funds might do for him as against what he might do for himself, and how he should seek advice on investments and deal with brokers or investment counselors.

The problem of common stock investments for a young man who is starting in business or for a businessman who may be in a relatively high bracket and is interested in long-term capital gains obviously differs radically from that of a widow or a retired individual with substantial sums of capital. The student should be taught how to deal with problems of such investors and what type of investments are suitable for them.

There are a great many ramifications that must be considered in these areas of investment, and emphasis should be placed upon the problem of meeting the individual requirements of each investor within the framework of his needs.

In the field of institutional investments, there are many problems that should be discussed and treated in a course in Investments. Various institutions differ greatly in their investment requirements. For example, casualty and fire insurance companies have different investment objectives and requirements than have the life insurance companies, so each class of institution requires different investment media. In the cases of these institutions also, there are important questions of investment policy in relation to the business cycle, capital gains over the long pull vs. income, and many other questions that can be covered in a course in Investments. The mutual fund field again has investment problems that are different from insurance companies and again, banks have problems that differ from the other institutions. These are all subjects that should be treated in an investment course.

Obviously, I do not have time to go into any more detail but I feel that, as a minimum, some of the material which is now being used for the examinations to obtain C.F.A. certificates could be a basis for suggested readings and suggested approaches to a course in Investments.

The entire field of investment research on individual companies is a tremendous one which certainly could be covered to some extent in such a course. Here we come to what Professor Wendt calls the micro approach, and I am sure that anyone who is studying in a Graduate School with the aim of becoming a professional analyst, should go into some of these details of security analysis. These various ideas seem to me to be much more important in many ways than Standard & Poor's Compustat or the behavior trends developed at the University of Chicago, not to mention the Report of Special Study of Securities Markets, and they are also more important than technical market analysis which is a tool with a certain value but limited to improvement in timing of the purchases and sales of common stocks.

The whole field of values of common stocks is of great importance, and emphasis should be placed upon the various methods of valuing equities now in use. Computers are being used extensively in this endeavor and students should be warned against an exaggerated reliance upon computers to arrive at conclusions. They are tools and so must not be substituted for analysis and thinking.

Having obtained a CFA certificate, I have had occasion to read many of the books recommended for preparation for the examination, and I must say that I did not find

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many of these books very helpful. Much of the material in these books contradicts the latest and most modern approaches to investment management and would not be helpful in steering a young man into the proper channels. So, I believe that the need for a really high-quality updated course in Investments in Graduate School is great. Having lived with this problem for many years, I am sure that when we look ahead the day will come when such an updated Investments course will be given, and I think that Professor Wendt has given a real service to the field of education by bringing this subject forward at this meeting.