

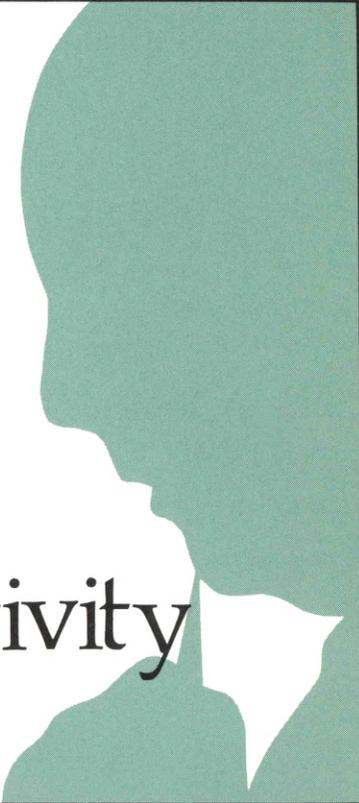
BUSINESS REVIEW

Federal Reserve Bank of Philadelphia

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MARCH·APRIL 1980

COMMENTARY



The Productivity Perplex

&
How U.S. Multinationals
Manage Currency Risk

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COMMENTARY

Bank Supervisory Trends in the '80s*

By Edward G. Boehne, Senior Vice President
Federal Reserve Bank of Philadelphia

Banking is in the midst of dramatic change as it tries to adjust to a fast-paced environment. Inflation is the root cause of much of this change, but also contributing are technological advances, social pressures, and a marketplace that is much more competitive than it used to be. Bankers and bank supervisors have to be sensitive to this rapidly changing environment if the public interest

is to be served. I would like to peer into the future to speculate about some of the supervisory and regulatory trends that might unfold in the 1980s.

One trend bankers would like to see unfold is deregulation. There is almost universal grumbling among bankers about the regulatory burdens placed on them during the last decade. A recent issue of the *Journal of Commercial Lending* was even poetic:

* An address delivered before the Robert Morris Associates, Philadelphia, Pennsylvania, February 7, 1980. The views expressed are my own and not necessarily those of my colleagues elsewhere in the Federal Reserve System.

Wouldn't it be great
To just deregulate
To smash the fools
Who write the rules
And then go celebrate.

I wish it were that simple just to “deregulate . . . and then go celebrate.” But the cross currents in our economy and society make the regulation issue much more complicated. What I see happening in the '80s is less regulation on the liability side of a bank's balance sheet, particularly in the area of interest rate ceilings on deposits, but more supervision on the asset side.

LESS REGULATION ON THE LIABILITY SIDE

On the liability side, banks are under pressure both from their competitors and their depositors. Banks face grossly unfair competition from nonregulated intermediaries like money market mutual funds. At the same time, there is rising consumer clamor for a fair rate of return on savings deposits. From the point of view of regulators, there are two basic ways to relieve these pressures. The first is to put the same interest rate ceilings on nonregulated competitors as on banks. The second approach is to remove ceilings across the board and let the market determine what various financial intermediaries pay for funds.

The outcome, I believe, will be the demise of Regulation Q—the regulation that governs the ceiling rates on deposits. Already, Regulation Q has had a number of holes shot through it—for example, 6-month money market certificates, 2 1/2-year certificates, loop-hole certificates, and repurchase agreements. I realize that to predict the demise of any regulation goes against the historical tendency to increase rather than decrease regulation. The difference now, however, is that inflation has whetted the appetite of consumers for market rates of return on their deposits, and consumers have a great deal of political clout. In addition, realities of the marketplace make Regulation Q increasingly difficult to enforce. Financial entrepreneurs think up ways around Regulation Q almost as fast as regulators can find new ways to apply it. The question, therefore, is not so

much whether Regulation Q will continue to lose its effectiveness, but what course will deregulation take. The most likely end to Regulation Q is a phase-out period lasting several years. However phased out, the upshot is that in the '80s bankers can expect less regulation on the liability side of the balance sheet in the area of interest rate ceilings on deposits.

There are of course other regulatory issues related to the liability side of a bank's balance sheet—reserve requirements and disclosure issues such as Truth In Savings, where more regulation might be in store in the '80s rather than less. But they are topics for another speech, and I want to move on to the asset side which is your primary concern as lending officers.

MORE SUPERVISION ON THE ASSET SIDE

My prediction that you can expect more supervision on the asset side is based first on my reading of how social pressures on banking will develop in the 1980s. Ironically, the demise of interest rate ceilings could play a role in increasing supervision in the loan area. Regulation Q basically is a subsidy for housing—a protective device for thrifts so they can fund mortgages. Thrifts get a competitive break in attracting deposits by being able to offer higher rates than banks, but they are constrained on the asset side largely to making mortgage loans. The end of Regulation Q will not mean less social concern about housing; what it will mean is that some different way of giving housing a boost likely will be found. I see more pressure applied directly to the asset side of a bank's balance sheet to make mortgage loans.

Taking this idea a step further, government in the 1980s will be less able than in the past to finance social causes, such as community redevelopment and poverty programs, through the budget. At the Federal level, defense spending will take a larger share of an already tight budget. State and local

governments also will be under the gun budgetwise as they struggle to make ends meet in an inflationary environment. During these tight budget years, there will be an almost irresistible temptation on the part of elected officials to substitute private for public funds in order to help finance social investment. The Community Reinvestment Act, although perhaps not originally designed for that purpose, is an example of such an attempt.

Bankers would be wise to view this social and legislative prodding to meet community needs in the broad context of what the alternative is. The alternative, as distasteful as the thought might be, could be some form of credit controls to allocate funds to "socially desirable areas." Regulation for social purposes is a much broader issue than bankers sometimes realize when they complain about regulatory burdens. You may be better off than you think. And I urge you to have a longer run appreciation for the social pressures at work when confronting regulatory burdens on a day-to-day basis. Such an appreciation may be the most promising way to avoid direct controls.

There are also some traditional "safety and soundness" reasons to expect more supervision on the asset side of your business. Bank capital is a cushion between the asset and liability sides of your balance sheet—a cushion against mistakes and bad luck, a cushion against bad loans, a cushion against investments that go under water in an environment of high interest rates. As that capital cushion becomes thinner, bank supervisors become increasingly concerned. Although supervisors will continue to put pressure on bankers to improve capital in the coming years, the realistic outlook is for only limited success given the prognosis for bank earnings and the equity market. Therefore, to compensate for a thinner capital base, supervisors will want to scrutinize loan and investment risks even more closely to be sure that loan losses are held to a minimum and

that reasonable prudence is used in the securities portfolio, in terms of both quality and maturity distribution.

Banks will also face higher funding costs in the '80s, both because of the erosion of Regulation Q and the high costs associated with raising funds in an inflationary environment. A few banks will be tempted to "reach" for higher yielding loans and investments as a way to prop up earnings in the face of higher funding costs. Bank supervisors will have to be alert to this type of reaching in order to avoid unwarranted risk. Bankers as well as supervisors will have to be especially sensitive to the greater risk potential in the area of foreign lending. Bankers and supervisors have made major strides in monitoring country and currency risk exposure, but even with these advances foreign lending still poses major risks in the 1980s.

While closer scrutiny of assets can partially compensate for thinner capital and a tendency in some banks toward reaching for higher yielding assets, closer scrutiny of how well a bank is managed can also help compensate for greater risk. Supervisors will be looking even more closely in the coming years at the quality of bank management and the role of directors in running banks. The question supervisors will be asking: Are directors and management running the bank in a reasonable manner given the situation a bank finds itself in? If the answer to that question is yes, then supervisors will feel more comfortable about the safety and soundness of a bank. If the answer is no, then you can expect considerable prodding from supervisors to improve the quality of management and director involvement.

IMPLEMENTING SUPERVISION IN THE '80s

So, particularly for you as lending officers, a realistic outlook for the 1980s is that supervisors will be watching over your shoulders even more closely than in recent years both for social reasons and for traditional reasons

of safety and soundness. Now let me give you some thoughts about how supervision and regulation of banks will be implemented in the coming decade. I see three developments.

The first is that you can expect closer coordination among the five regulators of financial institutions. The framework for this closer coordination is the recently established Federal Financial Institutions Examination Council. This Council, which includes the Federal Reserve, Comptroller of the Currency, Federal Deposit Insurance Corporation, Federal Home Loan Bank Board, and National Credit Union Administration, is charged with developing uniform examination policies, uniform examination reports, and uniform training of personnel. You can increasingly expect that whether you are state or Federally chartered bank or thrift institution, you will be treated essentially the same way.

The recently established Shared National Credit system (SNC) is an example of this coordination effort. Under SNC, all loans over \$20 million where more than one bank is involved are classified the same for all financial institutions. So, if a loan from XYZ Corporation in your portfolio is rated "doubtful," then it will be rated doubtful in the loan portfolios of other financial institutions as well. Coordination of this type not only is efficient from the supervisor's point of view, but it also means fairer supervision from the banker's point of view.

A second development is that bank supervisors will be making increased use of computerized monitoring techniques to augment on-site inspections. Supervisors now have monitoring programs that focus on "key" ratios of bank performance, such as earnings,

equity, and capital. Computerized surveillance allows us to collect information about the condition of a bank on an ongoing basis. That makes supervision more timely and makes it possible to target examinations to problem areas. We can pinpoint more what we are looking for and put less burden on you in areas that don't require as much supervisory attention.

Third, you can expect increased reliance on internal bank systems by supervisors. For example, if a bank has in place an effective loan review system, then supervisors can reduce detailed examinations of individual loans. Likewise, if the audit function is performing effectively, supervisors can rely more on internal checks to turn up problems. In simplest terms this means that if you maintain effective quality control, supervisors will spend less time in your bank.

I view closer coordination among regulators, more reliance on surveillance, and increased reliance on internal quality control systems as ways to help us do our job as bank supervisors better and at the same time as a way of minimizing the supervisory burden on you.

The final thought I want to leave with you is that in the '80s more than ever before supervisors will need field examiners who see the forest rather than just the trees. Bankers and examiners will frequently have constructive differences, and that is as it should be. But nitpicking over details that really don't matter is inappropriate. We need constructive dialogue between reasonable, experienced bankers and reasonable, experienced supervisors. I look forward to dealing with you on that basis because I think it is the most positive way to manage bank supervision in the decade ahead.

The Productivity Perplex: A Concern for the Supply Side

*By Timothy Hannan**

Worrying about the appropriate level of aggregate demand has been a full-time occupation for many economists. Their concern stems from a belief, long dominant in the economics profession, that changes in aggregate economic activity are brought about primarily by changes in the level of aggregate demand. But every market comes complete with both a demand side and a supply side. The level of output is determined not only by demand but also by cost, which affects the amount producers are willing to supply at any given price.

Thus the supply side can be important, and in no case is this more evident than in the

nation's anemic productivity performance. The trend in labor productivity has not been very cheering of late, and aggregate demand considerations don't seem to go very far in explaining this trend. Increasingly, economists are looking at some rather fundamental supply-side considerations in an attempt to diagnose the illness and to prescribe the appropriate remedy.

PRODUCTIVITY IN THE DOLDRUMS

Productivity usually is defined as output per hour of labor. Sometimes this notion of labor productivity is replaced with the more comprehensive notion of total input productivity, which considers the efficiency of both labor and capital (Figure 1 overleaf). No matter how it's measured, though, the history of productivity in the past few years does not make pleasant reading. During most of the

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FIGURE 1

TOTAL INPUT PRODUCTIVITY
VS. LABOR PRODUCTIVITY

Differences between the two concepts are illustrated in the following table. The growth in labor productivity is calculated as the growth in real gross product minus the growth in labor input, while the growth in total input productivity is calculated as the growth in real gross product minus the growth in total input. The growth in total input is defined as the growth in labor plus the growth in capital expressed in terms of its labor equivalent (capital/labor substitution).

GROWTH IN LABOR PRODUCTIVITY AND TOTAL INPUT PRODUCTIVITY

	Average Annual Rates of Change	
	1948-1966	1966-1973
Real Gross Product	3.9%	3.5%
— Labor Input	.4	1.4
= Labor Productivity	3.5	2.1
Real Gross Product	3.9	3.5
— Total Input	1.2	1.9
= Total Input Productivity	2.7	1.6

SOURCE: "Sources of Productivity Growth and of the Recent Slow Down," *Reaching a Higher Standard of Living* (New York: New York Stock Exchange, Inc., 1979), pp. 14-20.

early postwar period, labor productivity grew by more than three percent a year. Starting in the mid-1960s, however, things started to deteriorate, and the record of the 1970s was downright dismal (Figure 2). Productivity gains from 1973 to 1977 averaged only around one percent, and preliminary evidence for 1978 indicates an even poorer performance.

Some of the slippage can be blamed on the ups and downs of the business cycle. It's well known that when the economy heads into a recession, productivity growth begins to de-

cline. During such times, output usually is cut more sharply than employment. Productivity growth can decline during recessions also because of the loss of economies of scale as capacity utilization drops. The 1974-75 recession was particularly sharp and can explain some of the productivity loss, but most economists are agreed that this disturbing news cannot be blamed on the business cycle alone. There are many ways to adjust productivity figures to account for changes in the business cycle. One of the easiest is simply to compare productivity during peri-

FIGURE 2
GROWTH IN U.S. LABOR PRODUCTIVITY SLACKS OFF, 1948-1978*

Percent Change per Year

Sector	1949- 1955	1955- 1965	1965- 1973	1973- 1977	1977- 1978†
Private business economy	3.4%	3.1%	2.3%	1.0%	0.4%
Nonfarm	2.7	2.6	2.0	.9	.6
Manufacturing	3.3	2.9	2.4	1.5	2.5
Nonmanufacturing	2.4	2.4	1.7	.6	-.3

*Data relate to the annual percent change in output per hour paid for, all persons.

† Preliminary.

SOURCE: *Economic Report of the President 1979*, p. 68.

ods that are at roughly the same stage in the business cycle. No matter how it's done, though, the results seem to point to one thing—a long-term decline in U.S. productivity growth.

Another way to look at the issue is to compare America's productivity performance with that of other countries. But this isn't too encouraging, either (Figure 3 overleaf). In the race for overall productivity growth, the U.S. routinely has been coming in twelfth in a field of twelve. The gap between U.S. gains and those of the first-place finishers is striking indeed, with Japan, Denmark, and Belgium achieving roughly four times the productivity gains of the U.S.

It would be hard to argue that this productivity weakness stems directly from deficiencies in demand management. Changes in aggregate demand through monetary and fiscal policy can alter economic activity over the business cycle; but the nation's anemic productivity performance is decidedly a longer term phenomenon. Gains in productivity seem to vary cyclically, but those gains

on the whole have been discouraging in good times as well as bad.

WHY WORRY?

Why should we be concerned with reduced productivity growth? The primary benefits of faster productivity growth are pretty well known—more can be produced in the future and living standards can be raised. The future's economic pie will be bigger, allowing a bigger slice for each member of society. Expanding the future economic pie can bring benefits beyond those that usually are classified as economic. It can help to avoid or diminish the strident clashes that can result as contending groups fight over smaller pieces of a smaller pie. Given macroeconomic policy, it can help lessen the severity of inflation. It may even make for sounder policy, to the extent that clashes among interest groups distort the policymaking process.

These achievements, however, usually come at some cost. If increased productivity is to be achieved through increased invest-

FIGURE 3

**AMERICA TRAILS OTHER INDUSTRIALIZED COUNTRIES
IN MANUFACTURING PRODUCTIVITY GROWTH***

Country	Average Annual Percent Change			Percentage Change
	1960-1976	1960-1966	1966-1976	1966-1976 vs. 1960-1966
United States	2.9%	4.0%	2.2%	-45%
United Kingdom	3.3	3.7	3.1	-16
Canada	3.8	4.3	3.5	-19
Switzerland	4.3	2.9	5.1	+76
France	5.7	5.5	5.8	+ 5
Sweden	5.7	6.5	5.2	-20
Italy	5.8	6.7	5.3	-21
Germany	5.9	6.0	5.8	- 3
Netherlands †	6.7	5.6	7.4	+32
Belgium †	6.8	5.0	8.1	+62
Denmark	7.0	5.4	8.0	+48
Japan	8.9	8.8	8.9	+ 1

*Data for 1976 are preliminary estimates.

†1960-1975.

SOURCE: *Reaching a Higher Standard of Living*, p. 11.

ment in capital equipment or through increased expenditures on research and development, then fewer resources are available to devote to current consumption, and present living standards must suffer, at least temporarily, as a result. And if it is to be achieved by relaxing regulations on occupational safety and environmental protection, then more accidents and more pollution may be the price paid. Other ways of achieving higher productivity may involve other types of costs.

Concern over lower productivity, coupled with the observation that the business cycle cannot account for all of the drop, has led

economists to search a little deeper for clues to the whys and wherefores. Changes in the economy that affect production decisions from the demand side apparently don't provide all the answers.

THINKING ABOUT THE CAUSES

If it's not demand considerations that are responsible for the present state of affairs, then what are the causes? Economists who have pondered this question seem to feel that several different changes in the economy in recent years have contributed to the problem. Some even have made estimates of the contribution of each of these factors to the

overall decline.

Slower Growth in the Amount of Capital per Laborer. One commonly cited reason for the slowdown has been lackluster growth in the amount of capital that each worker has to work with. Labor, after all, is not the only input into the production process. In order to produce something, capital—in the form of buildings, tools, or machines—also must be employed, and the amount of capital that each worker has to work with has a lot to do with what he can produce. A man operating a million-dollar steam shovel, for example, can move more dirt than he could with a simple hand shovel, and he can do more with a hand shovel than he could with his bare hands. Thus a lower rate of growth in the amount of capital that he has to work with clearly can retard his productivity gains.

The amount of capital that each laborer has to work with (the capital-labor ratio) hasn't been growing as fast during recent

years as it did during the past two decades. The capital-labor ratio grew at a rate that was never less than two percent during the 1950s and 1960s, but in the 1970s (based on statistics currently available) it exceeded two percent in only one year (Figure 4).

What might be the cause of this decline? The rate of growth in the capital-labor ratio can fall either because the growth in the nation's stock of capital declines or because the number of employees grows faster than the capital stock. Thus anything that retards capital growth or increases the growth of the labor force might be the cause.

Among recent changes in the economy that have been suggested as causes of reduction in the rate of capital growth is the impact of taxation, which because of the inflationary environment of recent years may have made capital investment less attractive. Consider, for example, the overstatement of profits, and hence the over-

FIGURE 4

**ANNUAL PERCENTAGE CHANGES IN HOURS OF LABOR,
STOCKS OF FIXED CAPITAL, AND CAPITAL-LABOR RATIO
SIGNAL LOWER PRODUCTIVITY GROWTH IN 1970s***

Year	Labor	Capital	Capital-Labor
1970	1.9%	3.2%	1.3%
1971	1.9	3.4	1.5
1972	2.1	4.0	1.9
1973	1.8	4.2	2.4
1974	1.7	2.9	1.2
1975	1.6	1.4	-.2

*The labor time series (historical and projected) is a full-employment labor hours series developed as part of the Council of Economic Advisors potential output studies. The capital stock series for the historical period is the sum of the Department of Commerce constant (1972) dollar net stocks of business and residential fixed capital.

SOURCE: Michael D. McCarthy, "The U.S. Productivity Growth Recession: History and Prospects for the Future," *The Journal of Finance* 33 (June 1978), p. 980.

assessment of corporate taxes, that can result in an inflationary environment. Traditional accounting methods base the value of a firm's inventory and capital stock on the amount that the firm actually paid for them. This accounting approach is perfectly adequate during periods of no inflation, but it may produce incorrect measurements during inflationary periods. When inflation rates are high, such procedures substantially underestimate the true replacement cost of the firm's machines and inventory. The cost of the firm's inventories and the depreciation on the firm's capital are understated, leaving corporate profits overstated and corporate taxes overpaid. According to Harvard economist Martin Feldstein, "Taxes now take about 65 percent of the income of nonfinancial corporations, compared to 54 percent in the mid-1960s. The after-tax return has been cut by a third."¹ The result is a reduction in the financial incentives for capital investment.

Inflation may tend to discourage capital investment also through its effects on the capital gains tax. The capital gains tax is a tax on the appreciation in value of a capital asset. For tax purposes, the appreciation is calculated as the difference of what the asset was bought for from what it was sold for. Suppose that a capital asset appreciates in dollar terms by 20 percent, but half of the increase (10 percent) comes from inflation. The capital gains tax, which until recently was at the 50-percent rate, would be levied not only on the 10-percent real appreciation but also on the 10-percent increase that is caused solely by inflation. Thus capital gains taxes tend to be overassessed in a time of rampant inflation, since much of the so-called appreciation is not real but is caused by inflation. The result is less incentive to invest in new capital equipment.

Uncertainty over the level of inflation, which tends to be more pronounced when inflation rates are high, also can affect investment and savings decisions. Much uncertainty can discourage capital investments by making them more risky. Savings also may become less attractive relative to current consumption as a result of the added risk that inflation brings, and this too can limit capital formation. These are but some of the supply-side considerations which may have been operating in recent years to lessen incentives for capital formation.

Major increases in the labor force also may have contributed to some reduction in growth in the capital-labor ratio—a possibility not often considered in popular accounts of the issue. Growth in labor hours has been running at historically high levels since the early 1960s. This phenomenon often is ascribed to demographic and sociological factors. Whatever the reasons for it, it's important to note the kind of economic changes that it can be expected to bring about. When the supply of an input such as labor increases, economic forces are brought into play which make labor less costly to use relative to capital. Thus producers, after a time, may be led to shift their production processes to take advantage of this increased supply of labor by using less capital for each unit of labor. This also may be a cause of the declining growth in the capital-labor ratio.

Unfortunately, the list of reasons offered to explain the labor productivity decline is not limited to these. Other explanations relate to the sluggish growth in the capital-labor ratio, and estimates such as those of Edward Denison suggest that a relatively small part of productivity growth comes from changes in the amount of capital that each laborer has to work with.² Clearly,

¹Martin S. Feldstein, *U.S. News & World Report*, October 1, 1979, p. 60.

²Edward F. Denison, "Explanations of Declining Productivity Growth," *Survey of Current Business* 59, 8 (August 1979), Part II, pp. 1-24.

many causes may be at work, and the net must be cast even wider in the search for the full story.

Decline in Research and Development. Another supply-side phenomenon which may have helped to put productivity in the doldrums is the decline in capital expenditures on research and development (R&D) programs. These expenditures accounted for about 3.09 percent of GNP in the mid-1960s but then declined to about 2.2 percent of GNP by 1978. Most of this drop was brought about by reductions in military and space-related research rather than in the type of research that private industry typically pursues. For this reason, many say that the overall decline in R&D expenditures has not had much of an impact. Others maintain, however, that the decline in military and space-related research can affect technological progress in other areas as well and that industry R&D has been shifting away from basic research and new product development as a result of the changed regulatory environment. On the whole, available estimates suggest that the decline in R&D expenditures does not explain a large share of the total decline.

Increase in Regulation. Another supply-side obstacle has been increasing economic and social regulation. Economic regulation such as that found in the transportation industry retards productivity by promoting inefficient operations and keeping labor and capital from being employed in their most valued uses. But it's primarily social regulation of the type concerned with safety and the environment that has increased markedly in recent years. Such regulation clearly can produce benefits in the form of increased safety and reduced pollution. But it also can be quite costly. One economist has calculated that approximately \$10 billion of capital spending each year is devoted to meeting requirements imposed by this kind of regulation.³ When increasing amounts of capital are diverted to these ends, measured produc-

tivity growth is retarded. Such regulation also can discourage investment and innovation by adding to uncertainty and compounding costs. Attempts to estimate the impact of regulation on productivity suggest that it is not a minor consideration, but it still leaves much of the productivity decline to be explained.

Changes in the Composition of the Work Force. Still another supply-side factor is the changing nature of the work force. Productivity tends to decline when the percentage of inexperienced workers in the labor force increases, because new entrants into the work force lack work experience and therefore are not as efficient as those who have been at it longer.

From the late 1960s on into the 1970s, the percentage of new entrants in the ranks of the employed increased for two different reasons. First, the postwar baby boom contributed significantly to the number of young people entering the work force. Second, women during this period started seeking and obtaining employment outside the home in record numbers. The combination of these two forces has made for a large increase in the percentage of new, inexperienced workers. According to many, this too has contributed to our declining productivity.

Other Causes. Other changes have been taking place in recent years which some think may have played a role in bringing down productivity. One such change is the enormous increase in oil prices. High energy prices could reduce productivity by inducing firms to invest in capital which is efficient from the standpoint of energy use but less attractive from the standpoint of labor productivity. Some economists question, however, whether this actually happens. It's worth noting also that other countries experi-

³Testimony by Murray Weidenbaum in Hearings of the Joint Economic Committee, April 11 and 13, 1978, p. 22.

enced even sharper rises in oil prices during the same period but did not register productivity declines as large as those in the U.S.

Another change sometimes offered as a reason for the productivity decline is the shift in the industrial mix. Overall productivity growth can decline if sectors of the economy which traditionally show high productivity growth become less important. Industries differ considerably in terms of their productivity growth and in terms of their weight in the overall economy (Figure 5). Hence substantial changes in the importance of the different industries over time could make substantial differences in the

overall measure of productivity. The shift of labor away from the farm and into manufacturing in earlier years, for example, produced sizeable productivity bonuses. More recently, however, the growing sectors of the economy have registered pretty much the same productivity performance as the declining ones. Thus on the whole the changing industrial mix, while of some importance in recent years, does not seem to compete as a major explanation of today's performance.

Edward Denison has estimated the impact of a number of these potential causes of the nation's productivity decline (Figure 6). These estimates indicate that the decline in produc-

FIGURE 5
PRODUCTIVITY GROWTH DIFFERS ACROSS INDUSTRIES, 1950-1977*

Industry	Percent	Percentage Change per Year		
	1977 Output Share	1950-1965	1965-1973	1973-1977
Agriculture	2.9%	4.9%	3.6%	3.0%
Mining	1.5	4.3	1.9	-6.1
Construction	4.3	3.4	-2.1	.3
Manufacturing:				
Nondurable	9.9	3.2	3.3	2.2
Durable	14.4	2.5	2.2	1.2
Transportation	3.9	3.0	2.9	1.0
Communication	3.2	5.3	4.6	6.7
Utilities	2.3	6.1	3.5	.2
Trade:				
Wholesale	7.3	2.6	3.4	-.8
Retail	10.0	2.3	2.1	.8
Finance, insurance and real estate	15.4	1.6	.2	2.3
Service	12.0	1.2	1.7	-.3
Government	12.5	.4	.5	.1

*Growth data relate to output per hour worked for all persons. Detail may not add up to 100 percent because of rounding.

SOURCES: Department of Commerce (Bureau of Economic Analysis) and Council of Economic Advisers.

FIGURE 6

SLOWER PRODUCTIVITY GROWTH MAY HAVE MANY CAUSES

Growth Rate and Sources of Growth, 1948-1973 and 1973-1976

	1948-1973	1973-1976	Change
CONTRIBUTIONS TO GROWTH RATE IN PERCENTAGE POINTS			
TOTAL FACTOR INPUT:			
Changes in Workers' Hours and Attributes:			
Hours	-.24%	-.54%	-.30%
Age-sex composition	-.17	-.25	-.08
Education	.52	.88	.36
Changes in Capital and Land Per Person Employed:			
Inventories	.10	.02	-.08
Nonresidential structures and equipment	.29	.25	-.04
Land	-.04	-.03	.01
OUTPUT PER UNIT OF INPUT:*			
Improved Allocation of Resources †	.37	-.01	-.38
Changes in the Legal and Human Environment ‡	-.04	-.44	-.40
Economics of Sale	.41	.24	-.17
Irregular Factors	-.18	.09	.27
Advances in Knowledge and Miscellaneous Determinants§	1.41	-.75	-2.16
GROWTH RATE	2.43	-0.54	-2.97

*Contributions to the growth rate shown in subsequent lines are restricted to effects upon output per unit of input.

† Includes only gains resulting from the reallocation of labor out of farming and out of self-employment and unpaid family labor in small nonfarm enterprises.

‡ Includes only the effects on output per unit of input of costs incurred to protect the physical environment and the safety and health of workers, and of costs of dishonesty and crime.

§ Obtained as a residual.

SOURCE: Edward F. Denison, *Accounting for Slower Economic Growth: The United States in the 1970s* (Washington: The Brookings Institution, 1979).

tivity may have a large number of different causes. They suggest also that some of the most important of these causes are still unknown.

GAZING INTO THE FUTURE

Almost all of the possible explanations, however, are basically supply-side phe-

nomena. For the most part, they operate by changing the relative cost of labor saving innovations and capital investments rather than by altering final demand for the firm's products. This tells us something about what to look at in predicting future trends, but the array of different explanations does not make this an easy task. In assessing our

productivity future, it is useful to divide up those different explanations in terms of their dependence on policy. Fortunately, some of the productivity reducing conditions of recent years can be expected to go away by themselves, but many of the others will depend crucially on what is done in the policy arena.

Conditions that May Just Go Away. Of changes that in all likelihood will not be significant in future years there are at least two, and both come under the heading of demographics. The first concerns the overall growth in the labor force. Rapid labor force growth can set economic forces in motion which induce firms to shift away from the more capital-intensive means of production that enhance labor productivity. There is nothing wrong with this response. It is part of what an efficient economy should do in making use of its resources. But it is one explanation for the decline in labor productivity in recent years, and it is not expected to be important in the future. The reason is that the postwar baby boom, which contributed significantly to labor force growth in recent years, cannot be expected to do the same from here on out.

A related but distinct difficulty which also may be alleviated in the future concerns the percentage of inexperienced employees in the work force. Many writers have tended to place a great deal of emphasis on this as a contributor to productivity slippage. Fortunately, this condition too seems destined to go away eventually because of the substantial decline in the rate at which new workers are expected to enter the work force in future years.

Together, these two forces will help the economy regain some, but probably not all, of its earlier productivity performance. Whether or not the nation actually achieves a high level of productivity growth will depend on other forces which affect productivity gains, and they in turn will depend on what we collectively choose to do in the way

of policy.

Issues that Await the Policymaker. Clearly, one of the reasons for the slower growth in the amount of capital that each worker has to work with is the reduced rate at which new capital is being formed. In the past few years, an unfortunate combination of taxes and inflation has discouraged capital investment and innovation by making them more costly. If significantly more capital formation is desired, either tax rates will have to be reduced or inflation, which has exacerbated the tax problem, will have to be brought under control. Inflation may discourage investment decisions by introducing uncertainty as well as by raising the tax burden. What policymakers decide to do in these areas will have a great deal to do with the kind of capital formation that will be seen in the future.

The future impact of government regulation on productivity also will be decided in the policy arena. Here the issue is not whether government regulation has reduced measured productivity. It clearly has. But it may not be undesirable for all that. After all, better water, cleaner air, and fewer accidents are desirable outputs, even though they aren't measured in the productivity calculus. Regulation, however, is very expensive in terms of the material well-being that must be given up as a result. If regulation is not to become too burdensome, policymakers will have to pay particular attention to both the benefits and the often considerable costs of regulation.

Still another issue which awaits the policymaker is that of government-supported research and development, which has been reduced in recent years. Opinion varies about how important this reduction has been in the recent productivity decline. Undoubtedly it is not the main cause. Over the long haul, though, research and development clearly do affect productivity. They are an integral part of the innovation process, and the new technology that results stimulates investment in new plant and equipment. But how

much R&D is appropriate? Here too the benefits and costs must be weighed. R&D can be expensive, but the long-run benefits can be great.

These are supply-side issues. They cannot be addressed through aggregate demand management alone. On the contrary, they reflect more fundamental issues of costs and incentive structures. Choosing the appropriate policy to deal with them will make the difference between a sluggish slow-growth economy and a rapidly growing one that offers ever higher standards of living for its citizens.

doldrums for several years now, and there's growing concern about the reasons for it. Increasingly, attention is being focused on some fundamental supply-side issues. Identifying these issues is crucial both to diagnosing the illness and taking policy actions to remedy it. As it turns out, the demographics will be an ally in future efforts to improve productivity. But many other likely causes of the nation's productivity growth anemia will not be countered without direct policy actions. The return of higher rates of growth in American living standards awaits the actions of policymakers in these areas.

CONCLUSION

The nation has been in the productivity

READINGS ON PRODUCTIVITY

Peter K. Clark, "Capital Formation and the Recent Productivity Slowdown," *The Journal of Finance* 33 (June 1978), pp. 965-975.

Edward F. Denison, *Accounting for Slower Economic Growth: The United States in the 1970s* (Washington: The Brookings Institution, 1979).

John W. Kendrick, *Understanding Productivity* (Baltimore: The Johns Hopkins Press, 1977).

Michael P. McCarthy, "The U.S. Productivity Growth Recession: History and Prospects for the Future," *The Journal of Finance* 33 (June 1978), pp. 977-988.

Reaching a Higher Standard of Living (New York: The New York Stock Exchange, Inc., 1979).

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The Men Who Made the Fed



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How U.S. Multinationals Manage Currency Risk

*By Janice M. Westerfield**

Foreign investment offers U.S. multinational corporations great opportunities for finding new markets and realizing new profits. But these foreign operations carry with them a number of risks. One of the most important of these risks is currency risk—the risk that exchange rate fluctuations will change the value of transactions or alter the returns on assets and liabilities.

Businesses with interests abroad traditionally have responded to currency risk by hedging—finding ways to reduce exposure from currency risk and to alter the amounts of assets and liabilities they hold to take account of expected currency value changes. But two developments have complicated the hedging picture. One of these is the change from fixed exchange rates to floating rates; the other is an accounting ruling (FASB-8) that changes the way multinationals value

their assets and their liabilities when they make up their annual income statements. These two developments have compelled multinational corporations to develop more sophisticated hedging techniques.

After several years of stress, some corporations think they perceive the light at the end of the tunnel. Floating rates have become more familiar, and the accounting ruling that complicated the corporate treasurer's life appears to be in for revision. Further, many corporations have developed a number of new methods to manage their currencies. These new methods along with revisions that may be made to accounting rules should help American multinationals maintain their position in foreign markets.

U.S. MULTINATIONALS EXPAND

In recent decades, U.S. corporations have stepped up operations in many foreign countries. According to one study, U.S. firms set up about 6,000 new foreign subsidiaries from 1950 to 1965. Over the next five years,

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they set up about 4,400 subsidiaries, and in the first five years of the 1970s, about 3,200 more were added. Although some subsidiaries have been shut down from time to time, about 11,000 were operating in the mid-1970s.¹ Foreign assets and liabilities now account for a significant portion of the business of U.S. parent companies. Assets of majority-owned foreign affiliates have risen, and so have U.S. direct foreign investment in and loans to foreign affiliates. The U.S. direct investment position grew from about \$51 billion in 1966 to \$118 billion in 1974 and rose steadily to about \$168 billion in 1978.

Foreign earnings have grown along with investment. From 1970 to 1974, foreign income more than doubled to reach \$19 billion, or over 22 percent as a share of total income.² Although a brief period of retrenchment followed, foreign income has resumed its upward trend.³ Thus U.S. firms have a big stake in their foreign operations.

This growth has occurred during a period of changing international monetary arrangements. Over the past four years, corporate treasurers have had to face significant changes in exchange rates. With the advent of floating exchange rates in 1973, currency values have fluctuated on almost a daily basis. Such fluctuations have complicated the management not only of currency but also of other assets and of liabilities, since those typically are denominated in the currency of the host country. (Assets—claims on property owned or used by the firm—

include such items as cash, accounts receivable, inventory, and plant and equipment; liabilities—claims held by nonowners against the firm—typically include accounts payable and short-term and long-term debt.) Currency fluctuations under floating rates cause such assets and liabilities to change in dollar value almost continuously. Thus exchange rate changes are central to a firm's economic exposure and affect real cash flows. And management of these exposed funds can serve to reduce the economic impact of exchange rate changes.

Many of the complexities of currency exposure for American multinationals can be traced to the floating rate system, which makes it more difficult to forecast future exchange rates. But part of the difficulty also can be laid at the door of U.S. accounting practices which, beginning in 1976, revised the guidelines for translating foreign assets and liabilities into dollar terms. As a result of this change, many firms found themselves with more liabilities than assets exposed. (An account item is considered exposed if its value restated in dollar terms changes with fluctuations in the exchange rate.) With more liabilities exposed, and with the dollar depreciating, these firms showed lower profits or even losses in their total foreign operations when they wrote their annual reports. Further, the profits and losses from currency value changes often swamped the figures for foreign operating income. Thus the profit and loss statements did not reflect an accurate picture of the management and underlying economics of a firm's operations in a foreign country. The profitability picture was distorted by the impacts of currency value changes and changes in accounting rules. Faced with paper losses, American firms and their owners—the stockholding investors—have been trying to figure out just what happened and how the situation can be made more palatable. Part of the answer, they think, must come from changes in the rules of accounting for foreign operations.

¹J. P. Curhan, W. H. Davidson, R. Suri, *Tracing the Multinational: A Sourcebook on U.S.-Based Enterprises* (Cambridge: Ballinger Publishing Company, 1977), p. 19. Their data is based on a sample of 187 U.S. parent firms.

²*Economic Report of the President*, January 1978, p. 350.

³For an article expressing doubts about further U.S. expansion abroad, see Stephen Blank and James Greene, "Turning Point for the Foreign Adventure?" *The Conference Board Magazine*, August 1978.

ACCOUNTING FOR FOREIGN UNITS

American firms that operate abroad ordinarily conduct business in foreign currencies, buying supplies and paying their employees mainly in their host country's money rather than in U.S. dollars. Foreign units of these firms usually keep their books in the local currency, too. When the parent firm wants to generate financial information about its foreign operations or to consolidate its financial statements, however, it must convert the local-currency position of its foreign units into dollar terms.

Fixed Rates. Under fixed currency exchange rates, no special financial or accounting difficulties arose from expressing business activities in a variety of currencies. Whether stated in home-country or host-country currency, financial records were nearly unambiguous. Just as a segment of length can be measured in either inches or meters and translated from one to the other without confusion provided the exchange rate is fixed continuously at so many inches per meter, a financial transaction under fixed rates could be expressed interchangeably in either of two currencies.

There were some exceptions, of course, even under fixed rates, because fixed rates weren't entirely fixed: currency values could be changed officially under provisions of the Bretton Woods agreement and its amendments. Thus even under fixed rates some accounts were exposed to exchange rate devaluation or revaluation. Suppose a U.S. multinational's investment in a foreign company was expected to earn a million dollars' worth of marks at one exchange rate. If the dollar was officially devalued before the investment matured, then the U.S. multinational could convert the marks into more than a million dollars, thus realizing a currency gain. If the mark was devalued, however, the investment would yield less than a million dollars. Currency devaluations did occur under fixed rates, but they were relatively few and far between. Thus they posed

comparatively few difficulties for multinationals.

Floating Rates and Accounting Changes.

In 1973, when the switch from fixed rates to floating rates was made, the pace of changes in the relative values of currencies picked up sharply. No longer could firms count on long-term stability in exchange rates, and so they had to keep a continuous watch on the changing dollar values of their foreign assets and liabilities.

But this was no simple matter, because different assets and liabilities conventionally were translated into dollar terms at different rates, depending on the nature of the balance sheet item, when it was acquired, and other circumstances. The difficulties associated with having different translation systems in effect at the same time led many members of the corporate financial community to seek more uniformity in accounting procedures.⁴ In response, a professional industry group—the Financial Accounting Standards Board—issued its Statement 8 in 1975. FASB-8 required the adoption of a uniform accounting standard and prohibited the deferral of most exchange gains and losses arising from the application of the FASB-8 method. This ruling eliminated the reserves that previously were used by some firms to smooth the

⁴Basically, there are two approaches to handling exchange gains and losses associated with foreign currency transactions. One involves considering the exchange gain or loss as part of the revenue or expense of a transaction denominated in a foreign currency. Thus the currency value change is included in the price of the transaction. When a U.S. parent recouped revenue from the operations of a foreign unit, for example, it would include the exchange gain or loss in the net revenue transfer. The second approach is to separate the exchange gain or loss from the transaction. The amount of hedging against currency risk is viewed as a financial decision to speculate, to accept part of the exchange risk, or to cover. In this approach, the transaction of a foreign unit would be translated into dollars and currency value changes would be considered separately. Exchange rate gains and losses would be disclosed separately on the parent firm's financial statements. This second approach is closest to FASB-8.

effects of exchange rate fluctuations on earnings. These reserves were accounts set aside to cushion the effects of exchange rate changes and to buffer a firm's operating statement from such changes. Exchange rate gains and losses now are required to be carried through to the income statement of the current accounting period whether or not the gain or loss is actually realized in that period.

The uniform accounting standard chosen by FASB-8 for reporting foreign currency items is the so-called temporal method. The temporal method attempts to link the exchange rate associated with the original transaction to the balance sheet item. Thus many feel it maintains the appropriate measurement base.⁵ For all practical purposes, this method is very close to the monetary/nonmonetary method in which assets and liabilities of a fixed monetary amount are translated at the balance sheet date while nonmonetary assets and liabilities are measured at the historical exchange rates in effect when they were acquired or incurred. The most important changes under the FASB-8 method concern inventory and long-term debt. Most inventory is carried at the historical rate prevailing when the assets were acquired and thus is not exposed to exchange rate gains and losses, while long-term debt is carried at current rates and thus is exposed to fluctuations in the value of the dollar against foreign currencies. The net result is that multinationals which previously used other accounting methods have found

⁵Under the temporal method, account items carried on the balance sheet at the local-currency price of the past transaction, such as inventory, plant, and equipment, are translated at the historical exchange rates in effect when the assets were acquired. The current rate prevailing as of the balance sheet date is used to translate cash, accounts receivable, accounts payable (including long-term debt), and marketable equities carried at current prices. A few accounts, such as revenue and expense accounts, are translated at average exchange rates.

that compliance with the ruling alters their accounting exposure. With more liabilities exposed and fewer assets exposed, the *net exposure*—the sum of exposed assets minus the sum of exposed liabilities—becomes shorter and moves towards a net liability exposure.

At the same time as the typical firm's net accounting exposure was becoming larger on the liability side, the U.S. dollar was depreciating against many foreign currencies. The combination of dollar depreciation and net liabilities led to large accounting losses.⁶ Loud cries were heard from many firms who felt that FASB-8 was not the method most appropriate to their case. Some criticized the FASB's choice of the current or the historical exchange rate required to translate certain assets or liabilities. Critics still argue that the accounting results under FASB-8 often are at odds with the economic results (see ECONOMIC RESULTS OFTEN DIFFER . . .).

One of the major concerns about currency rate changes initially was how to convey information about their financial impact in a clear and useful way to the public. Would investors be fooled by large swings in exchange rates and associated fluctuations in quarterly earnings, resulting in lower returns for those securities most seriously affected?

⁶Suppose a U.S. firm has a wholly owned foreign subsidiary in West Germany. This subsidiary denominates its assets and liabilities and many of its transactions in deutsche marks. The subsidiary has no exposure because its financial records are all kept in deutsche marks. And suppose that when its financial records are consolidated with the U.S. parent, the parent has DM 10 million of assets exposed and DM 15 million of liabilities exposed under the FASB-8 method of accounting. In other words, the U.S. firm has a net negative exposure of DM 5 million. If the deutsche mark appreciates from 50 to 52 cents against the dollar during a quarterly earnings period, an exchange loss of \$100,000 (2 cents/DM x DM 5 million) results. Whereas such exchange losses used to be absorbed in a reserve account where they often were offset by exchange gains, they now are carried through directly to the income statement in the accounting period in which they occur.

Or would they be able to see through exchange gains and losses arising from accounting exposure?⁷ Some firms made a special effort to educate their stockholders about the pitfalls of foreign exchange exposure and ways of handling it.

This adjustment to currency fluctuations and FASB-8 has evolved somewhat over time. After the initial confusion over the accounting ruling, many firms concentrated on reducing their accounting exposure in order to minimize the effects of exchange

rate gains and losses on their quarterly earnings. Now they are moving towards more emphasis on the economic effects of currency fluctuations. The biggest difference probably is that today firms are forced to address exchange rate changes as a cost of doing business.

HOW FIRMS RESPOND

Multinationals have chosen to respond to the complexities of currency management in many ways. Drawing on the strengths of their own financial managers as well as outside consultants with international experience, they have developed a whole new range of exposure management techniques.

In-House Expertise. As part of their in-house capability, many corporate treasurers have tried to define and measure exposure,

⁷See Roland A. Dukes, "An Empirical Investigation of the Effects of Statement of Financial Accounting Standards No. 8 on Security Return Behavior," Financial Accounting Standards Board of the Financial Accounting Foundation, Stamford, Connecticut, December 1978.

ECONOMIC RESULTS OFTEN DIFFER FROM ACCOUNTING RESULTS UNDER FASB-8

The FASB-8 ruling on foreign exchange translation has been the subject of considerable controversy since it became effective in 1976. Among the difficulties frequently mentioned by firms addressing foreign exchange gains and losses is that economic and accounting results tend to differ. This disparity may be reflected in greater variability in reported earnings and associated investor confusion.

How economic results and accounting results might differ can be seen by comparing the effects of currency value changes on cash flow (the economic variable) to their effects on reported earnings (the accounting variable). To see how these effects might differ, suppose that the U.S. parent has a West German subsidiary which keeps records and pays dividends in deutsche marks. Assume that the value of the subsidiary's dividends and reported earnings remains constant in deutsche marks and that the U.S. dollar depreciates. The effect of the deutsche mark appreciation on cash flow is positive—each deutsche mark now translates into more dividends for the U.S. parent. But when the parent consolidates the affiliate's balance sheet with its own, it will show an exchange loss that lowers reported earnings, according to the FASB-8 method of accounting.

As a second example of how economic and accounting results might diverge, consider the West German subsidiary of a U.S. parent which decides to issue deutsche mark denominated debt and use the proceeds to finance the construction of a new facility. The subsidiary expects that the new plant will generate sufficient cash flow to repay the debt. Under current accounting rules, the long-term debt is exposed to a change in the value of the dollar whereas the plant facility is not. So if the dollar depreciates, the U.S. parent has a consolidated balance sheet with an exchange rate loss on the books. Yet in another sense, a changed value of the dollar relative to the deutsche mark would not result in an economic loss because both the earnings generated by the plant and the debt payments have appreciated. The income streams cancel each other out and, in a real sense, the company is no worse off.

to forecast currency movements, and to develop appropriate strategies and risk management techniques. Once a company exposure manager has decided where his company's exposure is greatest and which currencies are most important to operations, for example, he may track those currencies or attempt to forecast their movements. These forecasts then are available to feed back into management strategies which make allowance for strong or weak currencies. Further, other complicated strategies take account of maximum loss limits as well as distortions in balance sheet exposure. High-priced new employee positions, such as Assistant Treasurer International, have been created just to manage foreign exposure and exchange risk.⁸ And many other people now allocate part of their time to forecasting or currency management as well. Because of the bewildering complexity of alternatives, or simply to be on the safe side, multinationals are supplementing their in-house capability with outside forecasting and advisory or consulting services.

Outside Expertise. With floating rates and the dramatic increase in variability of those rates, many international money managers have come to rely on *foreign exchange forecasting services*. And many firms have found the subscription fees well worth the cost. These forecast services provide information about future exchange rates based on judgmental or econometric models. The judgmental forecasters rely on a qualitative approach and appear to forecast slightly better over the short term. The econometric models may be quite sophisticated, using simultaneous equations or similar empirical models, and they appear to predict better in the longer run (over one year). Exchange rate forecasts provide a quarterly average for some time in the future or a point estimate of

currency prices for a given future date.

Forecasting services presumably are in demand because firms are willing to pay to reduce the uncertainty of unanticipated exchange rate changes. These forecasting services have a reasonably good track record—a record that looks better than if they were only guessing.⁹

Just as there is a demand for exchange rate forecasts, so many firms rely on *bank advisory services*. These bank currency advisory groups tend to be more comprehensive, offering a wide array of services. Most of the major money center banks have currency advisory services as well as consulting services. Basically, these services help companies maneuver through the pitfalls of floating rates and FASB-8. They advise company clients on a myriad of international concerns—including traditional hedging actions for financial transactions, the effects of currency fluctuations on cash flows from both existing and planned investments, and tax implications of foreign currency gains and losses.

Currency managers today strive to be on top of new hedging techniques and currency forecasts and to assess the total financial impact of the firm's foreign operations. And since resources for managing currency risk compete with other resources in the firm, managers must ask if they are getting the most benefits from the funds that are spent.

Strategies for Managing Exchange Exposure. Whether multinational firms rely on outside services or have developed an in-house capability, they still must choose from among many alternatives in managing their exchange risk. Traditional *hedging strategies* for reducing exchange risk exposure focus on increasing strong currency assets (those

⁸For further discussion of the position of assistant treasurer international see "The New Hero of American Business," *Euromoney*, March 1979.

⁹For further discussion of foreign exchange forecasting services, see Richard M. Levich, "Analyzing the Accuracy of Foreign Exchange Advisory Services: Theory and Evidence," NBER Working Paper 336, April 1979.

likely to appreciate) and reducing weak currency assets (those likely to depreciate). At the same time, weak currency liabilities are increased and strong currency liabilities are reduced. Although such practices have been standard for some time, new emphasis has been placed on tailoring them to multinationals with exposure in many currencies. Borrowing in weak currencies makes sense because when the loan comes due, it may be repaid in a cheaper currency. But although the firm may better its exposure picture, there are costs for the firm as well. One of these costs is that higher interest rates may have to be paid when borrowing in weak currencies.¹⁰

Leads and lags are central to hedging strategies. With debt financing, for example, outstanding debt in strong currencies may be repaid prematurely, leading (advancing) the payments to avoid a more expensive payback later on. Similarly for receivables and payables. In the case of weak currency transactions with outside parties, the firm can try to tighten credit terms or prices. Or it may choose to forego discounts for prepayment of payables in a weak currency or to delay accounts payable. Within the firm, there are many ways to reduce exposure. Adjustments can be made in the speed with which one subsidiary pays off its accounts with another subsidiary. Subsidiaries with strong local currencies could delay or lag the remittances of dividends, royalties, and fees to other subsidiaries of the multinational to decrease their liabilities. Those in weak currency countries could try to lead, or pay promptly, their liabilities and reduce their asset exposure. All these things would tend to reduce the consolidated balance sheet exposure.

Other basic risk management techniques

involve the purchase or sale of forward contracts for currencies. A *forward contract* is a promise to buy or sell a currency at a specified time in the future at a price agreed upon today. Forward market hedging has increased greatly since the advent of floating rates and new accounting procedures (see FORWARD CURRENCY HEDGES overleaf). For example, a company expecting to receive payment in a weak currency three months hence can hedge against downside currency risk by selling the weak currency forward. If the company expects to make payment in a weak currency three months hence and wants to be certain of the currency rate, it could enter into a forward purchase contract.

Of course, the firm may want to accept some currency risk and gamble that it will come out ahead. If it is paying in a weak currency, it may decide to wait and hope the currency depreciates before buying. Or the firm may decide to hedge a portion of its currency exposure. As these examples make clear, hedging, or covering exchange risk, and speculating, or accepting exchange risk, are two sides of the same coin. The firm can do some of each by deciding on a maximum currency exposure and covering the remainder. When choosing such maximum exposure, the firm could take account of its estimate of reasonable changes in exchange rates to estimate the maximum possible exchange loss.

A few companies apparently decided that it might be worthwhile to educate the public about currency effects to reduce investor uncertainty. Scott Paper, for example, attempted to explain the pitfalls of foreign exchange exposure to its stockholders in its annual reports.¹¹ These companies usually tried to distinguish economic effects from accounting effects of currency fluctuations. Economic effects, such as cash flows, were emphasized over the reported earnings fluctu-

¹⁰Higher interest rates may be palatable, however, if the firm is concerned most about its accounting exposure, since interest is hidden under interest expense and does not show up separately on the income statement.

¹¹Scott Paper Company Annual Report 1976, p. 21.

FORWARD CURRENCY HEDGES

One of the more sophisticated forward currency hedges, a parallel hedge, recognizes that exchange gains and losses are treated differently under FASB-8, depending upon the reason the firm entered the contract. If the firm entered the forward contract to hedge an identifiable foreign currency commitment for a given amount, the exchange gains or losses can be deferred until the transaction occurs. Then the exchange gain or loss can be used to adjust the dollar basis of the transaction, but the gain or loss does not flow through to the income statement. Moreover, there are other recognized reasons for entering into a forward contract. If the purpose is to hedge an exposed foreign currency net asset or liability position, exchange rate gains and losses are recognized as of the balance sheet date. Thus even if this contract has not matured, the change in value of the contract can offset the gain or loss on the related asset or liability that is hedged.

The firm can take advantage of these differing treatments by entering into a parallel hedge, also known as *back-to-back forwards* contract. In this technique, the firm simultaneously enters into two forward contracts, one a forward purchase and the other a forward sale, for the same maturity and amount. For instance, suppose a U.S. multinational decides to build an automobile plant in Europe. The construction of the plant would be financed with long-term debt denominated in the foreign currency, which is exposed. When the plant is in operation, the cash flows will be used to retire the debt. Using a parallel hedge, the firm buys the foreign currency forward to hedge the long-term debt repayments. This hedge of a net liability position offsets the exchange gains or losses on the income statement. Simultaneously, the firm sells the foreign currency forward to cover the unrealized cash flows from the plant. Since the sale is termed an identifiable foreign currency commitment, the exchange gain or loss will be deferred. Thus the foreign currency exposure is eliminated and the forward contracts will cancel each other when they mature.

tuations caused by currency value changes. And a longer range perspective was stressed in an effort to help stockholders see that losses in earnings per share in one year resulting from exchange rate fluctuations might be offset by gains in earnings per share in another year. In cases where currency fluctuations had a greater impact on profits and losses than the operations of foreign subsidiaries, that was noted, too (see EARNINGS FROM INTERNATIONAL AFFILIATES . . .).

Whether the objective is to manage the accounting or the economic effects of foreign currency exposure, the costs may be substantial. Such costs include the labor hours and other resources spent complying with regulations and the resources that go toward trying to change those regulations. Besides these direct costs, other costs may be involved in various types of hedging strategies. Forward markets, for example, sometimes do not have the depth or breadth to accommodate

participants in the currencies they desire. And the difference of spot rates from forward rates quoted at the same date may be so slight that, when transaction costs are taken into account, the costs of forward market hedging may be greater than doing nothing. In any case, exposure levels may be changing so frequently that monitoring and finding appropriate hedging levels are difficult. Innovations in currency management will continue as managers develop new strategies to take advantage of accounting rules, tax laws, and the changing international monetary system.

THE OUTLOOK

Multinationals are still adjusting to the double whammy of fluctuating exchange rates and accounting rulings for handling exchange rate gains and losses. FASB-8 has come under such heavy criticism that the Financial Accounting Standards Board has held hearings to reconsider the ruling. And

EARNINGS FROM INTERNATIONAL AFFILIATES CAN VARY WITH EXCHANGE RATE CHANGES

International affiliates of Scott Paper Company, a Philadelphia-based firm with worldwide operations, earned the parent company over \$25 million, or 27 percent of net income, in 1978. In its 1978 Annual Report, Scott explained that those earnings included an exchange loss of \$2.153 million from the translation of financial statements in foreign currencies and a gain of \$3.022 million from "consuming lower valued inventories translated at prior exchange rates." In comparison, Scott suffered an exchange loss of \$.78 million in 1977 and a gain from inventories of \$.061 million. The yen was mentioned as a reason for negative exchange adjustments in 1978, as was the Belgian franc. The 1978 total exchange loss is shown below along with exchange adjustments by geographic region (in thousands of dollars).

	Earnings before Exchange	Exchange Adjustment	Total Earnings
Europe	\$ 13,017	\$(2,809)	\$ 10,208
Far East	9,408	(1,263)	8,145
Latin America	2,613	1,178	3,791
Canada	2,249	741	2,990
Totals	\$ 27,287	\$(2,153)	\$ 25,134

the Board has established a task force to suggest revisions. One option would be to require the translation of foreign currency denominated financial statements into dollars at the current rate, exposing all assets and liabilities. The Board is expected to issue an exposure draft for comment by mid-1980. Some critics are hoping for a draft which would move toward a reduction in funds used by multinationals to manage their accounting exposure, and from there to an emphasis on economic effects. Moreover, these critics hope that the revision will clarify the presentation of exchange rate impacts on financial records so as to lessen any investor confusion.

Even if this troublesome accounting situation is eased somewhat, exchange rate fluctuations still will keep the pressure on multinationals and other groups engaged in foreign currency transactions. At the same time, governments may continue to increase their already appreciable intervention to reduce uncertainty in exchange rates. This

movement has included the increased cooperation of central bankers, with frequent telephone consultations. For several currencies, there are informal target zones. Further, more exchange rates appear to be pegged to major currencies or to one another, as in the European Monetary System. But even if day-to-day currency fluctuations are reduced, countries still will need a way to allow their currencies to adjust when underlying factors differ from nation to nation. So exchange risk still will be here even if currency rates are managed more.

The continued growth of foreign trade and international business assures that foreign exchange risk management will become more important to multinationals and others. New currency management strategies, new techniques will continue to develop. Banks can be expected to market their advisory services aggressively. Foreign currency market participants have learned a lot about exposure, exchange risk, and the tax implications, and they have a lot more to learn.

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