**Nobel Winner Named Visiting Scholar**

Nobel Laureate Milton Friedman joined the San Francisco Federal Reserve Bank this month as a Visiting Scholar for the January-March winter quarter.

"The Visiting Scholar position was inaugurated at the Bank to encourage creative research and the interchange of ideas by practicing scholars in the specialty of economics," President John J. Balles said. "We're honored to have Milton Friedman with us in this role. He has altered the course of economic thinking with his contributions both to the theory and practice of the science."

Friedman received the Nobel Prize in economics last month in Stockholm. In awarding the prize, the Swedish Royal Academy of Science cited his achievements in the fields of consumption analysis, monetary history and theory, and economic stabilization policy.

Friedman retired at year-end as the Paul Snowden Distinguished Service Professor of Economics at the University of Chicago. He is nationally known for his column in *Newsweek* and for his frequent service as advisor to various government agencies.

The most widely known monetarist, he is a leader of the so-called "Chicago School" of economic thought. This group holds that the government's most important economic tool is its ability to regulate the basic money supply, which consists of currency in circulation plus most commercial bank deposits. According to this view, the nation's supply of money should grow in line with the growth of output of goods and services to maintain price stability. If money grows in excess of real output it will create problems of inflation.

Friedman attended Rutgers University and the University of Chicago, before receiving a Ph.D. at Columbia University. He began his professional career as a research assistant with the University of Chicago. During the 1930s and the Second World War, he served in a number of research positions with such institutions as the National Bureau of Economic Research and the U.S. Treasury.

His teaching career spans four decades, from the time he was a part-time lecturer at Columbia University through his period of association with the University of Chicago. He has been a Fulbright lecturer at Cambridge University (England) and a Visiting Professor at Columbia University, the University of California at

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**Computer Work Grows at San Francisco Fed**

During the past five years, Federal Reserve computer applications have accelerated dramatically in such areas as checks, budget, research and cost accounting. In the words of Senior Vice President Richard T. Griffith, who heads the Computer Services Group at the San Francisco Federal Reserve Bank, "Our job is to increase the Bank's productivity by employing computer technology and instituting new system approaches to major Fed operations."

Griffith, who joined the Fed in 1975 after serving as Vice President of Crocker National Bank and Executive V.P. of Teknekron, Inc., was promoted this month to Senior Vice President, with responsibility for all data-processing activities in the Twelfth Federal Reserve District.

The Bank installed its first major general-purpose computer in San Francisco in 1969. However, the branch offices functioned independent—

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COMPUTER WORK
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ently, with different equipment and procedures. Today, the Bank has the latest computer equipment, and all offices have begun to standardize their computer hardware and operating systems.

The Computer Services Group is playing an essential role in this transition. To facilitate the process, management reorganized the group into functional activities, with staff separated from production, and with provision made for District-wide coordination under the Computer Services Group.

Kenneth A. Grant, Director of Computer Systems, has a staff of about 40 analysts and programmers. His department, which is responsible for the development of new system projects and applications, is organized along three major lines following the Bank's structure—Corporate Staff, Branch Operations and District Departments.

Corporate Services is primarily concerned with the Bank's personnel and budget and control functions. District Services works on such projects as econometric studies, monetary data, operations research and bank examinations, while Branch Services focuses on cash, check and fiscal operations.

Hector M. Martin, Director of Computer Operations, heads a staff of 45 which is responsible for hardware planning, computer processing and branch-operations control.

Assistant Vice President Keith B. Davis heads a staff of 30 in Support Services, with such responsibilities as long-range planning, operating systems, data base/data communications technology, management-information reports and financial analysis.

One of the Bank's major computer accomplishments of 1976 was the development of an enhanced "Fedwire" money-transfer system, which can transfer up to 20,000 messages a day between the Fed and member-bank terminals. In the future, computer-to-computer interface with member banks will facilitate an even higher volume of money transfers.

This effort has helped the success of the new program of direct deposit of social-security checks, which involves 2,000 financial institutions and one million recipients in the Twelfth District. The Bank is now able to transfer social-security payments from the Treasury directly to a recipient's savings or checking account in the financial institution of his choice. The system saves time and expense and eliminates the danger of loss or theft for recipients of social security payments.

In operating this program, the Bank built on the experience it had already gained with other recurring-payment programs, such as Federal civil-service retirement, railroad retirement, revenue sharing, and Air Force payroll and retirement. This activity will be expanded later to include Veterans Administration payments.

In automated clearing-house (ACH) activities, the Twelfth District currently clears 85,000 commercial items and 1 million government items each month. This work will grow considerably as the system expands to five clearing-house operations for commercial use. Portland, Los Angeles and San Francisco are already on line, and Seattle and Salt Lake City will be added later.

Elsewhere throughout the Bank, the computer's impact is evident in a number of service improvements. For example, a new check-processing control system, utilizing high-speed check reader-sorters, now permits member banks to deposit checks until midnight and still receive immediate credit for their cash letters. In this and other ways, the full resources of the computer are being used to improve Federal Reserve services to commercial banks and the general public.

ECONOMIC REVIEW
A new mailing list is being created for the quarterly Economic Review based on the return of subscription cards included in the last issue of that publication. If you were on the mailing list and wish to remain on it, please return your card promptly.
BOOK-ENTRY MATERIAL NOW AVAILABLE

Claims for about $1 million in lost or stolen securities are received each month by the Treasury Department. For this and other reasons, the Treasury and the Federal Reserve System have launched a program—"book entry"—to eliminate millions of pieces of paper that flow out of funding the national debt.

The Federal Reserve Bank of San Francisco now makes a film and a slide presentation available, explaining how book-entry operates and what it means to commercial bankers. As the film illustrates, the program is designed to eliminate definitive securities by making all public debt available only in the form of computer entries at a Reserve Bank or the Treasury.

In the Treasury’s view, book-entry is an answer to the paperwork crisis, by reducing substantially the cost of issuing, storing and delivering Treasury securities. In addition, it protects the investor against loss, theft and counterfeiting.

Over 80 percent of the nearly $350 billion in outstanding marketable debt is already in book-entry form, under a system initiated in 1968. However, the Treasury is continuing to improve the program.

Eventually, all transactions will be documented, providing the investor with a confirmation that describes the amount, maturity date and identification number of his holdings. But an exception will be made for a small number of institutional investors that are prevented by law or regulation from holding securities in book-entry form. Definitive bills in $100,000 denomination will be available to such investors for a limited time.

The Treasury moved last month to require "book-entry only" for 52-week Treasury bills, and it plans to expand this rule to six-month bills in June and to three-month bills in September. By year-end, all Treasury bills should be in book-entry form only, and buyers will no longer have the option of taking physical possession of their bills.

WESTERN BORROWING COSTS DECLINE

Business borrowing costs at West Coast banks continued to decline in the late fall months, according to the Federal Reserve Bank of San Francisco's latest quarterly interest-rate survey. This decrease reflected a continued easing of money-market rates, as well as a two-step drop in the prime business-loan rate from the level prevailing last summer.

Market rates, which influence the rates charged by banks, have fluctuated since the November survey, declining until about year-end and then rising in early January.

Between the August and November survey periods, the average rate on regular short-term loans dropped 63 basis points, to 7.52 percent. (One hundred basis points equal one percentage point.) Rates on revolving-credit loans fell by 62 basis points to an average of 7.11 percent.

The decline in interest rates occurred in all loan-size categories. However, banks that are not Fed members will utilize the book-entry system, either for themselves or for their customers' accounts, through a member bank or a Reserve Bank. The Treasury hopes to convert all notes, bonds and bills to book-entry form eventually. However, savings bonds will continue to be available in their present certificate form.

A Treasury-produced film and a related slide presentation explain the key parts of the book-entry program. The 12-minute film provides a general description of the benefits of book-entry and the procedures involved. A two-part, 25-minute slide show with audio cassette provides more detailed information for bank employees. Part I covers the need for computerizing paperwork and the development of telegraphic transfer of securities; Part II focuses on the actual book-entry procedures.

For information on the book-entry film and the slide presentation, contact the Bank and Public Relations department of the nearest office of the Federal Reserve Bank of San Francisco.

large borrowers benefited more than small borrowers, since many of them were able to take advantage of the declining prime rate. The average rate for regular short-term loans of $1 million and over fell by 71 basis points to 7.34 percent. In comparison, rates on loans of $10,000 or less averaged 9.08 percent, representing a 19-point decline.

In the November 1-15 survey period, the thirteen banks in the survey reported 1,983 short-term and revolving-credit loans, for a total volume of $833 million. Although the number of loans was slightly greater than reported in the August survey, the dollar amount extended was less. This is contrary to the normal pattern in a recovery period, when a rise in the average size of loan would generally be expected.

NOBEL WINNER NAMED

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Los Angeles, and the University of Hawaii.

Friedman is the author of nearly 20 books and many scholarly articles. His most famous book, written with Anna Schwartz, is the definitive Monetary History of the United States, 1867-1960. He is past-president of the American Economic Association, and holds memberships in many scholarly societies.

His own assessment of himself is characteristically simple. "It's not my job to persuade people about things," Friedman says. "I just develop ideas and leave them lying around for other people to pick up."
FED ASKS FOR DATA TO CHECK CREDIT BIAS

The Federal Reserve Board of Governors has asked creditors to provide information for monitoring credit bias on mortgage loans, through a proposed amendment to its Regulation B.

The proposed revision would enforce the 1976 Amendments to the Equal Credit Opportunity Act. The original Act prohibited discrimination in any aspect of a credit transaction on the basis of sex or marital status, and the 1976 amendments extended these prohibitions to cover discrimination in regard to race, color, religion, national origin, age, receipt of income from a public assistance program, and good-faith exercise of rights under the Consumer Credit Protection Act. These amendments go into effect on March 23, 1977.

Since the amendments make substantial changes in the Act, numerous Reg B revisions have become necessary. The latest revision would require creditors to monitor mortgage-loan transactions to prevent credit bias.

The Board pointed out that a home is generally the single most important purchase a consumer makes, and that access to mortgage credit should be widely available, without threat of discrimination. The dollar amount of applications for mortgage credit is large, and yet the per unit cost for noting credit information would be relatively small.

The Reg B requirement would apply to any creditor that receives a credit application for the purchase of residential real property secured by a lien. The creditor would be required to request information on race, national origin, sex, marital status, and age, as part of any written application.

Under the regulation, the applicant would be informed that this information was being requested by the Federal Government for the purpose of monitoring compliance with Federal anti-discrimination statutes. An individual would be asked to supply the information, but would not be required to do so.

BDX PROGRAM NOW UNDERWAY

Banks in Arizona, California and Washington can now enroll in the Branch Data Exchange (BDX) program, covering marketing data for the second half of 1976, by submitting authorization and information forms to the nearest Federal Reserve office by mid-February. All member and non-member banks in these states are eligible for this free program, and efforts are being made to extend the service to Oregon.

The program has enrolled 125 banks to date—13 in Arizona, 31 in Washington, and 81 in California. For further information about BDX, contact the Bank and Public Services Department at the nearest Fed office or—in San Francisco—Paul Van Etten, Manager of Banking and Statistical Reports, (415) 544-2183.

FCA REMINDER

Functional Cost Analysis schedules for 1976 are now being processed at the San Francisco Office. California member banks interested in submitting data for 1976 should contact Dick Ranftle, Functional Cost Analyst, (415) 544-2351 or 2233. Outside California, call toll free (800) 227-4133 or 4143.