an expanded program of environmental research in the Arctic, and a pilot lake-restoration project. The other two points of the October recommendation, concerned with coastal zone management and establishment of coastal laboratories, are being implemented by legislation and interagency planning, respectively.

Most of the new money for marine sciences will be sought by the National Science Foundation. Additional funds it will request include $3.4 million for the Sea Grant Program, $1.2 million for the marine component of the Arctic Research Program, $1.5 million for the Ocean Sediment Coring Program, and $15 million for initial contributions to the Decade of Ocean Exploration.

The Department of Transportation will seek an additional $7.2 million for the advanced development stage of the Coast Guard's Data Buoy System. This is aimed toward an eventual development of a network of buoys to monitor ocean conditions.

Partially offsetting the increases is a $19.3 million reduction in the Defense Department's share of the marine sciences program. The Navy's program for development of the Deep Submergence Search Vehicle received a large cut, and a variety of basic research programs in the Office of Naval Research are being trimmed wherever possible.

One new program added to the nation's over-all marine sciences effort this year is the Advanced Surface Platforms Program of the Pentagon's Advanced Research Projects Agency. This project includes exploratory investigations of a surface-effects vehicle for the Arctic. Its budget request of $12.3 million represents a $6.3 million increase over 1970.

Nowhere in the President's budget is there mention of a National Oceanic and Atmospheric Agency, proposed last year in the Stratton report. Dr. Lee A. DuBridge, the President's science adviser, says this should not be taken as a sign that the NOAA proposal has been rejected. Review within the Government (SN: 10/11, p. 325), he says, is still in progress. □

ECONOMICS

Exploring the budgetary process

It was no easy matter for President Nixon to come up with a $1.3 billion surplus in the Federal Budget this year. In part, the surplus is a reflection of a new accounting method the Administration has employed since last year. Under the old method, which did not include in the over-all budget the Government's trust fund investments, the budget for fiscal 1971 would show not a surplus but a deficit of more than $7 billion.

Even so, the President was forced into the politically troublesome position of vetoing the appropriations bill for the Department of Health, Education and Welfare (SN: 1/31, p. 121) in order to hold down the budget. And in estimating the surplus, Mr. Nixon was obliged to assume that Congress will go along with various measures he has proposed to increase Federal revenues, including a deferment of Federal pay raises, the postponement of already-scheduled reductions in automobile and telephone excise taxes, and a new levy on transportation that Congress previously has rejected.

All these difficulties will be justified, the Administration feels, if a balanced budget helps to control inflation. Inflation, according to conventional economic theory, occurs when the economy is operating so close to the top of its capacity that the nation's plant and labor resources cannot meet the public's demands. Under these circumstances, increased demands for goods and services are met only by higher prices. The conventional solution is to reduce the demands on plant and labor resources; therefore the Government attempts to curtail its spending.

The difficulty with this solution, as the Administration fully recognizes, is that the economic slow-down produced by the Government's restrictive policies is liable to turn into a highly unpopular recession. During the last two recessions in this country, the unemployment rate rose to seven percent. Paul W. McCracken, chairman of the President's Council of Economic Advisers, expressed hope last week that the unemployment rate this time will climb as high as five percent. "The objective of economic policy is not to produce unemployment," he added. Nevertheless many observers, including Leon H. Keyserling, chief economic advisor to former President Truman, believe that the traditional solution to inflation inevitably causes unemployment, and that the country is already on the edge of a recession.

There are signs that the Administration is beginning to listen to other than the voices of conventional economic wisdom. The liberal remedy for inflation, wage and price controls, with which Presidents Kennedy and Johnson experimented, is not currently in favor at the White House. However, the recent appointment of Arthur Burns as chairman of the Federal Reserve Board suggests to economists that inflation-control theories of what is called the Chicago school of economics may soon be tried out.

Mr. Burns is considered an admirer, if not a disciple, of the most prominent of the Chicago economists, Dr. Milton Friedman of the University of Chicago. In Dr. Friedman's analysis, increases or decreases in Federal spending are not correlated with inflationary cycles; the only factor associated with inflation is a low total volume of money in circulation.

If Dr. Burns hopes to cure the present inflation along the lines recommended by the Chicago school, says Arthur Okun, former chairman of President Johnson's Council of Economic Advisers, he will shortly begin to relax the Federal Reserve Board's monetary restrictions so as to inject a greater volume of money into the national economy. Although the Federal Reserve Board legally is entirely independent of other Governmental bodies, Mr. Nixon has made it clear that he favors such a relaxation. When swearing in Dr. Burns last Saturday, the President offered "a standing vote of appreciation in advance for lower interest rates and more money."

The Administration thus appears to be headed on a dual course, attempting to regulate inflation both by restricting spending and by expanding the country's money supply. If the strategy devised by Mr. Nixon's Council of Economic Advisers works out as predicted, the Government's fiscal restrictions should continue to level out the economy for the first three quarters of this year; then, in the last quarter of the year, the stimulus supplied by an increase in the monetary supply should cause the economy to pick up again, thus avoiding a severe recession. By the end of 1970, McCracken estimates, prices will be rising at a rate of only 3.5 percent a year, as compared to the 4.7 percent rate of price increase at the end of 1969.

Whether the Administration's strategy will succeed is anybody's guess at this point, economics being a notoriously imprecise science. If it does, many observers believe the success will be attributable to luck as much as to sound planning. "Inflation is a psychological problem as well as an economic one," says Dr. Robert Tufts, an Oberlin College economist. "The budget surplus is not large enough to make much real difference, but if the Administration can convince everyone that it is taking a hard stand, then maybe current inflationary expectations can be overcome. However, the projected upswing in the economy is really a hope, not a scientific calculation. We are just as liable to wind up with a recession." □