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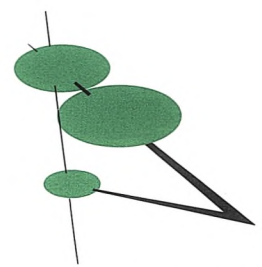
FEDERAL RESERVE BANK OF PHILADELPHIA

# Monthly Review

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**Variable Rates on Mortgages?**



April 1972

## **Brighter Farm Picture**

- . . . Western farmers posted larger income gains than their national counterparts in 1971, but the reverse may be true this year.

## **Variable Rates on Mortgages?**

- . . . More attention now centers on this and other proposals designed to moderate the impact of tight credit on the housing market.

**Editor: William Burke**

## Brighter Farm Picture

**A**griculture was a bright spot in the sluggish Western economy of 1971. Cash receipts advanced 8 percent to a record \$8.2 billion, reflecting not only a heavy volume of marketings but also a strong rise in farm prices. Crop receipts in particular were very strong, primarily as a result of a bumper wheat crop in the Pacific Northwest.

Cash receipts far outstripped the rise in production expenses last year, in contrast to the performance of other recent years, and net farm income thus rose roughly 10 percent to \$2.0 billion. (In contrast, net income declined elsewhere in the nation.) California and Washington registered the strongest gains, in both absolute and percentage terms. Moreover, with the continued attrition in the numbers of Western farms, net income per farm rose about 13 percent, increasing in all District states except Hawaii, Nevada and Alaska.

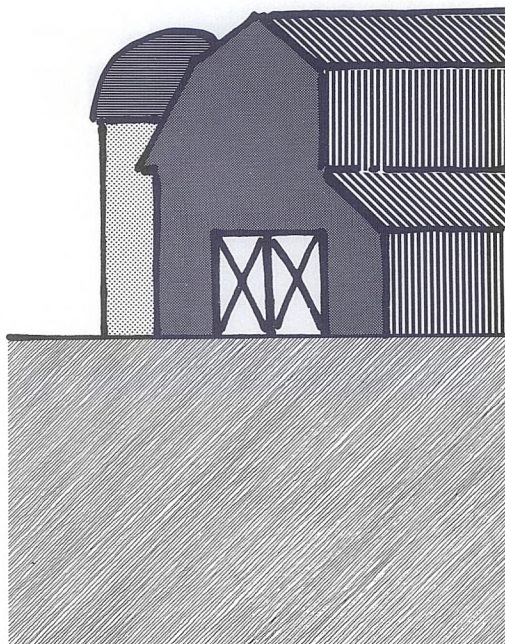
Farm employment again declined in all parts of the West except California. In that key state, increased reliance on hired workers more than offset a reduction in the number of family workers. Farm wage rates meanwhile continued to advance, even in the face of the substantial worsening of unemployment throughout the region.

On the financial side, District commercial banks continued to reduce their holdings of farm mortgage loans but Federal Land Banks again expanded their portfolios. Production loans increased substantially, with Production Credit Associations accounting for a relatively large share of the expansion. Even so, District commercial banks accounted for

over three-fourths of the outstanding production credits and for over one-sixth of the outstanding real-estate loans held by Western financial institutions last year.

### What farmers can expect

Whether Western farmers can match last year's performance in 1972 depends largely upon the underlying strength of the national economy. According to projections released this February at the annual outlook conference of the U.S. Department of Agriculture, rising employment and income nationwide should provide a considerable expansion in domestic demand for food and fiber. Domestic demand also should be bolstered by





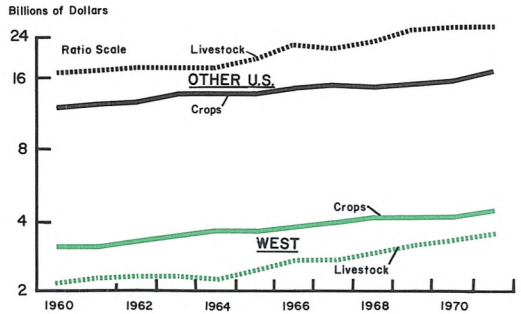
increases in social-security payments and by the expansion of food-stamp and school-lunch programs; in fiscal 1973, the food-stamp program should benefit over 13 million people, and the school-lunch program about 8 million more. However, export demand may not be much higher than last year, after adjustment for the effects of 1971's prolonged dock strikes. Grain exports may increase because of abundant supplies and low prices, but cotton and soybean exports may weaken because of restricted supplies.

USDA forecasters expect the nation's gross farm income to rise about 5 percent to perhaps \$62.0 billion, primarily because of a sharp rise in government payments and a substantial increase in livestock prices and thus in livestock receipts. (In this connection, it should be noted that raw agricultural products are exempt from price restraints under Phase II controls.) They also project some moderation in production expenses, reflecting lower feed costs as well as Phase II restraints on price increases for nonfood items. As a result, net income of the nation's farmers could rise as much as 13 percent, to \$17.7 billion, following 1971's no-growth year.

Net income per farm should rise considerably, with the continued reduction in the number of farms nationwide. (There are now fewer than three farms for every four that existed in 1960.) Also, farm income per capita should continue to improve in relation to nonfarm income, rising perhaps to 76 percent of the nonfarm average in 1972, as opposed to 74 percent in 1971 and only 55 percent in 1960.

Because of the expected rise in livestock prices, consumer food prices could rise perhaps 4½ percent between 1971 and 1972, in contrast to last year's 3-percent increase. (Indeed, most of the expected increase has already occurred.) Pork prices, which slumped sharply last year, have risen substantially in recent months because of re-

## Farm receipts rise in West, with boost from bumper wheat crop



duced supplies. Beef prices, which increased sharply in both 1971 and 1972 to date, may hold near current levels even in the face of increased supplies. Meat imports may be almost 7 percent higher this year, in view of the Administration's recent agreement with meat-exporting nations to lift the ceiling on shipments to this country. But this ruling, which affects mostly beef used in hamburger, probably will not dampen price rises significantly, since imported meat normally accounts for a very small share of total U.S. consumption.

### Why the West differs

Western farming will be strongly influenced by these national trends, but the impact will vary considerably among individual states, depending on its product specialization. In Nevada, sales of cattle and calves account for almost two-thirds of the state's returns from marketings. (No other District state is so heavily dependent on any single commodity.) In California, marketings of fruits and vegetables amount to well over one-third of total receipts. In Idaho, vegetable marketings (especially potatoes) account for over one-fourth of the total, while in Washington and Arizona, field crops (mostly wheat in the one case, and cotton in the other) account for over one-fifth of the total.



Consequently, indications of farm-income trends in these major producing areas can be obtained only from an analysis of the outlook for each of the major regional products. These include wheat, cotton, fruits and vegetables, and livestock.

**Bumper wheat crop?**

The nation produced a bumper crop of wheat last year, with the West producing one-eighth of the total—253 million bushels—primarily in Washington, Oregon and Idaho. But when it seemed likely that another bumper crop would develop in 1972, largely because of a 9-percent increase in winter-wheat acreage planted last fall, the USDA moved to reduce both the plantings of spring wheat and the harvests of winter-wheat acreage. Department planners hope to divert 5 to 6 million acres from wheat production this year, at a cost to the Federal government of perhaps \$154 million. But another bumper crop could still develop, both regionally and nationally, especially if yields continue high.

Wheat farmers in the Pacific Northwest were unable to gain the full benefits of last year's bumper crop, because their crucial export markets were cut off by the 100-day dock strike during the harvest season. (Export markets grew rapidly over the past decade, and in 1970 took over 80 percent of the Northwest's wheat production.) As a result, the volume of wheat in storage jumped more than 30 percent (34 million bushels) over the course of the year, and stocks would have increased even more rapidly if shipments from other producing states had not dropped sharply in the first half of the marketing year.

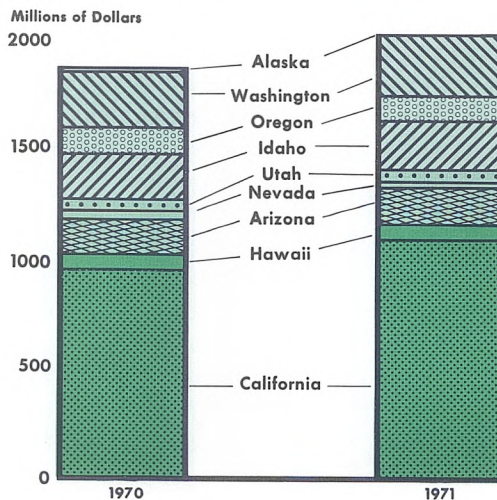
The Pacific Northwest boasts considerable grain-storage capacity—273 million bushels—but these facilities are adequate only if there is reasonably unimpeded movement of wheat into export markets. The facilities are used to handle shipments of grain into the area as well as storage of other locally pro-

duced grains as well as wheat. With carry-over stocks now considerably above normal, the storage problem could become serious when the 1972 wheat crop is harvested, especially if that too should be a bumper crop.

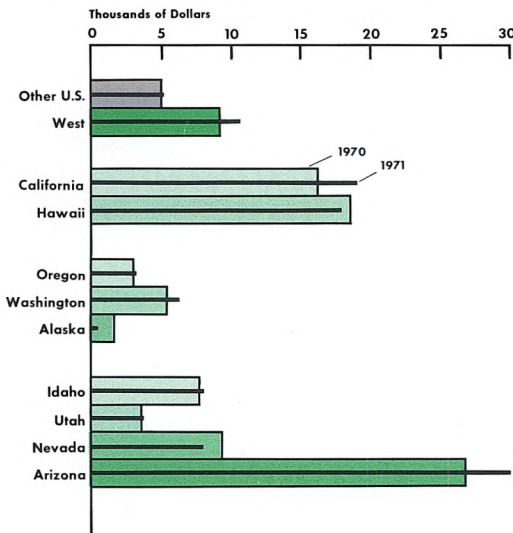
If inventories are not reduced to a manageable level, a great deal of downward pressure will be exerted on the cash price of wheat when the 1972 crop moves to market. But already, because of the slow movement of wheat into export outlets, the cash price in late January was about 20 cents per bushel below year-ago levels at major terminal markets, although it still remained above the Commodity Credit Corporation's effective loan price.

Northwest wheat farmers participated heavily in the price-support program during the 1971 marketing season, placing 75 million bushels under the loan program up to December, or several times as much as in the previous marketing season. In addition, loan repayments were light, with about 65 million bushels remaining under loan at the end of 1971. But even if this wheat remains under CCC control, it will not mitigate the

**Net income gains, with California accounting for over half of total . . .**



... while net income per farm rises in almost every District state



need for providing adequate storage capacity for the 1972 crop.

Perhaps the greatest fear, however, is that the export markets lost in the West Coast dock strike will never be regained. Many years have been required to develop overseas markets for Pacific Northwest wheat, but it may take considerably less time for those markets to be lost to Canadian and other competitors.

**Continued cotton shortage?**

With cotton, the major problem may be shortages rather than surpluses. Western production, centered in California and Arizona, declined last year for the second consecutive year, and production elsewhere increased slightly but still fell far short of normal requirements. (However, the West still accounted for over one-sixth of the nation's cotton crop.) Moreover, carryover stocks from earlier crop years were already very low, with only token amounts in CCC inventories. Nonetheless, USDA planners set forth generally the same program for the 1972 crop as for last year's crop.

Among other features, the program sets a guaranteed support price of 35 cents per pound or 65 percent of parity (whichever is higher), on production from a national base-acreage allotment of 11½ million acres. The price-support payment would be the difference between 35 cents and the market price, but in no event less than 15 cents per pound. Also, a \$55,000 limit would be set on annual payments to any producer.

Supplies are now tight in both domestic and export markets, and as a result, the price trend has been strongly upward. In California, cotton-lint prices this February were up more than one-fourth over year-ago levels, to more than 35 cents a pound. Responding to this favorable situation, California and Arizona producers announced intentions to boost plantings by 8 percent and 5 percent, respectively, compared with a 7-percent increase nationally.

Western producers will find it difficult to expand their dollar returns, however, unless they improve their yields. Between 1968 and 1971, insect and weather damage in California cotton fields helped cause a 35-percent reduction in yields, to 726 pounds per acre, with a 14-percent reduction occurring last year alone. But if yields could be brought up to the 1968 level again, producers would pocket about \$100 million more in marketing receipts, at current market prices, and without any increase in acreage.

**Strength in fruits, vegetables?**

Fruit and vegetable producers expect a generally strong year in 1972, largely because of favorable price trends. These products play a large role in the Western farm economy, especially in California, where they account for well over one-third of total farm receipts. In fact, fruit and vegetable production is very important throughout the West; last year, District farmers again produced about one-half of all the nation's fruit and vegetables. Tomato processors received a



bumper tomato crop in 1971, and they will take probably an even heavier tonnage this crop year.

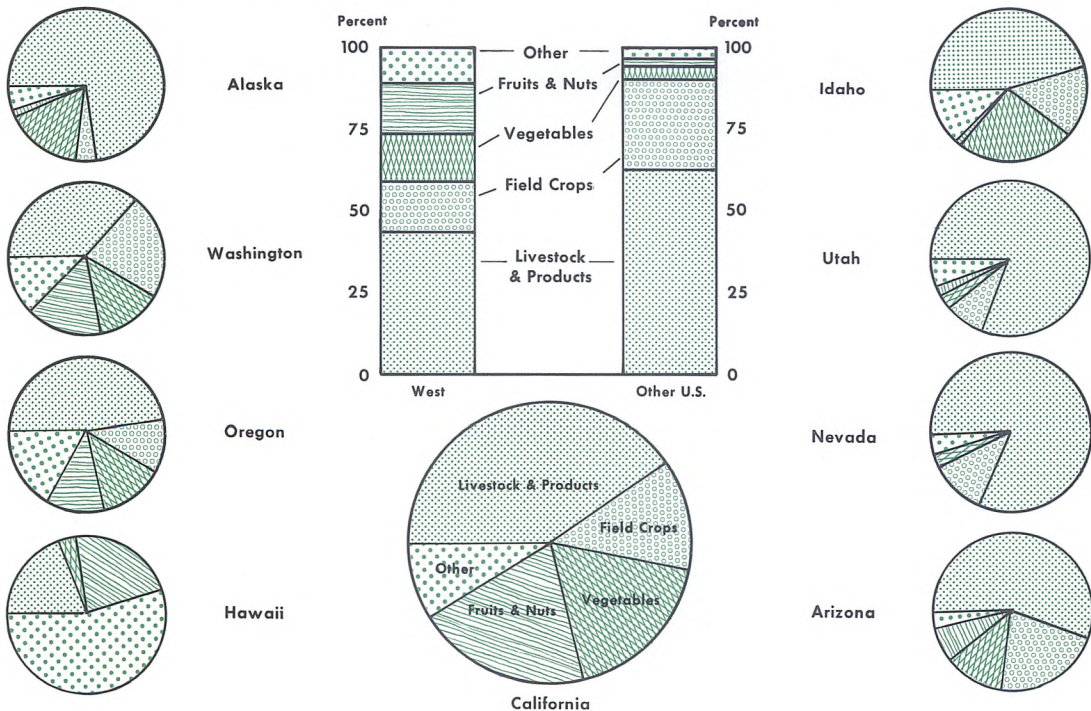
Deciduous-fruit output in the District varied considerably last year; grape tonnage increased substantially and pear production was also up, but declines were reported for most other major fruits. In the near future, however, fruit output could rise very rapidly, since 1969 Census figures indicate that a very large number of trees had been planted but had not yet reached bearing age in that year. In Washington, for example, over one-third of the total apple-tree population was reported in this category, and thus may soon be producing fruit.

Foreign imports present an increasing threat to some domestically produced fresh vegetables, especially in the winter and early-spring marketing seasons, although the threat

to Western-produced winter products has not yet become intense. Imports now account for practically all of the nation's winter supply of cucumbers, peppers and eggplant, and for most of the fresh tomatoes, but they do not appear to be cutting into the market for such Western-produced winter vegetables as lettuce, celery and carrots. However, the unusually high prices for the latter commodities during the past winter season might well persuade foreign growers to enter these markets too.

Western strawberry producers meanwhile face a difficult future, in view of the increasing competition in the U.S. market from Mexican growers, whose production has grown very sharply with the help of large infusions of American capital. (Mexican producers now account for one-third of the U.S. frozen-strawberry market — and they

**Structure of farming varies from state to state, with coastal states specializing in specialty crops and wheat, and mountain states in livestock**





dominate the Canadian market almost completely.) Imports of fresh strawberries from Mexico jumped from practically zero to 53 million pounds between 1960 and 1970, and imports of processed strawberries jumped four-fold to 102 million pounds. Mexico has now signed a voluntary agreement to limit exports of non-fresh strawberries into the U.S. market to 82 million pounds annually—considerably below the heavy inshipments of the past several years.

### Boom in livestock?

Western livestock producers hope to match last year's 3-percent increase in cash receipts (to \$3.4 billion), because of the currently high level of prices and the large number of cattle now in feed lots. Receipts were much stronger in the West than in the rest of the nation last year, since marketings in this region were little affected by the slump in hog prices, which largely affected the corn-hog belt of the mid-West states.

## Less Land in Farms

Land devoted to commercial farming in the West declined from 119.1 million acres in 1964 to 113.6 million acres in 1969, according to recently released data from the 1969 Census of Agriculture. (Commercial farms are those which have annual sales of \$2,500 or more.) This lost acreage is roughly equivalent to all the acreage planted to winter wheat in District states this year. In addition, a comparable amount of land was taken out of production by small, noncommercial farmers during this five-year period.

The decline in commercial acreage was concentrated in Arizona, Utah, Oregon, and Washington, each of which took close to 10 percent of its farmland out of production between 1964 and 1969. Nevada actually increased its acreage, while California and Idaho recorded only modest declines. (Data are not yet available for Hawaii and Alaska.)

Irrigated acreage declined slightly, from 15.4 million to 15.2 million acres, between the two Census years. This decline, however, can be attributed to California, which accounts for almost half of the West's entire irrigated acreage. (Under the State Water Project, roughly 100,000 acres of new irrigated acreage have been developed since 1968, but this does not offset the sharp decline reported between 1964 and 1969.) Oregon and Nevada also lost some irrigated acreage, but Arizona, Idaho, Utah and Washington all put more land under irrigation, and thereby increased their production potential.

The number of commercial farms—close to 127,000 in 1969—declined only slightly between the two Census years. The number increased in California, Arizona and Nevada, but declined in other states of the region. With commercial farmland declining faster in terms of acreage than in terms of numbers, the average size of farm dropped from 936 acres to 897 acres between 1964 and 1969. Idaho was the only state in the District to post an increase.

California's egg producers, in response to 1971's low prices, have sharply reduced the number of potential layers added to their flocks. In the last half of February, the number of pullets placed with producers declined one-third below year-ago levels, and the number of eggs set for hatching also dropped. In addition, producers recently have been reducing laying flocks in an effort to control the spread of a virulent strain of Newcastle disease. Perhaps 4-5 million of California's 25 million laying hens may have to be exterminated, and output of the remaining birds should decline for several months because of intensive vaccination programs, all of which could lead to higher prices for eggs and poultry in coming months.

Western ranchers began the year with a record high number (12.4 million) of cattle and calves, and the number on feed was also a peak for that date. (But the number of sheep and lambs continued to decline, making for a drop of one-third over the past decade.) At the same time, cattle-feeding operations appear to be in a profit squeeze, despite somewhat lower feed-grain prices. The cost of feeder cattle is now about 5.0 cents a pound higher than a year ago, while slaughter cattle prices have advanced only about 2.5 cents a pound. Thus, although receipts should be higher, the narrowing of the margin between the cost of feeder cattle and the price of fed cattle should mean less profitability for feeding operations.

Western cattle feeders may face more difficulty in the future obtaining supplies of feeder cattle. Feeding operations now center increasingly in such areas as Kansas, Nebraska, and the Texas-Oklahoma Panhandle—areas which have readier access to supplies of both feed grains and feeder cattle. (Early

this year, in fact, two-thirds of the cattle shipped into Arizona were from Texas.) Perhaps the only real advantage in establishing feeding operations in this region today is proximity to one of the nation's major beef markets.

Long-run USDA forecasts indicate an increasing deficiency of local production of meat, poultry and dairy products in Pacific Coast states. By 1985, local production may account for less than half of the meat and poultry requirements of California consumers. Prices in this deficit producing area should tend to be higher than nationally, but the cost of production inputs should be even higher. Although the flow of cash to the area's livestock and poultry producers would then tend to rise, the profitability of such enterprises could well compare unfavorably with the profitability of alternative enterprises in the area.

Yet for 1972, the farm-income picture may be the reverse of last year's, with Western farmers recording smaller (rather than larger) increases than their national counterparts. The area's farmers will share only in a minor way in the increased government payments for diversion of feed-grain acreage, and they will benefit little from an anticipated boost in pork prices. (These two sources combined account for only 3 percent of the value of farm products sold in the District, compared with 18 percent nationally.) Even so, Western farmers can expect to benefit from the increasing strength of domestic demand for food and fiber, bolstered by the current high level of farm prices. They must reckon, however, with the possibility of price controls over raw agricultural products, which are now exempt from Phase II ceilings.

*Donald Snodgrass*



## Publications Available

**The China Trade** (40 pp. 1972)—An analysis of two centuries' trade between China and the West. The study describes the development of trade under Western auspices during the 19th and early 20th centuries, and then describes the completely different trading environment existing today. After analyzing the structure of China's current imports and exports, the study concludes with estimates of the future magnitude of the China trade.

**Silver: End of an Era** (32 pp. 1972)—A revised version of an earlier study of the politics and economics of the silver industry. The study describes a century of silver legislation (leading up to the recent demonetization), the development of the Western mining industry, world coinage and industrial demand, and the sharp price fluctuations of the past decade.

**Nation-Spanning Credit Cards** (12 pp. 1972)—An analysis of the rapid growth of bank credit cards, with emphasis on the nationwide coverage recently obtained by two major card plans. The study describes the advantages to cardholders and merchants from widespread credit-card usage, technological developments enhancing the spread of a general electronic-payments system, and the increasing profitability of card plans with the growing maturity of the industry.

**Wall Street: Before the Fall** (36 pp. 1970)—An analysis of basic stockmarket developments of the past 15 years. The booklet describes the supply and demand factors underlying general price trends, and analyzes the industry's operational problems and the expanded role of institutional buying in recent years.

**Calibrating the Building Trades** (20 pp. 1971)—An analysis of the unique features of the construction industry and their effect on construction wage trends. The study describes the Administration's development of an "incomes policy" tailored to that specific industry.

**Aluminum: Past and Future** (64 pp. 1971)—An analysis of the long-term growth of the aluminum industry, with its eight-fold expansion in consumption over the past quarter-century. The study describes the locational factors responsible for the national and international spread of the industry, and analyzes the reasons for recent fears over the industry's sharp expansion of capacity.

**Copper: Red Metal in Flux** (56 pp. 1968)—An historical study of the copper industry, with emphasis on the growth of Western producers. The report describes copper's response to the competitive inroads of other materials in traditional copper-using industries.

**Law of the River** (16 pp. 1968)—An analysis of present and future sources of water for the Pacific Southwest. The report describes how Southern California and Arizona are looking beyond the Colorado River to meet their 21st-century needs for water.

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## Variable Rates on Mortgages?

The variable-rate mortgage (VRM) is designed to attack a problem inherent in the very nature of the operations of the mortgage-lending thrift institutions—namely, the lack of symmetry in their asset and liability structures. These financial intermediaries — commercial banks, mutual savings banks, and (particularly) savings-and-loan associations — allocate their funds borrowed at short term, to the financing of long-term mortgages at fixed rates of interest.

The relatively long average life of mortgages exposes thrift institutions to special difficulties during upward swings in short-term interest rates. In an atmosphere in which interest rates on other savings instruments — such as those highly sensitive to market pressures — rise more rapidly than the rates paid to depositors by thrift institutions, the latter not only have difficulty attracting their customary volume of new savings, but also in retaining their previous accumulations.

If the thrift institutions had to compete only for additional savings, the forces operating on the market for their incremental assets could be counted on to cover the higher costs they would have to pay on their liabilities. But, when these higher per-unit costs must also be paid on each dollar of deposits acquired in the past when interest rates paid and received were lower, the new stronger market for funds cannot prevent the development of serious financial problems for these institutions. Such problems can be met by massive assistance programs

of regulatory authorities. They might also be met, however, by raising the flow of interest on the pool of assets acquired in the past, if that were feasible. The variable-rate mortgage attempts to do just that.

### Problem spotlighted

This problem, of course, has always existed, but it is only in the last decade that changing credit conditions have spotlighted the imbalance in asset and liability structures at thrift institutions. Until the late 1920s, most home mortgages were single-payment loans written for five years or less, with interest rates subject to adjustment upon renegotiation of the maturity. This practice contributed to soaring foreclosures during the dramatic credit crunch of the Great Depression, and it was eventually supplanted by the now widespread practice of long-term amortization of mortgage loans.

For many years, the problem of imbalance was obscured by the insensitivity of depositors to more favorable yields available on alternative financial instruments. By the early 1960s, however, a significant degree of financial sophistication and market sensitivity had developed among thrift-institution depositors.

The situation worsened as the decade progressed and interest rates rose. FHA secondary mortgage yields averaged 9.05 percent in 1970, but lenders' portfolios contained not only the mortgages made at that rate, but also those made at the lower rates of earlier years, such as the 5.46-percent average rate of 1965. Hampered by the low rate of return on their older mortgage portfolios, many

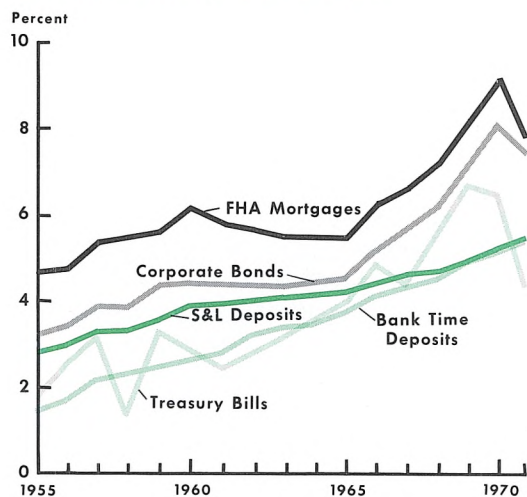
of the well-established thrift institutions would apparently have been in difficulty had they been forced into open competition for investors' funds, and they found some sanctuary in the regulatory authorities' ceilings on the rates they could offer savers, thus moderating somewhat the rate competition among themselves.

This, however, left them at the mercy of market-oriented investors able and willing, in their efforts to attract funds, to bid up rates on other savings instruments above the regulatory ceilings that apply only to the thrift institutions and not to themselves. The spread between the S&L's average savings rate and the bellwether Treasury bill rate, which had favored the former by 50 to 100 basis points during the first half of the decade, turned negative in 1966, and at the worst of the 1969 crunch, it amounted to about minus 325 basis points (100 basis points equals one percentage point). This helped lead to a sharp reduction in net saving inflows to the S&Ls and to a slowdown in their residential mortgage lending. Over the entire 1965-69 period, the average cost of S&L funds rose by about 70 basis points, while the average rate of return on S&L mortgage loans increased by only about 60 basis points, even in the face of a 250-basis-point rise in the effective rate on new home loans. (This discrepancy in rates of return reflects the fact that new mortgage loans — the ones made at peak 1969 rates — accounted for only 15 percent of the S&L's total mortgage portfolios at the end of that year.)

### Peak—and turnabout

Yet although savers could obtain a considerably higher rate of return from depositary institutions in 1969 than they could in 1965, they could obtain very much higher returns from other investments, such as an 8-percent return on Treasury bills in late

### Yield curve became unfavorable to thrift institutions in late '60s



1969. The result was an unprecedented \$2-billion outflow of savings and time deposits from these institutions, including a 50-percent decline in net inflows to the S&L's. It took the massive intervention of the housing agencies — sharply expanded lending by the Federal Home Loan Banks and substantial mortgage purchases by the Federal National Mortgage Association — to maintain the flow of funds in the housing market. Agency support, which accounted for over half of the net residential mortgage lending during the worst of the 1969 crunch, helped to limit the decline in mortgage transactions, and homebuilding that year fell only 5 percent below the 1968 level.

The turnaround of 1970-71 was the sharpest on record. Thrift institutions again became competitive, as market rates plummeted while S&L interest ceilings were raised from 4¾ to 5 percent and thrift institutions moved the rates they paid to these new maximum levels. Savers responded dramatically, channeling a larger share of their expanded savings flow into savings deposits, and the institutions then used these funds to support a record homebuilding boom. But many ob-



servers, remembering recent history, continued to search for alternative ways to avoid such problems. In particular, the Commission on Financial Structure and Regulation (Hunt Commission) proposed the use of variable rates on mortgages to help alleviate the differential impact of rising interest rates on thrift-institutions' financial structures, so as to help stabilize the flow of funds available to housing. Last month, moreover, the Federal Reserve Board of Governors commented favorably on this technique, as did also the Chairman of the Federal Home Loan Bank Board in a recent speech.

### What is VRM?

As the term implies, a variable-rate mortgage (VRM) differs from the standard fixed-rate mortgage in that the contract interest rate may vary over the life of the loan. A VRM may assume either of two forms, although both entail changes in the interest component of the amortized loan.

The first type of VRM adjusts the monthly payment to reflect a change in the interest rate, with the maturity of the loan remaining the same. Consider a new \$20,000 mortgage loan with a 25-year maturity and an initial contract interest rate of 8 percent. The monthly payment (interest and principal) on such a loan would amount to \$154.40. But if, at the end of one year, the rate of interest fell to 7½ percent in response to a decline in other interest rates, the new monthly payment would be set at a level which would pay off the loan balance (\$19,737.80) over the remaining 24 years of the loan. The new monthly payment thereupon would fall to \$147.98 from the original \$154.40. A raise in interest rates of course would mean a higher rather than a lower monthly payment.

The second type of VRM adjusts the maturity of the loan to reflect a change in the interest rate, with the monthly payment left unchanged. In the above example, a constant

monthly payment, combined with a drop in the interest rate from 8 to 7½ percent after one year, would be sufficient to pay off the loan in 21 years, 6 months rather than the original 24 years. But, here again, a rise in interest rates would mean a longer rather than a shorter loan maturity.

A variable-rate mortgage essentially is an escalator-type agreement of the type widely used throughout the economy — in cost-of-living adjustments to wage and pension agreements, in rental-property contracts (especially for office buildings), and in welfare and alimony payments. (Many escalator agreements provide only for upward movements, however, while the VRM would provide for movements in both directions.) Commercial banks sometimes include escalator clauses in the loan agreements they make with business borrowers, and for that matter, the Home Loan Banks frequently attach escalator clauses to the advances they make to savings-and-loan associations.

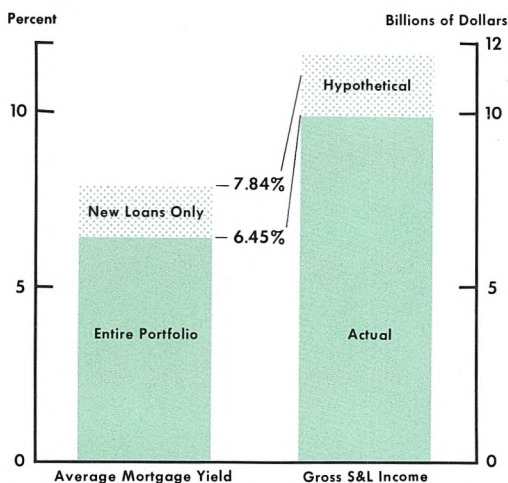
### What difference?

The variable-rate mortgage would have made a great difference to the thrift institutions if it had been utilized during the tight-money period of 1969. In that year, the S&Ls recorded a 7.84-percent average yield on the \$22 billion of *new* mortgage loans made, in contrast to the 6.45-percent yield on their entire mortgage portfolio of \$135 billion. The income from these new loans amounted roughly to \$890 million, but about twice as much more would have been earned on the books if it had been possible to adjust rates on *all* loans upward to the average charged on new loans. In that case, S&L gross income would have reached about \$11.7 billion instead of the \$9.9 billion actually earned.

This does not mean that any more funds would have been available to finance more housing (or that proportionately more houses would have been available and in demand to



**Higher rates under VRM would have meant boost in S&L income in '69**



be financed). The variable-maturity variant of the VRM would have yielded exactly the same cash flow to the thrift institutions as otherwise and, indeed, more of this would have been drained off in taxes on the higher income. Under the variable-payment variant, the thrift institutions would have received more funds flowing in on past loans, but at least part of this would be offset by increased demands for funds by some debtors hard pressed to meet their new higher mortgage payments. Even in the case of relatively wealthy debtors, at least some of the higher payments to thrift institutions on their mortgage loans might well be at the expense of funds that would otherwise have found their way into the financing of new mortgages.

**How widespread?**

In actuality, the variable-rate mortgage has received only limited acceptance in this country. A 1969 survey by the U.S. Savings and Loan League revealed that only 10 percent of its surveyed members had rate-adjustment clauses in their loan contracts, and no more than an additional 10 percent planned to employ them in the future. A

majority of those associations that actually used VRM's applied them to less than 20 percent of their loans, and a substantial part of these were commercial rather than residential mortgages.

A 1970 survey by the American Bankers Association showed that only 18 percent of the surveyed banks utilized VRM's, and in these too, their use was limited primarily to commercial properties. (VRM's were used in the financing of single-family housing in only five states—four of them in New England.) Again, half of those banks that actually used VRM's employed them in less than one percent of the mortgage loans they originated in 1969. In the West, commercial banks have utilized variable-rate loans only to a limited extent, while only a half dozen or so S&L's have actively written such loans. Apparently, the difficulty of reconciling the differing interests of borrowers and lenders has tended to limit its more widespread acceptance.

**Legal obstacles**

In addition, legal restrictions still impede the acceptance of the variable-rate mortgage throughout most of the nation. To protect borrowers, several states have limited the number of rate adjustments which can be made within any single year, and have required that the lender give the borrower 90 days' notice of any rate change—which in itself effectively limits the number of changes to four a year. California legislation requires that lenders employing a variable-rate contract provide for rate reductions on the same basis as rate increases; prohibits any more than semi-annual rate changes; limits the size of rate changes during any semiannual period to ¼ percent; and requires that partial or total loan prepayment be permitted without charge within 90 days of notification of a rate increase.

Other legal restrictions impede the spread of the VRM through their impact on either the length of maturities or the size of monthly

payments. Nationally chartered banks are prohibited from making real-estate loans with maturities exceeding 30 years, while all but four states have usury laws limiting contract rates on home mortgages. Ceiling rates in Twelfth District states range from 10 to 12 percent, but fifteen states elsewhere have rate ceilings of 8 percent or less. The Department of Housing and Urban Development recently modified the absolute prohibition against variable-rate clauses in FHA and VA loans, but while lenders are now authorized to reduce the contract rate on outstanding loans, they cannot subsequently raise rates to a level above that originally stipulated in the mortgage contract.

But whatever happens to these legal obstacles, the spread of the VRM may still be limited by doubts concerning the salability in the secondary market of a mortgage containing such a clause. Depending on their assessment of the future course of interest rates, investors may be reluctant to acquire mortgages that might turn out to carry a declining yield. It could also be argued, however, that the speculative nature of the VRM would enhance its attractiveness during periods when rates are low. In any event, the Hunt Commission has recommended the elimination of obstacles to the use of variable-rate mortgages (with appropriate safeguards to borrowers), as well as the inclusion of VRM's in the secondary-market operations of the Federal National Mortgage Association and the Federal Home Loan Mortgage Corporation. The FHLMC is now making its purchase commitments for multi-family mortgages on that basis.

### What reference rate?

Other questions arise concerning the choice of a reference rate to which the variable-rate mortgage would be tied. If the borrower is to share to an increasing extent in the risks of interest-rate changes, then the reference rate probably should be short-term,

since thrift institutions generally compete in the short-term market to attract funds. However, the lender should not be able to control the rate chosen. Also, for the sake of equity, it is argued, the reference rate should be well publicized, generally reflective of market forces, and yet not subject to extreme vola-

## Inflation

Between 1965 and 1970, the price of the average new home financed with a conventional mortgage increased by 40 percent, from \$25,000 to \$35,500, while the contract interest rate on the average home loan rose by 43 percent, from 5.76 percent to 8.27 percent. At the rate and terms which prevailed in 1965, the average loan on the \$25,000 home would have amounted to about \$18,575 and entailed monthly (interest and principal) payments of \$117. But at the rate and terms which prevailed in 1970, the average loan on the more costly home would have been about \$25,560 and entailed monthly payments of \$211 — an 80-percent increase, or 70 percent after allowance for an increase in average home size.

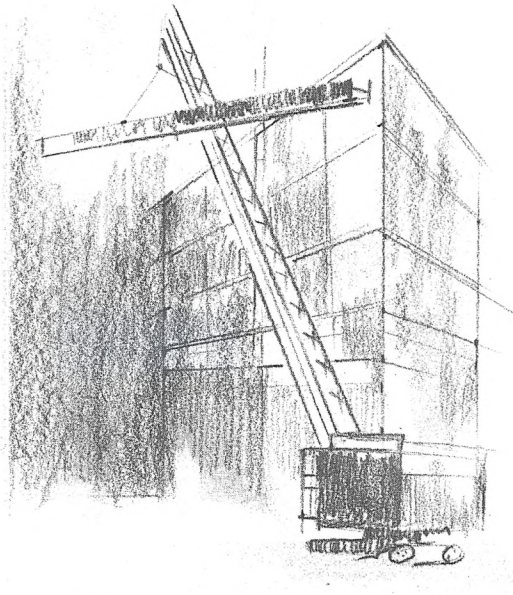
Rising interest rates thus were only one among many factors accounting for the sharply rising cost of housing over the 1965-70 period. Recognition of this fact has led many observers to argue that dealing with the underlying problem of inflation would reduce the need to expand the growing arsenal of compensatory devices designed to help housing.

tility or frequent change, if such a combination of criteria is not self-contradictory.

Volatility of the reference rate could indeed lead to over-frequent changes in the mortgage rate, and thus create unnecessary



costs and inconveniences for the lender and borrower alike, although this does not necessarily follow. A mid-year correction, for example, could be based on the average level of the reference rate over the preceding six months, and a change could then be made in mortgage rates only when the average reference rate changes by (say)  $\frac{1}{2}$  percentage point. With such provisions, the well-known Treasury bill rate, which otherwise could be considered too volatile, might qualify. Against the criterion of "neutrality"—that is,



freedom from direct control of either lender or borrower—the prime business-loan rate fails to qualify, and the same can be said for the Federal Home Loan Bank series on current mortgage-lending rates.

The long-term Treasury bond rate might be a more acceptable reference rate, since it is neutral in regard to lender or borrower influence, and is also relatively stable, with only 6 changes of  $\frac{1}{2}$  percent or more during the 1965-71 period. An even better choice might be the rate on Treasury intermediate-term (3-5 year) obligations, since it represents a reasonable compromise between the

long and short ends of the maturity spectrum. This rate is rather volatile, with 21 changes between 1966 and 1971, but the problem could be overcome by monthly, quarterly, or semiannual averaging of rate movements. In fact, a Federal Reserve staff study concludes that the rate on Treasury medium-term securities comes closest to meeting all the various criteria of desirability as a reference mortgage rate.

Another possible reference rate would be the cost to the lender of new funds—an index currently used by British building societies. This type of index, however, can be influenced by lenders' policies or by regulatory rate ceilings. Even so, California's Savings and Loan Commissioner has ruled that California S&L's using variable-rate mortgages must employ a reference rate of this type, by tying changes in their rates on past loans to the weighted average cost of their savings, borrowings, and advances from the Federal Home Loan Bank of San Francisco.

### How burdensome?

The VRM would involve a greater degree of sharing, between borrowers and lenders, of the risk to the liquidity of intermediaries from increases in interest rates over time, and would also facilitate the sharing that now takes place awkwardly and sporadically when interest rates decline. With the normal type of fixed-rate mortgage, borrowers bear none of the risk of interest-rate increases, all of which is borne by the intermediary lenders. The fixed-rate mortgage usually permits the borrower to refinance his loan (with some prepayment penalty) if interest rates decline, but it does not permit the lender to require the refinancing of low-rate loans if interest rates increase. Lenders, of course, can obtain by stiff prepayment penalties, some protection against the loss of certain contracted profits from borrowers' prepayment when rates decline. Some state-chartered S&L's in the West charge as much as six months' in-



interest on the unpaid balance, although practices vary considerably among individual banks and S&L's. In any case, the extended sharing that would be provided by VRM might still be considered a burden on the borrowers.

VRM supporters contend, however, that the borrowers' increased burden under such a plan would not really be too great, particularly if the borrower originally has a choice between a fixed- and variable-rate mortgage at initially different rates. Admittedly, average payments under a variable-rate formula would have risen sharply between 1966 and 1969, in a period of fast-rising interest rates (but not nearly so fast as average incomes actually rose), yet the possibility of lower rates before, within, and after this period, plus the likelihood of an initially lower relative rate, would provide at least some offset.

Critics argue, however, that the typical home owner, with a limited range of options in the credit markets, a limited ability to change his income, and a limited ability to forecast future changes in interest rates, has a limited capacity to absorb more risk. If he should assume higher monthly payments under a VRM, his susceptibility to default might increase disproportionately. If he should instead assume a longer maturity, he could be burdened with a 50-year or longer maturity. Such extensions would probably be unacceptable to the regulatory authorities or to the vast majority of home owners, even if maturities were to shorten again later on.

### Counter-cyclical impact

Supporters of the VRM contend that, to the extent that borrowers pay more for housing during an inflationary period because of rising VRM payments, they would tend to spend less for other purchases—thus, they would shift some of the burden of anti-inflationary policies from housing to other sectors of the economy. (Of course, they could also

save less, but the posted higher rates of interest in the market should tend in the direction of maintaining, if not increasing savings flows.) Conversely, during an economic slowdown, lower monthly payments would permit a greater proportion of household income to be released for the purchase of other goods and services, thereby stimulating other sectors of the economy. In that situation, too, an unemployed or underemployed homeowner would find his burden eased.

Of course, as critics claim, it is difficult to judge just how borrowers would adjust to changes in their monthly payments or in the maturity of their mortgage debt, or how savers would respond to VRM-related changes in yields on various investment instruments. Thus, during an inflationary period, some borrowers might adjust by spending less, and others by saving less, including those who would borrow more to finance a constant level of current expenditures.

### Strong enough impact?

In addition, critics wonder whether the adoption of variable rates would have a strong enough impact to offset the depressing influences on the mortgage market during periods of tight money. The additional funds that might have been forthcoming in 1969 from the application of a well-established variable-rate formula (variable-payment variant) to the S&L's *entire* mortgage portfolio would have financed only 90,000 new homes. Even if the demand for such an additional volume of new housing had been present in the market, and even assuming the same massive intervention by Federal housing agencies, this would have led only to a modest increase in housing starts over the 1968 level.

Alternatively, assuming an accommodative administration of regulatory rate ceilings, if those additional funds had been allocated completely to the payment of higher interest on savings deposits, the average rate could

have risen from 4.8 percent to about 6.0 percent. However, that rate still would have been substantially below the rates actually paid on Treasury bills and other market instruments during 1969, and the mammoth outflow of funds from the thrift institutions undoubtedly would still have occurred.

Critics also ask whether borrowers could have handled the steep increase in payments that would have followed from the execution of a variable-rate mortgage system (variable-payment variety) during the inflationary period of the late 1960's. For a borrower who acquired a \$20,000 25-year mortgage loan at 6.00 percent in 1966, and who then was faced with late 1969's average rate of 8.35 percent, monthly payments under a variable-rate formula would have risen from \$129 to \$158, or 22 percent.

Opponents of the variable-rate mortgage contend, in particular, that a wide difference exists between the conditions which might make the VRM most acceptable to the borrower and those which might be most acceptable to the lender. Lenders might be quite willing to accept a VRM when rates are low, and borrowers might be willing to accept it when rates are high, but the reverse certainly would not be true. Lenders would prefer to lock themselves into fixed-rate contracts when interest rates are high, so as to avoid the decline in income which would accompany a subsequent drop in interest rates. In contrast, borrowers would prefer to lock themselves in at low rates, so as to avoid the higher monthly payments or extended maturities which a subsequent increase in interest rates would entail.

### How to assess

Any assessment of the desirability of the VRM would depend upon the assumptions the analyst makes about the future course of interest rates over the balance of the mortgage loan. Given certain assumptions about the number and amount of changes

in interest rates in any specific time period, conclusions can be drawn about the relative impact on holders of variable-rate mortgages as opposed to holders of fixed-rate mortgages. However, no financial model has yet been devised which can accurately predict how borrowers, lenders, or savers will respond to the changes in the interest-rate structure associated with the widespread adoption of variable-rate mortgages, with or without an attendant elimination of regulatory ceilings on deposit rates. During the



tight-money period of 1969 and early 1970, prospective homebuyers might have borrowed more if they had been assured of the future possibility of lower monthly payments or shortened maturities, and if the funds had been available.

In the short-run, of course, even an exclusive reliance on the variable-rate mortgage for new mortgage loans would have only a marginal effect on the mortgage market, because new mortgages constitute only a small fraction of the total stock of mortgage loans outstanding. But if it were to become more widespread, a number of special incentives would probably be necessary to make the VRM acceptable to both borrowers and lenders. Borrowers might have to be offered some inducement such as a base rate lower than that prevailing on fixed-rate mortgages.



Conversely, lenders might have to be offered some attraction such as the right to hold relatively low reserves against VRM's.

### Vote of approval

The Federal Reserve Board of Governors addressed the various pros and cons of variable-rate mortgages in a recent report considering means of creating a more stable supply of housing credit. The report, prepared at the request of Congress' Joint Economic Committee, generally endorsed this approach, but emphasized that the VRM should be complementary to — rather than a substitute for — the traditional fixed-rate contract. The Board's report included these other proposals:

— Removal of interest-rate ceilings on Government-backed loans as well as the lifting of state usury ceilings, so as to ease mortgage-credit flows during tight-money periods;

— Eventual end of interest-rate ceilings on consumer time-and-savings deposits, to permit thrift institutions to compete better for funds when interest rates rise;

— Encouragement of more commercial-bank participation in the residential-mortgage market, through changes in Federal banking laws; and

— Presidential authority to alter the investment-tax credit within a specified range (perhaps from zero to 15 percent), so as to dampen business-spending demand during

inflationary periods and accelerate demand during business slowdowns.

The Board of Governors underlined the importance of a variable tax credit for business investment, in view of the fact that the business sector plays a particularly dominant role in the credit competition which tends to create shortages of housing funds during tight-money periods. This proposal by itself might go a long way toward correcting the conditions the VRM was designed to attack. If the Board's recommendations are adopted as the consistent set of proposals they were intended to be, more flexibility would be introduced into credit markets, in such a way as to moderate swings in the flow of funds into the housing market.

The Board emphasized, however, that "the most important single contribution that could be made to stability of housing production would be to obtain better control over the forces of inflation." This suggests the need for a more balanced use of the instruments of stabilization policy — especially, heavier reliance on fiscal tools such as the investment-tax credit — so as to avoid sharp fluctuations in interest rates and credit conditions. With greater stability in general credit conditions, both the supply of mortgage credit and the rate of housing construction should become more stable over time.

*Dennis Roth and Verle Johnston*

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