

Charts and Tables

New Estimates of Bank Deposits  
of Farmers

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# IPC Deposits

Billions of dollars

Dec.  
1960

Dec.  
1980

% Change  
1961-80

## Farmers (USDA series)

|                  |     |      |       |
|------------------|-----|------|-------|
| Demand           | 4.0 | 5.5  | + 35  |
| Time and savings | 2.9 | 8.8  | + 205 |
| Total            | 6.9 | 14.3 | + 106 |

## All IPC deposits

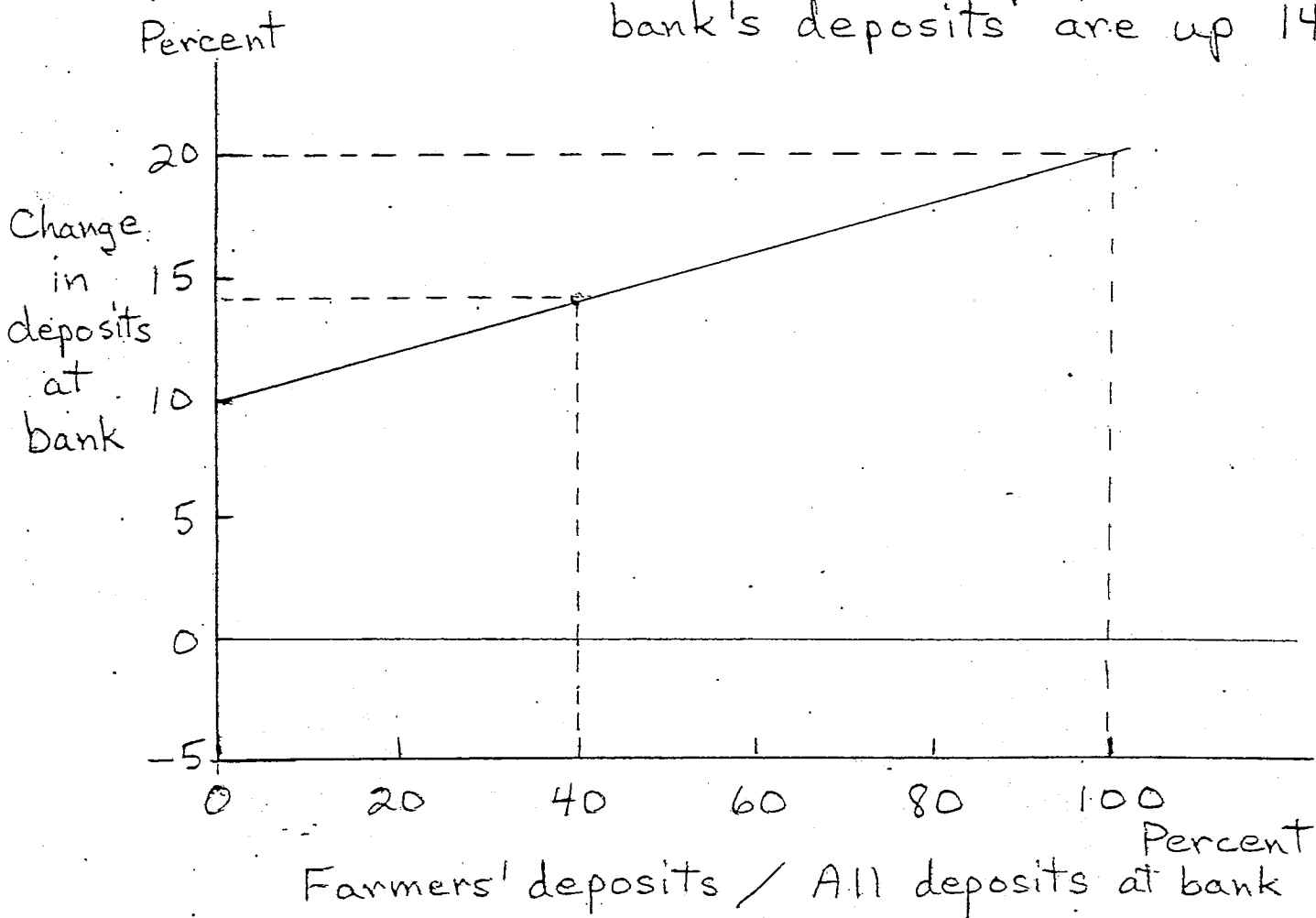
|                  |       |        |       |
|------------------|-------|--------|-------|
| Demand           | 133.4 | 332.9  | + 150 |
| Time and savings | 71.6  | 670.8  | + 837 |
| Total            | 205.0 | 1003.7 | + 390 |

# Underlying Principle

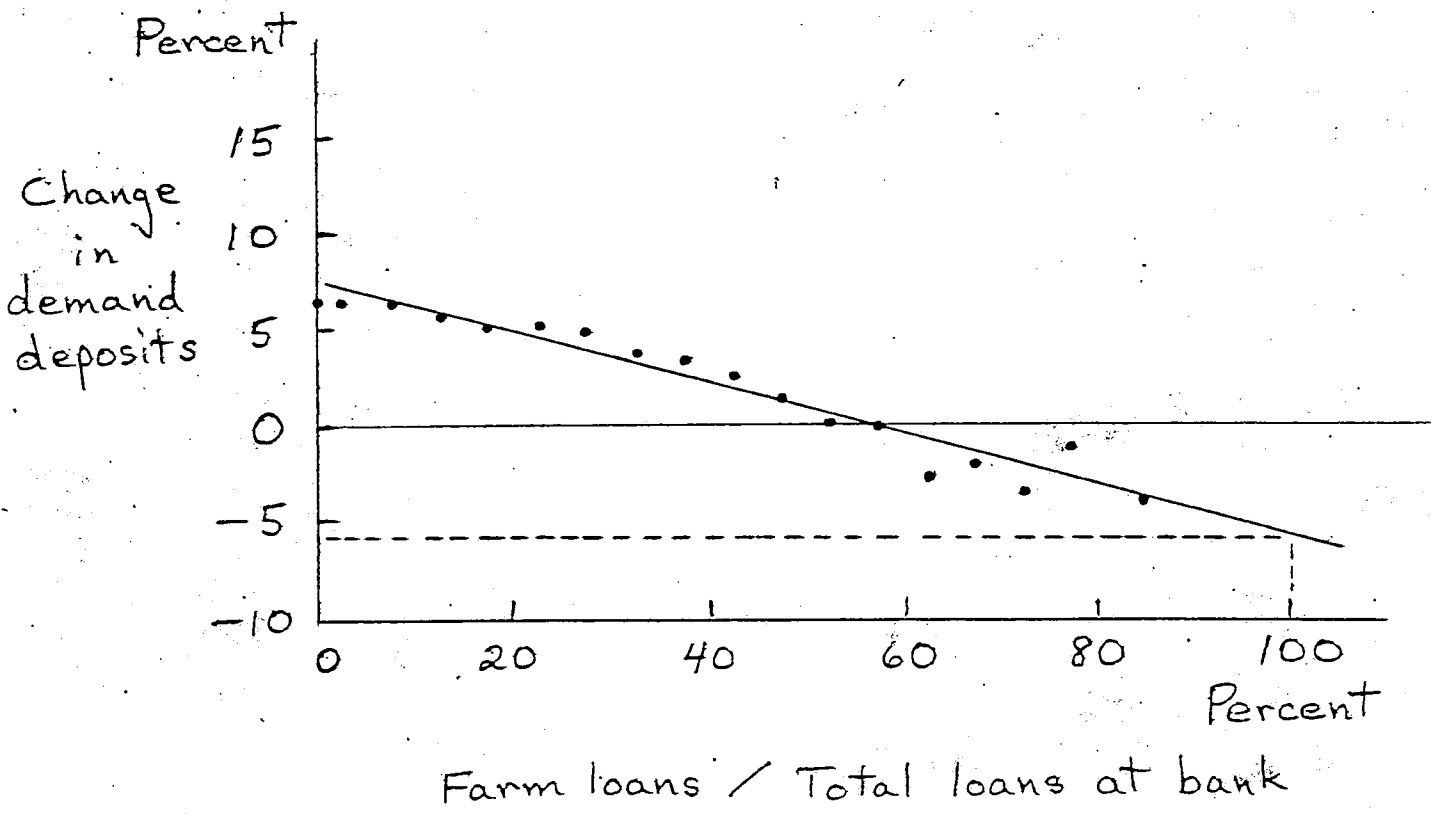
If deposits of farmers and nonfarmers change at different rates, then the deposit experience of each bank depends on its mix of farmer and nonfarmer deposits

Example: If farmers' deposits are up 20% and nonfarmers' deposits are up 10%

Then if 40% of a bank's deposits are farmers' deposits, the bank's deposits are up 14%



# Average experience at 1.8 classes of small banks Demand deposits, 1976



## Applying the Principle

to find the percentage change  
in farmers' deposits at all banks

The following data are known:

$Y$  = Percentage change in all deposits at each bank

$x$  = Farm loans / All loans at each bank,  
which is indicative of  
Farmers' deposits / All deposits

### Procedure

Estimate  $Y = f(x)$

$$Y = a + bx$$

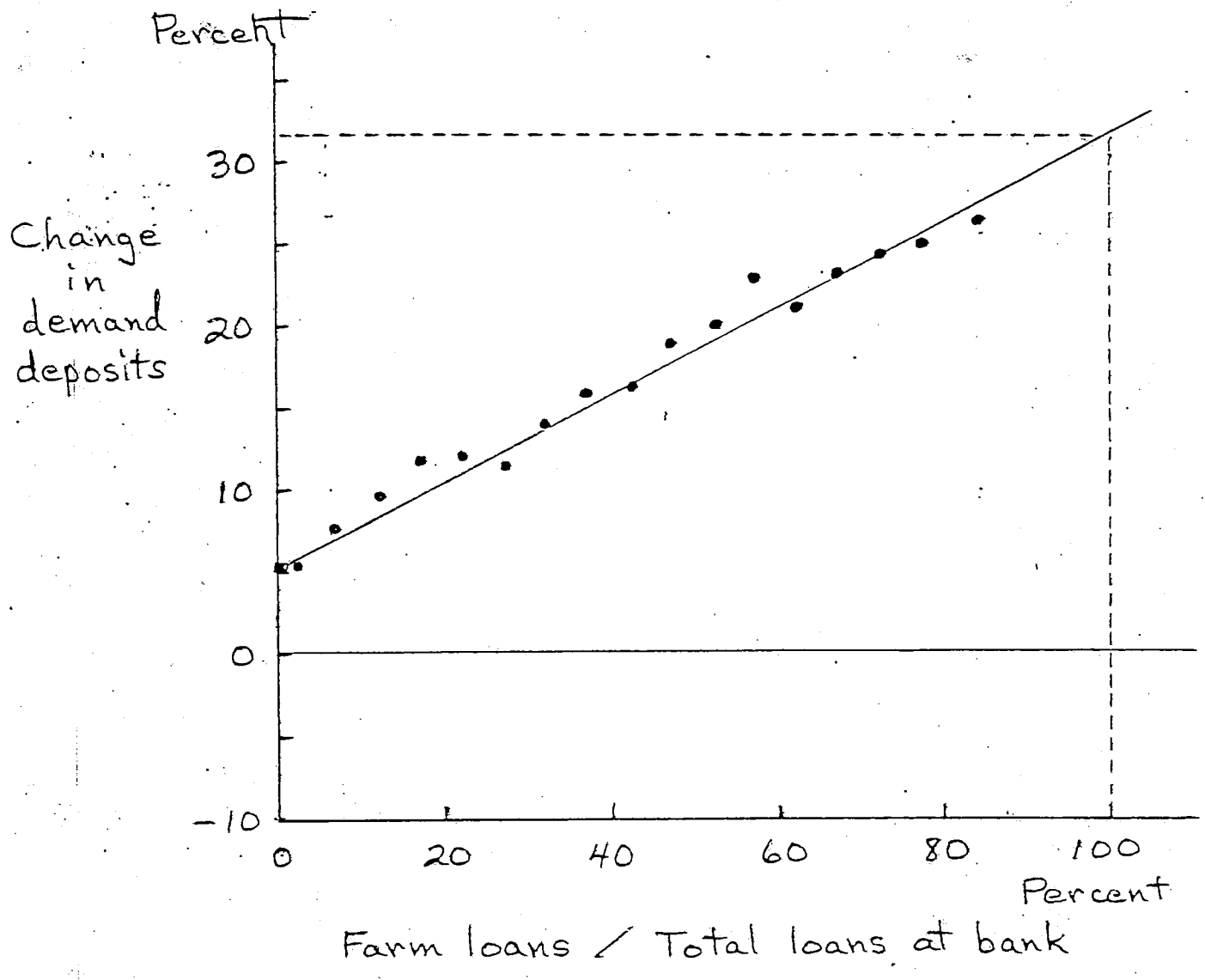
Substitute  $x = 1$  (or 100%) into the  
equation to obtain the estimated change  
in farmers' deposits.

To expedite the calculations, the regression  
equations were estimated from grouped data.

Banks with assets under \$500 million were  
divided into 18 farm-loan-ratio classes.

$Y$  and  $x$  were tabulated for each class,  
and the equations were estimated from  
these 18 observations.

# Average experience at 18 classes of small banks Demand deposits, 1973



# Transformation of $x$

$y$  = Percentage change in deposits at bank

$x$  = Farm loans / Total loans at bank

$$x' = x + x(1-x)$$

$$y = a + bx'$$

Examples of transformation:

If  $x = .85$

$$\begin{aligned}
 x' &= .85 + .85(1-.85) \\
 &= .85 + .85(.15) \\
 &= .85 + .1275 \\
 &= .9775
 \end{aligned}$$

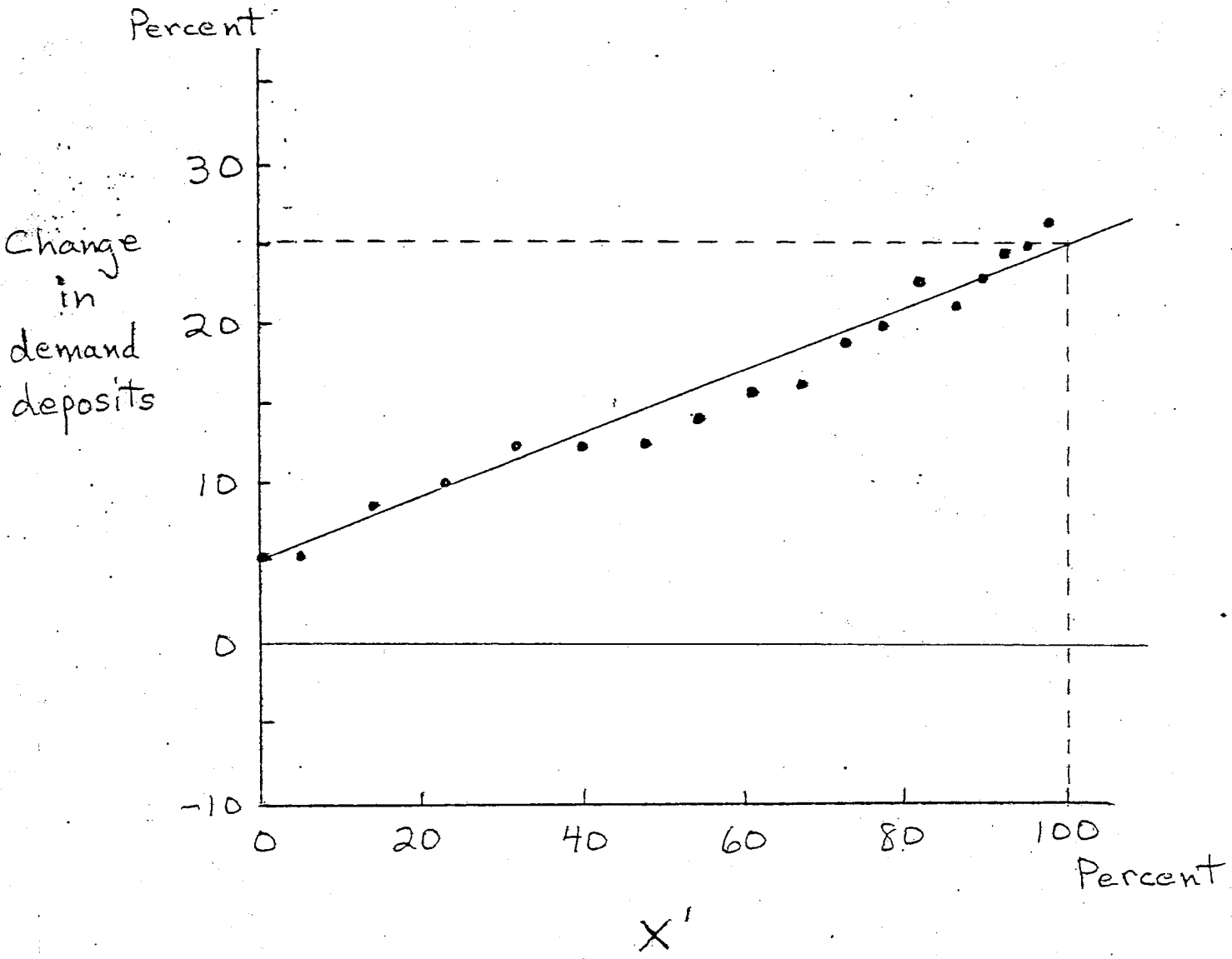
If  $x = .25$

$$\begin{aligned}
 x' &= .25 + .25(1-.25) \\
 &= .25 + .1875 \\
 &= .4375
 \end{aligned}$$

If  $x = 0$

$$x' = 0$$

# Average experience at 18 classes of small banks Demand deposits, 1973





# Percentage change in demand deposits at 18 classes of banks

Farm  
loan  
ratio  
(percent)

|         | 70 | 71 | 72 | 73 | 74 | 75 | 76 | 77 | 78 | 79* | 80* | 81* |
|---------|----|----|----|----|----|----|----|----|----|-----|-----|-----|
| Under 1 | 5  | 10 | 17 | 5  | 2  | 6  | 7  | 15 | 10 | 10  | 6   | 9   |
| 1-4     | 6  | 9  | 16 | 6  | 2  | 6  | 7  | 14 | 9  | 7   | 3   | 10  |
| 5-9     | 5  | 8  | 16 | 9  | 1  | 6  | 7  | 12 | 8  | 7   | 2   | 11  |
| 10-14   | 6  | 8  | 16 | 10 | 1  | 6  | 6  | 11 | 8  | 6   | 0   | 10  |
| 15-19   | 5  | 10 | 15 | 12 | 1  | 6  | 5  | 10 | 8  | 5   | 1   | 11  |
| 20-24   | 4  | 9  | 14 | 12 | 1  | 6  | 5  | 9  | 9  | 6   | 1   | 10  |
| 25-29   | 3  | 9  | 14 | 13 | 1  | 7  | 5  | 8  | 8  | 9   | -1  | 10  |
| 30-34   | 3  | 8  | 16 | 14 | 2  | 7  | 4  | 9  | 9  | 5   | 0   | 10  |
| 35-39   | 3  | 8  | 16 | 16 | 0  | 6  | 4  | 8  | 7  | 6   | 0   | 11  |
| 40-44   | 3  | 7  | 15 | 17 | 0  | 5  | 3  | 8  | 10 | 5   | 0   | 10  |
| 45-49   | 0  | 7  | 16 | 19 | -1 | 5  | 1  | 7  | 10 | 4   | -1  | 12  |
| 50-54   | 1  | 6  | 15 | 20 | 0  | 4  | 0  | 6  | 10 | 6   | -1  | 11  |
| 55-59   | 1  | 5  | 16 | 23 | 0  | 6  | 0  | 6  | 10 | 6   | -2  | 10  |
| 60-64   | 1  | 7  | 18 | 22 | -3 | 5  | -3 | 5  | 12 | 6   | -2  | 8   |
| 65-69   | 0  | 5  | 18 | 23 | 0  | 4  | -2 | 5  | 11 | 6   | -4  | 8   |
| 70-74   | -1 | 7  | 18 | 24 | -2 | 4  | -3 | 4  | 15 | 7   | -3  | 6   |
| 75-79   | 0  | 4  | 20 | 25 | -4 | 4  | -1 | 4  | 12 | 6   | -3  | 6   |
| 80+     | -2 | 5  | 20 | 27 | -3 | 4  | -3 | 5  | 13 | 5   | -4  | 7   |

\* Transactions deposits

# Demand deposits of farmers

|      | Percentage change |            | New series                     |
|------|-------------------|------------|--------------------------------|
|      | USDA series       | New series | Billions of dollars (Year-end) |
| 1960 | -6.9              |            | 4.1 (Last survey)              |
| 61   | .5                | 5.1        | 4.3                            |
| 62   | -2.0              | 1.2        | 4.3                            |
| 63   | -1.0              | 1.1        | 4.4                            |
| 64   | 2.0               | 2.1        | 4.5                            |
| 65   | 2.0               | 5.7        | 4.7                            |
| 66   | .0                | .8         | 4.8                            |
| 67   | 2.5               | 2.3        | 4.9                            |
| 68   | 2.8               | 6.0        | 5.2                            |
| 69   | 1.5               | 5.5        | 5.5                            |
| 70   | 2.1               | - .6       | 5.4                            |
| 71   | 2.2               | 5.7        | 5.7                            |
| 72   | 4.4               | 17.8       | 6.8                            |
| 73   | 4.0               | 25.1       | 8.5                            |
| 74   | -2.2              | -1.9       | 8.3                            |
| 75   | 2.5               | 4.2        | 8.7                            |
| 76   | 1.5               | -2.4       | 8.5                            |
| 77   | 2.8               | 3.9        | 8.8                            |
| 78   | 2.2               | 11.6       | 9.8                            |
| 79   | 2.1               | 5.2 *      | 10.3 *                         |
| 80   | 1.0               | -3.6 *     | 9.9 *                          |
| 81   |                   | 8.3 *      | 10.8 *                         |

\* Transactions deposits

# Deposit ratios, 1961

| Farm loan ratio (percent) | Demand deposits as percentage of total deposits | Time deposits as percentage of time and savings deposits |
|---------------------------|---|--|
|---------------------------|---|--|

|         |    |    |
|---------|----|----|
| Under 1 | 59 | 8  |
| 1-4     | 60 | 9  |
| 5-9     | 59 | 8  |
| 10-14   | 55 | 14 |
| 15-19   | 48 | 13 |
| 20-24   | 58 | 14 |
| 25-29   | 61 | 19 |
| 30-34   | 60 | 20 |
| 35-39   | 59 | 20 |
| 40-44   | 63 | 26 |
| 45-49   | 66 | 23 |
| 50-54   | 67 | 27 |
| 55-59   | 67 | 31 |
| 60-64   | 67 | 33 |
| 65-69   | 69 | 33 |
| 70-74   | 68 | 39 |
| 75-79   | 69 | 42 |
| 80+     | 74 | 45 |

Farm  
loan  
ratio  
percent)

# Percentage change in savings deposits at 18 classes of banks

|         | 70 | 71 | 72 | 73 | 74 | 75 | 76 | 77 | 78 | 79* | 80* | 81* |
|---------|----|----|----|----|----|----|----|----|----|-----|-----|-----|
| Under 1 | 7  | 15 | 12 | 5  | 7  | 18 | 24 | 12 | 1  | -11 | -7  | -6  |
| 1-4     | 6  | 14 | 14 | 6  | 7  | 18 | 24 | 12 | 3  | -9  | -8  | -7  |
| 5-9     | 6  | 14 | 15 | 8  | 9  | 18 | 23 | 13 | 4  | -8  | -7  | -8  |
| 10-14   | 6  | 12 | 14 | 10 | 9  | 18 | 23 | 13 | 3  | -9  | -8  | -9  |
| 15-19   | 6  | 15 | 17 | 8  | 10 | 19 | 24 | 13 | 5  | -9  | -7  | -10 |
| 20-24   | 7  | 14 | 16 | 12 | 12 | 19 | 23 | 13 | 6  | -9  | -7  | -10 |
| 25-29   | 5  | 17 | 16 | 11 | 12 | 21 | 24 | 12 | 6  | -8  | -6  | -12 |
| 30-34   | 8  | 16 | 15 | 15 | 15 | 22 | 23 | 14 | 8  | -11 | -8  | -12 |
| 35-39   | 7  | 15 | 16 | 14 | 15 | 23 | 25 | 13 | 6  | -9  | -8  | -12 |
| 40-44   | 8  | 17 | 21 | 18 | 16 | 23 | 24 | 14 | 8  | -9  | -8  | -13 |
| 45-49   | 8  | 14 | 15 | 18 | 17 | 24 | 23 | 13 | 8  | -9  | -8  | -17 |
| 50-54   | 8  | 16 | 18 | 18 | 18 | 23 | 27 | 14 | 8  | -11 | -6  | -16 |
| 55-59   | 6  | 13 | 23 | 26 | 21 | 30 | 24 | 14 | 10 | -10 | -8  | -16 |
| 60-64   | 6  | 17 | 22 | 18 | 20 | 26 | 24 | 13 | 8  | -10 | -5  | -19 |
| 65-69   | 8  | 14 | 28 | 24 | 25 | 24 | 29 | 13 | 11 | -10 | -8  | -18 |
| 70-74   | 9  | 14 | 22 | 31 | 26 | 28 | 26 | 16 | 11 | -13 | -6  | -16 |
| 75-79   | 11 | 7  | 27 | 23 | 23 | 28 | 28 | 16 | 15 | -12 | -5  | -18 |
| 80+     | 6  | 10 | 24 | 30 | 24 | 24 | 20 | 16 | 14 | -11 | -6  | -17 |

\* Excludes transactions accounts

# Savings deposits of farmers

New series

|      | Percentage<br>change | - Billions<br>of dollars<br>(Year-end) |
|------|----------------------|--|
| 1960 |                      |  |
| 61   |                      | .7                                     |
| 62   | -2.1                 | .7                                     |
| 63   | 4.9                  | .8                                     |
| 64   | 7.8                  | .8                                     |
| 65   | 7.6                  | .9                                     |
| 66   | 1.8                  | .9                                     |
| 67   | 2.0                  | .9                                     |
| 68   | -.4                  | .9                                     |
| 69   | -.1                  | .9                                     |
| 70   | 8.3                  | 1.0                                    |
| 71   | 13.3                 | 1.1                                    |
| 72   | 23.8                 | 1.4                                    |
| 73   | 26.0                 | 1.7                                    |
| 74   | 24.1                 | 2.2                                    |
| 75   | 26.9                 | 2.7                                    |
| 76   | 25.3                 | 3.4                                    |
| 77   | 14.9                 | 4.0                                    |
| 78   | 12.1                 | 4.4                                    |
| 79   | -11.0 *              | 3.9 *                                  |
| 80   | -6.5 *               | 3.7 *                                  |
| 81   | -20.7 *              | 2.9 *                                  |

\* Excludes transactions accounts

Percentage change in time deposits at 18 classes of banks

| Farm loan ratio (percent) | 70 | 71 | 72 | 73 | 74 | 75 | 76 | 77 | 78 | 79 | 80 | 81 |
|---------------------------|----|----|----|----|----|----|----|----|----|----|----|----|
| Under 1                   | 22 | 20 | 14 | 22 | 10 | 9  | 8  | 11 | 22 | 33 | 27 | 22 |
| 1-4                       | 23 | 21 | 16 | 18 | 12 | 9  | 9  | 11 | 17 | 28 | 24 | 19 |
| 5-9                       | 19 | 19 | 15 | 17 | 12 | 11 | 11 | 11 | 16 | 26 | 24 | 18 |
| 10-14                     | 17 | 20 | 15 | 15 | 13 | 12 | 12 | 11 | 14 | 26 | 25 | 17 |
| 15-19                     | 17 | 17 | 13 | 17 | 12 | 13 | 11 | 11 | 15 | 26 | 23 | 18 |
| 20-24                     | 17 | 19 | 16 | 15 | 13 | 13 | 12 | 12 | 13 | 24 | 23 | 19 |
| 25-29                     | 16 | 18 | 14 | 17 | 14 | 13 | 12 | 10 | 14 | 24 | 23 | 19 |
| 30-34                     | 15 | 18 | 17 | 16 | 13 | 13 | 12 | 11 | 12 | 25 | 23 | 17 |
| 35-39                     | 14 | 19 | 15 | 16 | 13 | 15 | 12 | 11 | 12 | 24 | 23 | 17 |
| 40-44                     | 15 | 16 | 13 | 15 | 13 | 13 | 13 | 10 | 11 | 23 | 24 | 18 |
| 45-49                     | 13 | 15 | 16 | 16 | 12 | 14 | 11 | 11 | 11 | 22 | 23 | 18 |
| 50-54                     | 14 | 17 | 16 | 16 | 13 | 14 | 11 | 10 | 11 | 23 | 24 | 17 |
| 55-59                     | 14 | 17 | 14 | 16 | 14 | 12 | 9  | 10 | 12 | 22 | 24 | 16 |
| 60-64                     | 14 | 17 | 15 | 16 | 15 | 14 | 11 | 9  | 11 | 23 | 25 | 19 |
| 65-69                     | 14 | 17 | 13 | 16 | 15 | 13 | 10 | 9  | 10 | 20 | 24 | 18 |
| 70-74                     | 14 | 16 | 15 | 16 | 15 | 13 | 10 | 9  | 11 | 23 | 23 | 18 |
| 75-79                     | 23 | 15 | 13 | 17 | 15 | 12 | 9  | 8  | 11 | 21 | 24 | 18 |
| 80+                       | 16 | 17 | 15 | 18 | 17 | 15 | 11 | 8  | 9  | 21 | 24 | 19 |

# Time deposits of farmers

New series

|      | Percentage<br>change | Billions<br>of dollars<br>(Year-end) |
|------|----------------------|--------------------------------------|
| 1960 |                      |                                      |
| 61   |                      | .7                                   |
| 62   | 56.9                 | 1.1                                  |
| 63   | 21.7                 | 1.4                                  |
| 64   | 19.2                 | 1.6                                  |
| 65   | 17.4                 | 1.9                                  |
| 66   | 15.0                 | 2.2                                  |
| 67   | 18.9                 | 2.6                                  |
| 68   | 23.0                 | 3.2                                  |
| 69   | 19.0                 | 3.8                                  |
| 70   | 14.2                 | 4.4                                  |
| 71   | 15.8                 | 5.0                                  |
| 72   | 14.7                 | 5.8                                  |
| 73   | 15.9                 | 6.7                                  |
| 74   | 15.2                 | 7.7                                  |
| 75   | 14.2                 | 8.8                                  |
| 76   | 10.9                 | 9.8                                  |
| 77   | 8.8                  | 10.6                                 |
| 78   | 9.3                  | 11.6                                 |
| 79   | 20.5                 | 14.0                                 |
| 80   | 23.5                 | 17.3                                 |
| 81   | 17.6                 | 20.4                                 |

# Time and savings deposits of farmers

|      | Percentage change |               | New series<br>Billions<br>of dollars<br>(Year-end) |
|------|-------------------|---------------|--|
|      | USDA<br>series    | New<br>series |  |
| 1960 | -1.6              |               | *  |
| 61   | 2.1               |               | 1.5  |
| 62   | 11.5              | 26.8          | 1.8  |
| 63   | 6.0               | 15.1          | 2.1  |
| 64   | 6.8               | 15.1          | 2.4  |
| 65   | 8.0               | 14.1          | 2.8  |
| 66   | 8.0               | 10.8          | 3.1  |
| 67   | 10.0              | 14.0          | 3.5  |
| 68   | 8.5               | 16.9          | 4.1  |
| 69   | 6.1               | 14.8          | 4.7  |
| 70   | 7.6               | 13.1          | 5.3  |
| 71   | 9.6               | 15.3          | 6.2  |
| 72   | 9.0               | 16.3          | 7.2  |
| 73   | 9.5               | 17.8          | 8.5  |
| 74   | -7.8              | 17.0          | 9.9  |
| 75   | 6.0               | 17.0          | 11.6   |
| 76   | 4.0               | 14.3          | 13.2   |
| 77   | 3.0               | 10.4          | 14.6   |
| 78   | 2.9               | 10.1          | 16.1   |
| 79   | 2.7               | 11.8          | 18.0   |
| 80   | 2.8               | 16.9          | 21.0   |
| 81   |                   | 10.9          | 23.3   |



# IPC Deposits

Billions of dollars

Dec.

Dec.

% Change

1961

1981

1962-81

## Farmers (New series)

|                  |     |        |        |
|------------------|-----|--------|--------|
| Demand           | 4.3 | 10.8 * | + 151  |
| Time and savings | 1.5 | 23.3 * | + 1501 |
| Total            | 5.8 | 34.1   | + 492  |

## All IPC deposits

|                  |       |         |       |
|------------------|-------|---------|-------|
| Demand           | 141.9 | 372.4 * | + 162 |
| Time and savings | 82.4  | 726.6 * | + 781 |
| Total            | 224.3 | 1099.1  | + 390 |