

perfect flexibility where circumstances are such as to make it available, that is, in the cities and commercial districts. Deposit currency is not available in the less thickly settled agricultural regions. It is from this part of the country that the demand for an elastic bank note currency comes.

The cause of the inelasticity of the national bank circulation is then shown. The elasticity has been legislated away. The circulation expands or contracts in response to changes in the laws or in the condition of the market for United States bonds, but in no case does the volume of notes bear any necessary relation to the need for credit currency.

The results of this defect in our bank note currency upon the business of the country are serious. Every fall there is a demand for more currency to enable the country to harvest and move the crops. No statement of the exact amount needed for this purpose is possible. A rough estimate may be made, however, by studying the experience of Canada, whose seasonal demand for currency is of the same nature as our own, but whose banking system allows the volume of notes to expand and contract freely in response to the demand. The Canadian bank note circulation expands and contracts annually by about \$15,000,000, a variation of about 30 per cent. of the minimum. It is possible to show roughly the relative magnitude of the crops in Canada and the United States. In 1901 the area devoted to the leading cereals (corn, wheat, oats, rye, barley, and buckwheat) was 176,881,331 acres in the United States, and 11,263,160 acres in Canada. The yield was 3,163,192,526 bushels and 262,034,912 bushels, respectively. The acreage in the United States was 15.7 times, and the yield 12 times, that of Canada. The addition of other less important crops does not materially alter these ratios, and we have also the important tobacco crop of the United States, about seventy-five times that of Canada, and the cotton crop, amounting to ten and a half million bales and valued at \$418,000,000, to which nothing in Canada corresponds. The total value of "field crops" in Canada in 1901 was \$194,953,420. The value of the corresponding crops in the United States (with certain omissions) is estimated at \$2,505,407,190, or about thirteen times the figure for Canada.

This result is, of course, only a rough approximation. However, we are not seeking a mathematically accurate result, but only a general basis for comparison of the currency needs of the two countries. The conclusion that the annual harvests of the United States are ten to fifteen times those of Canada is certainly a safe one. The Canadian circulation expands each fall by about \$15,000,000. Assuming that the amount of extra currency needed is roughly proportional to the size of the crops, it follows that the United States ought to have at least \$150,000,000 of extra currency every fall. Various writers have estimated this need at from \$150,000,000 to \$250,000,000, and the above calculation seems to justify these estimates.

We now have the situation before us. Every fall there goes out the cry for extra currency. At least \$150,000,000 ought to be forthcoming to meet the need. But where is it to come from? As we have seen, no element of our monetary system possesses the necessary elasticity except bank deposits. But this is exactly the situation where deposits will not do. The need ought to be supplied by bank credit, but the credit must be in the form of notes, not deposits.

The only possible alternative follows. The extra business of the fall must be done with practically no increase of the country's currency. The crops must be handled by means of money taken from other parts of the country, whether they can spare it or not. During the period of easy money in the spring, the country banks habitually deposit part of their reserves in banks situated in the reserve cities. A large part of these sums eventually finds its way into the money markets of New York and other eastern cities, where a low rate of interest is paid to outside banks for such deposits. With the beginning of the harvest season, therefore, there comes a demand from the country banks for the return of these deposits. The movement of currency out of the national banks of the reserve cities at this season of the year frequently amounts to as much as fifty millions. In New York City alone, the clearing house banks held \$284,000,000 of "lawful money" during the week ending July 28, 1906. Their average holdings

during the week ending December 8 were \$239,000,000, a loss of \$45,000,000. Similarly in 1905, these banks lost \$68,000,000 between July 29 and December 9, and in 1904, \$72,000,000 between August 20 and December 17. These funds, obtained from the country banks, have been loaned out by the eastern banks, or made the basis for deposits. Loans must now be called in and deposits contracted. The one part of our monetary system which is elastic is thus rudely forced to contract at the very season when the country's need for currency is the greatest. Hence the annual money stringency in the eastern cities. The excess of money in the spring with the attendant very low rates of interest is an encouragement to speculation, and in the fall the violent contraction is a hard blow to speculators and accounts for the enormous rate on call loans which is witnessed every fall on the New York money market.

Another defect is next described.

Any correct system of credit currency must be based on a foundation of gold. This is the case with deposits. Under proper banking methods, deposits cannot expand without a proportional increase of the gold reserves of the banks. This furnishes the natural and necessary check to inflation. Our bank notes, however, have no such connecting link with the business and the monetary stock of the world. The basis of the American bank note currency is the government debt, the very worst kind of foundation. There is practically no limit to the inflation or contraction of the note issue which may be caused by changes in the national debt, utterly regardless of business conditions or the money supply of the country. Thus between April 23, 1881, and October 2, 1890, the circulation of national banks declined from \$320,759,472 to \$122,928,085, a decrease of \$197,831,387, or 62 per cent. And yet this decade was marked by large growth in population and wealth, and by remarkable industrial expansion and business activity. The business expansion was attended by large gains in every other important item in the national banks' balance sheet. Bank capital stock increased 43 per cent.; surplus funds increased 82 per cent.; loans and discounts, 100 per cent.; lawful money, 87 per cent.; and total resources, 59 per cent. Individual deposits rose from \$791,555,060 to \$1,561,845,175, an increase of 98 per cent. The number of banks increased from 2,075 to 3,540, or 71 per cent. Yet with all this large growth of banking facilities, the note circulation alone declined by nearly two-thirds. The reason is not far to seek. The government was using part of its enormous surplus income to pay off its debt. The net public debt was reduced from \$1,996,000,000 in 1879 to \$891,000,000 in 1890, a reduction of \$1,105,000,000 (more than half the debt) in eleven years, something without parallel in the history of public finance. This meant the reduction by half of the bonds available to secure national bank circulation and a great rise in market value of those that were left. Four per cents. of 1907 rose from 103-113 in 1880 to 125-130 in 1888. The inevitable result was the decline of circulation.

After this the great increase in the national bank note circulation from \$109,358,383 on June 30, 1890, to \$597,212,063 on March 30, 1907, is explained. The trebling of the circulation was due to legislation rather than to the prosperity and business expansion.

The grave danger, now existing, that the issue of Panama canal bonds will bring about a further heavy increase in the volume of bank notes, possibly producing something akin to paper money inflation is pointed out, and is followed by an interesting description of the working of the Suffolk Bank system of asset currency in New England during the twenty years immediately preceding the civil war.

The essential features of the Suffolk Bank system are familiar. Starting in a small way in 1813, the system grew up gradually and in spite of much bitter opposition, till in 1840 it was in smooth running order, controlling the circulation of practically all the banks in the New England States. The arrangement between the Suffolk Bank of Boston and the other New England banks was as follows: each bank placed with the Suffolk Bank a permanent deposit of \$2,000 or more. In consideration of this deposit the Suffolk Bank redeemed in specie at par any of the notes