#### FEDERAL RESERVE BOARD

#### WASHINGTON

December 3, 1917.

When the United States joined in the war against Germany in April of this year, the cash reserves against combined note and deposit liabilities of the Federal Reserve System were 83%. At the end of November they were about 63.2% (see memo. No. 1). This means that the financial operations of the Government, covering loans to the aggregate of mbout \$6,500,000,000 during the period from A pril to Nevember 30, have brought about a reduction in reserves of about 21%. We must bear in mind, however, that full payment for the second Liberty Loan has not yet been completed (the last installment not being due until January 15th and about \$1,400,000,000 being still paid by credit and about \$650,000,000 being still on deposit against certificates of indebtedness sold and included in the above \$6,500,000,000). It is quite possible, therefore, that our reserves have not yet reached their lowest point in connection with the payment of this loan, though the paying off of the Certificates of indebtedness will liquidate some of the loans of the Federal Reserve Banks and thus counteract to a certain extent demands for further loans from them.

If between A pril 6th and November 30th, 1917, there had not been an increase of \$149,000,000 in the free gold holdings of the Federal Reserve System (see Memo No. 2) the reserve percentage would have dropped by a further 5.6% to 57.8%.

It is to be hoped, and it must be our serious concern, that between now and the next Liberty Loan campaign the reserve During the previous campaign percentage will again be increased. it dropped down from 81.0% to 71.4%/and then recovered to 82% in A ugust (see memo No. 3). It is too early to attempt to prognosticate how fast and how far the reserve strength will recover this time, but if we consult the charts (Nos. 4 and 5) showing similar developments in the Bank of England, the Banque de France, the Reichsbank and the Bank of Russia, we find that we must be prepared for a continuous rise in the liabilities and a continuous fall in reserves of our Federal Reserve Banks. Indeed, we will perceive that in European central banks in most cases rise and fall show a fatal acceleration with each successive year. The German Reichsbank's chart shows most clearly the lines on which the Federal Reserve System's chart is likely to develop; it shows at the same time the dangers that are facing us if we do not move cautiously.

discounted, including treasury bills and advances) seven peaks indicating the large increases in loans and discounts accompanying the payments for each successive loan. Within one month after reaching the peak of the load there follows liquidation bringing the curve down to about the previous level; but we find that this level rises between loans so that each successive ive starting point is higher than the previous one, and between the first and the last starting points there is a difference of

over \$2,000,000,000, and the reserve has gone down from 36.7% to 15.8%. In France from 59.5% to 14.1%; Russia from 60.2% The Bank of England's chart does not show the real picture because about \$910,000,000 of small treasury circulating notes are not included (Greenbacks to all intents and purposes, secured by only 14.9% of gold - memo. No 6) and the deposits of the Bank of England, which play a large part in England's reserve position must be considered. The Bank of England's reserve percentage dropped from 39.4% to 27.1% (if we include the \$931,000,000 Treasury notes it drapped to about 20.5% since the beginning of the war. But we must bear in mind that England, from the beginning of the war, drew on the United States first for gold and later on for credit. Without the approximately \$4,000,000,000 (\$1,700,000,000 securities sold and \$2,500,000,000 in direct loans) which England thus secured from the United States, Sterling exchange long since would have collapsed like Russian and Italian exchange and England, like those countries, would be practically on a paper basis today. France would be in the same condition had it not been for our assistance unless, indeed, these two countries should have been able to continue the war without importations from us. (In spite of our assistance, France's condition appears to be a critical one - see memo. No. 7)

I mention the experiences of France and England only because

I am seriously alarmed by the thought of what will be our condi
tion when our gold reserve should reach the danger point, when our

currency should become seriously depreciated - with consequent

extreme increases in prices - and when our power of expansion on any reasonably safe basis should have come to an end. When we reach that point it will mean a catastrophe because, unlike England and France, we have nobody who will stand behind us and bolster up our credit.

How soon will we reach that point?

It is too early to venture any guess as to our ability to liquidate the investments of our Federal Reserve Banks, thereby regaining our strength before the issue of the next Liberty Loan. It is not too early, however, to sound a word of warning and to ascertain what means we have to arrest a development which, if shown to exist, might prove disastrous.

If experience should show that our reserve power is dwindling from one loan to another by anything like 15%, the second or third following loan would bring us face to face with a critical situation. What means of protection are there available to the Federal Reserve Banks? And what else can there be done to ward off a too rapid decline of our banking strength?

(1) The Federal Reserve Banks, by raising their rates, will have to try to liquidate a substantial portion of their investments.

The difficulty in the way of carrying such policy into effect is the danger of creating a financial disturbance which might make things worse and affect unfavorably the large loan operations of the Government. We must, therefore, move cautiously and cannot force matters beyond certain limits.

- (2) The Federal Reserve Banks must try to increase their gold heldings by continuing to withdraw gold certificates from circulation and substitute Federal reserve notes. This process will become more and more difficult as the amount of outstanding certificates becomes smaller and smaller.
- (3) Federal Reserve Banks must continue their efforts to secure gold and gold certificates from the vaults of the banks. But we have drawn heavily on that source of supply and it will be more difficult in the future than in the past to gain gold from that quarter.
- (4) We might try to get gold from abroad. Can we get it?

  It would be very interesting to find out what happened to the Russian and French gold in London. Is it impossible to get England to release... some portion of that gold, provided it is available and necessary?
- (5) The Feleral Reserve Banks must try to reduce their "float" (the amount invested in checks and transfers) by raising the rate of interest upon which these transactions are based and by trying, if at all possible, further to reduce the double circle that money describes when paid in by the banks for account of the Government and paid out again by the Government.
- (6) We must bend every effort to prevent permanent corporate financing, camouflaged as commercial paper, from creeping into the Federal Reserve Banks. The securities market being in a most unsatisfactory condition, corporations will try to create securities

in form available for investment by Federal Reserve Banks; or amendments will be recommended with the object of permitting Federal Reserve Banks to lend on corporate securities. It is most important that some machinery be created (a Government corporation such as we have discussed) to relieve the Federal Reserve Banks from additional pressure from these directions.

vested in Government securities. The Federal Reserve Banks are permitted to convert their one year notes and other holdings of Government bonds into the 3% conversion bonds, only. These bonds sell at present at about 86% and the amounts invested can not therefore be liquidated at this time. If Federal Reserve Banks were permitted (with the approval of the Secretary of the Treasury) to convert their holdings into whatever bonds the Treasury issues from time to time, they could free themselves of these investments.

These are palliative measures, necessar; and important, indeed, but they will not adequately remedy the situation if it should be shown that we are placing Government securities faster than the country is able to absorb them, either because the country does not yet save enough or because we are moving too fast - or both.

I need not go into the question of savings, except to say that if a Government corportation (mentioned under 6) should be established and Congress should empower the Presidnet to license

all public sales of comporate securities - the President vesting this power in the board of said corporation - waste by States and municipalities could be checked and expansion by sale of securities could be controlled.

Our main concern, however, must be as to the speed with which we are moving. We must be certain that we have not started upon a three mile run at a thousand yard pace. Otherwise, we are sure to get "winded" and to get knocked out. In this connection the question is a burning one, whether it is possible, without endangering our chances of victory, to bring the military and raval program of the United States and her allies into a scope that will enable us to be quite certain that financially we can hold out even if the war should continue for several years.

People talk about the marvellously increased saving power of the country. But this impressive increase is caused by increased prices and increased wages (moving in a vicious circle). And as these increase the amount that the Government must borrow increases and the value of the dollar decreases.

Issuing billions for perishable goods (and, worse than that, perishable goods that destroy things of permanent value) creates inflation; it creates increased deposits and circulation and increased loans based upon inflated values (except stocks and bonds which go down) and thereby creates a demand for increased reserves.

Increased reserves in turn are created by increased borrowing

from Federal Reserve Bank, (Table 3, showing increase of deposits and loans since 1914, shows that loans have increased by 40.6% and ... deposits by 34.5%, both having increased by about \$2,500,000,000. But investments during that period have increased by 68.5%, from \$1,914,-000,000 to \$3,227,000,000, and this greater increase of loans and investments - 47% against increase of deposits of 34.5% - is in itself a sign of a critical development that calls for close watching). This process of inflation and the gradual weakening of our reserves can not be entirely avoided. It is the necessary consequence of extended war financing. War expenses and Government loans must, however, remain fairly nearly within the limits of what can be raised by taxation and absorbed by savings between one large Government loan and the subsequent one. If loans are raised much in excess of that limit, Bovernment bonds must be carried in increasing amounts by bank loans and these loans, and ultimately the Government bonds themselves, or direct advances to the Government, will creep into the Government banks, causing inflation, sapping the gold reserves and bringing about a critical financial and economic situation, and ultimate disaster. The charts of Russia and France tell their own stories in this respect. (I have no doubt Italy and Austria would show similar conditions).

The speed at which we are proceeding is unparalleled. Within one year, 1918, it is estimated that we are to raise about \$19,000,000,-000, of which \$15,000,000,000, by loans; while England, it is

estimated has raised by loans an average of \$6.725,000,000 per year, France \$4,370,000,000, Germany \$5,469,000,000, Russia \$5,000,000,000, (See memos. 9 to 12); and, as stated before, these countries could resort to other financial markets in order to strengthen their position, while we not only can not borrow abroad, or sell our securities abroad, but must finance by our loans our allies as well as ourselves and, in addition, have the proceeds of credits opened by us used quite extensively for our allies purchases of goods in foreign countries. This latter circumstance, and the scope and speed with which our departments and our allies call upon the Treasury for funds and credits are the danger points which must command our closest attention,

The next month will bring us definite figures upon which to base reliable conclusions. We are dealing with a new machinery and new conditions and have no precedents that would enable us to do more at this time than to point to certain possibilities, which, if they should become realities, may prove a serious menace to the successful prosecution of the war.

P. M. W.

12/7/17

December 6, 1917.

### MEMORANDUM 1.

RATIO OF THE FEDERAL RESERVE BANKS TOTAL RESERVES TO NET DEPOSIT AND FEDERAL RESERVE NOTE LIABILITIES COMBINED ON NOVEMBER 30, 1917.

	•
Total Reserve	\$1,676,211,000
Total net deposits	1,594,647,000
Total F. R. notes in circulation	1,056,983,000
Total net deposit and F. R. note liabilities. Combined	2,651,630,000
Ratio of total reserve to net deposit a F. R. note liabilities. Combinea	

·	:	April 6,	19	317.	:	November 30, 1917.
Not deposit liability	:	\$ 760,282,000	:		:	\$1,595,571,000 :
Reserve required (35%)	:		:	\$266,099,000	:	: \$558,450,000
F. R. notes in circulation	:	376,510,000	•		:	1,056,983,000 :
Reserve required (40%) Total net deposit & note Liab'l's	<b>:</b>	1,136,792,000	:	150,634,000	:	2,652,554,000 422,793,000
Total reserves required	:			416,703,000	;	981,243,000
Total reserves held	;			962,662,000	:	1,676,211,000
Goll holdings in excess of reserve requirements	:			545,959,000	:	694,968,000
Gain in free gold between April 6 and Nov. 30, 1917	:				:	149,009,000

Percentages of reserve to combined net deposit and note liabilities:

April 6 - (962,662,000 + 1,136,792,000) 84.7 per cent.

Nov. 30 - (1,676,211,000 + 2,652,554,000) 63.2 " "

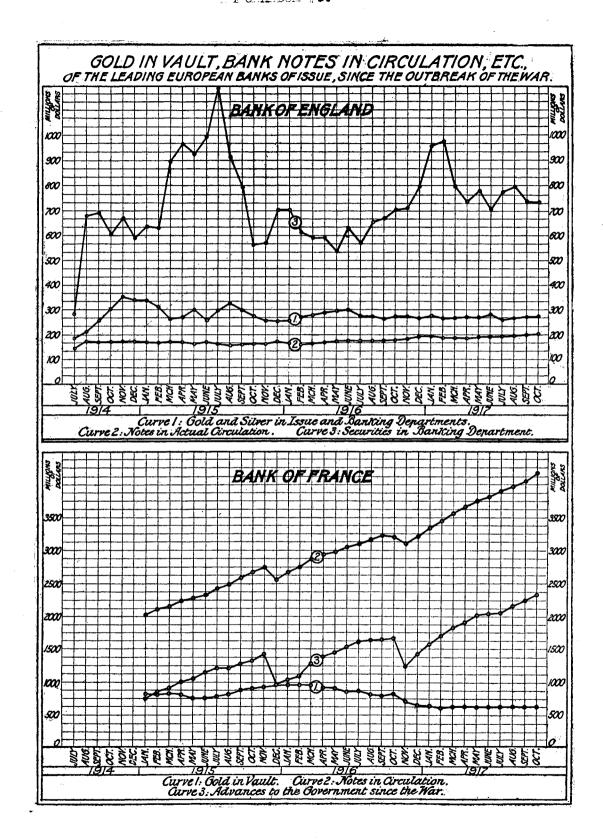
If it had not been for the increase of \$149,009,000 in free gold between April 6 and November 30, 1917, the reserve percentage would have dropped to 57.6 (1,676,211,000 - 149,009,000 + 2,652,554,000)

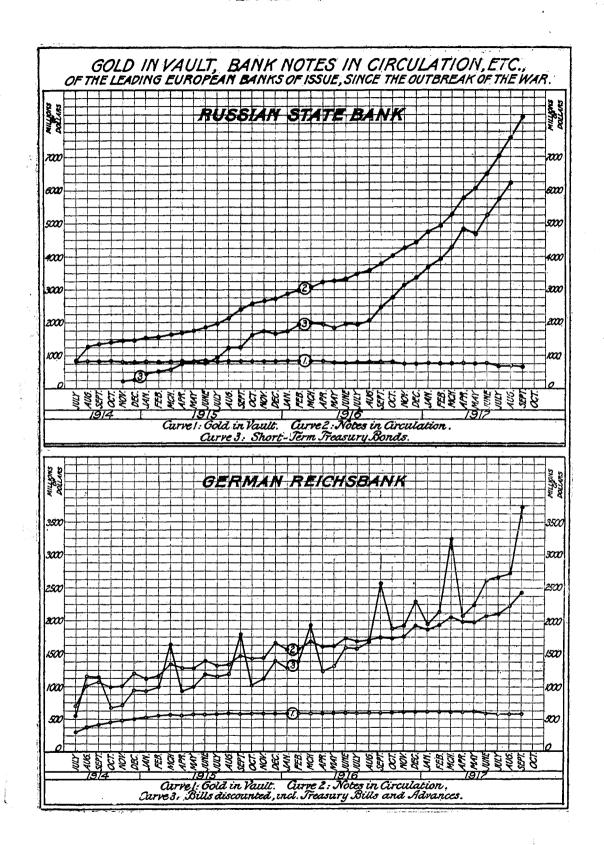


## MEMORANDUM 3.

# RATIO OF TOTAL RESERVE OF THE FEDERAL RESERVE BANKS TO COMBINED NET DEPOSIT AND FEDERAL RESERVE NOTE LIABILITIES.

April	5-6,	1917	83.0	par	cent
May	11,	11		11	Ħ
June	15,	11	71.4	ŧŧ.	Ħ
June	22,	11	71.6	11	17
June	29,	11		11	11
July	6,	ŧī		11	11
July	13,	11	79.9	ŧı	11
July	20,	11		11	11
July	27,	tf		tt	ŧŧ
Aug.	3,	11	81.9	11	11
Aug.	10,	tī	82.7	11	tr
Aug.	17,	11		II	Ħ
Aug.	24,	Ħ		11	11
Aug.	31,	n		Ħ	ţţ
Sept.	7,	11		11	11
Sapt.	14,	ti	80.0	11	11
Sept.	21,	11	79.6	. 11	11
Sept.	28,	11		11	Įf
Oct.	5,	Ħ	74.4	Ħ	ţī
Oct.11	12,	11		Ħ	TF
Oct.	19,	11	75.6	Ħ	11
Oct.	26,	11		tt	ti
Nov.	2,	11		11	11
Nov.	9,	11		11	Ħ
Nov.	16,	11	65.8	11	11
Nov.	23,	11		tt	11
Nov.	30,	TT		tt	п





MEMGRANDUM 6.

# RATIO OF TOTAL RESERVE TO COMBINED DEPOSIT AND NOTE LIAPHITIES FOR THE PRINCIPAL EUROPEAN BANKS OF ISSUE. (In thousands of Johlans)

ÌÝ	: : Bank of	England	: Bank of	France	: Russian	State Bank	: German Re	ichsbank
`		:Nov. 14, :1917	:July 30, :1914	:1917		:Sept. 16, : to 29, :1917	: July 31, : 1914	: Oct. 23, : 1917
Total Metallic Reserve	:\$185,567	:\$270,603	:\$919,968	:\$683,825	:\$683,371	:\$742,249	:\$363,670	<b>:</b> \$598,293
Government Deposits	: : 61,869	: : 205,486	; ; 73,834	: : 6,375	: : 264,9 <b>37</b>	: 109,421	: :) :)299,515	: : :1,365,326
Other Deposits	: 264,830	: 586,468	: 182,881	: 523,213	327,58 <b>5</b>	1,710,221		:
Bank notes in Circulation	: 144,566	: : 206,138	: 1,289,855	: :4,312,749	: : 841,174	: :8,181,781	: 692,442	2,413,010
Total	: 471,265	: 998,392	1,546,570	4,842,337	:1,433,696	:10,001,423	: 991,957	:3,778,036
Ratio of Reserve to combined Deposit and Note Liab's	: : 39.4 :	: : 27.1 :	; 59.5 ;	14.1	: : 60.2 :	; ; 7.4 ;	: : 36.7 :	: : 15.8 :
Treasury notes outstanding	; ;	: : 931,217	:					
Coin and bullion Cover Per cent	:	: : 138,695 : 14.9	: : :					

The following is a quotation from a letter of a Dutch Gentleman.

. . . . . . . . . . . . .

"According to the official memorandum regarding French finances, France had borrowed in England somewhat over Fcs. 8,000,000,000, and close to Fcs. 6,000,000,000 in the United States. Further advances which we (U. S.) have made in the mean time may have brought France's debt in this country up to about Fcs. 8,000,000,000,000, making a total of Fcs. 16,000,000,000.

"The official estimate of crops of France indicates that there will be a shortage of wheat, rye, barley, and oats of about 45% against the average yield of these crops for the years 1905 to 1914. What is more serious is that the shortage is greatest in wheat, where it amounts to more than 55%. The "Temps" of September 28th estimates that France may have to import between three and four billion Francs of cereals to make up the shortage of this year. It seems impossible to see how France will be able to keep up her rate of exchange, even if peace should come. Unlike England, France does not dispose of any foreign investments which can be easily made available. For political reasons, the French markets were closed to just foreign securities which would have helped the country most now, and the Government and the banks co-operated in putting

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the savings of the nation which were available or investment abroad - chiefly in Russia, South America and Mexico - just the countries where investors have received the heaviest blows. It was exactly on account of this situation that France found herself actually in the miast of a financial crisis at the outbreak of the war. The necessities of the war long ago consumed whatever foreign assets of a more liquid kind France may have been holding and it is a wellknown fact that the country has even gone so far as to practically pleage the credit of its cities and its biggest private enterprises financially to back up the Government.

"If we turn to the conditions of the Bank of France, we do not find any more reassuring facts.

"On October 11th, the note circulation was Fcs. 21,500-000,000, which were covered by only Fcs. 3,300,000,000 actual gold, being only about 15%. Most of the assets held against the note issues are absolutely uncollectable for the time being. They consist up to:

Fcs. 12,100,000,000 of advances to the State, 1,150,000,000 Bills of Exchange not collectible under the moratorium.

and

3,500,000,000 of advances to foreign governments which notoriously are advances to the Russian Government for the payment of interest on its pre-war debt held in France.

This makes a total of uncollectible assets of Fcs. 16,750,000,000, or about 77% of the total amount of notes outstanding.

"Perhaps one of the greatest difficulties which is in store for the French money market and which may well give the final blow to the whole structure, lies in the fact that the day must come when the French Government will cease to pay out to the French holders of the Russia pre-war debt the interest which it can never hope to collect itself. When that day comes I fear a very serious situation."

P. M. W\*

# MEMORANDUM 8

INCREASES EETWEEN JUNE 30, 1914 AND SEPTEMBER
11, 1917 OF LOANS AND DISCOUNTS AND NET DEPOSITS
OF NATIONAL BANKS, AS SHOWN BY COMPTROLLER'S ABSTRACTS.

	June 30, 1914	: Sept. 11, 1917	Increases.
	(In thousand	s of dollars).	
Other loans and invest-		\$9,064,855	\$2,619,300= 40.6%
ments, excluding per-	1,914,888	3:227,124	1,312,236= 68.5%
Total loans and investments,	8,360,443	12,291,979	3,931,536= 47.0%
Net deposits, on which reserve is computed:		10,082,779	2,587,630= 34.5%

#### MEMORANDUM 9.

### BRITISH WAR LOANS

On September 30, according to official announcement of the Chancellor of the Exchequer, the total funded debt of the United Kingdom stood at £2,518,300,000 equivalent to \$12,255,307,000. In addition there were outstanding on November 3 about £991,000,000 equivalent to \$4,820,000,000, of Treasury Bills, about \$1,475,000,000 loans from the United States Government and several hundred millions of credits raised in Holland, Scandanavia, Japan and other foreign countries, making a total of about 18.7 billions of dollars (see London Economist, Nov. 17, 1917).

The London Economist gives the total net borrowings of the British Government for the period August 1, 1914 to November 10, 1917 as £4,491,-514,000 equivalent to \$21,857,953,000, of which £1,260,000,000 equivalent to \$63138,000,000 represents advances to Dominions and Allies.

Under date of November 14 the Bank of England reports among its assets "Government Securities" amounting to £58,721,320, equivalent to \$285,768,000. Taking the larger estimate of total war debt of \$21,857,-953,000 given by the London Economist as our basis for calculation, we obtain a yearly average of war loans raised between August 1914 and November 1917 of about 6,725 million dollars.

A Post

## MEMORANDUM 10.

# FRENCH WAR LOANS

The Economiste Europeen quotes an official budget report, indicating the following increases in the French National lebt between August 1, 1914 and September 30, 1917:

	Millions of Francs.
National Defense short-term bonds, (Bons de la Defense Nationale")	21,700
National Defense "Obligations",	840
5% funded loans of 1915 and 1916,	21,920
Total	44,460

This total is exclusive of 12,350 millions of francs, equivalent to \$2,383.5 millions of lollars (at the nominal rate of 19.3¢ per franc) of war alvances by the Bank of France shown among its assets on November 15, 1917, - The Bank also carries among its assets an item of 3.145 millions of francs, or about 607 million dollars discounted Treasury Bills, the proceeds of which were alvanced to the Allies. It is not clear whether this amount is included in the above total of 44,460 millions of francs. To the total given should be alded also the following amounts, largely taken from M. Klotz's Treasury Statement as at July 31, 1917:

Mi.	llions of
1	francs.
Bills soli in England,	7,952
Amounts borrowed in the United States:	. ,
Bank credits,	518
Industrial credit	239
April 1917 credit operations,	498
Anglo-French loan,	1,243
Advances by United States Gov't. (Nov.1,1917)	4,248.7
Amount borrowed in Japan,	129.0
Advances by the Bank of Algeria,	65.0
Total	14,892.7
Total long-term and short-term domestic loans	•
outstanding Sept. 30, 1917	44,460
Advances of the Bank of France,	12,350
· · · · · · · · · · · · · · · · · · ·	71,702.7
	13.838.8

Assuming this amount to represent total expenditures between August 1, 1914 to September 30, 1917 the average annual expense would be about 4,370 million dollars.

#### MEMORANDUM 11

## RUSSIAN WAR LOANS.

According to an official announcement of the Russian Finance
Minister (reproduced in the Economiste Europeen of October 12, 1917)

the Russian State expenditures between August 1, 1914 and September

1, 1917, aggregated 41,393,000,000 Rubles, or \$21,317,000,000 nominal,

While Government revenual for the same period was only about 9,701,000,000

Rubles, or \$4,996,000,000 nominal. This leaves a total of \$16,321,000,000

which had to be covered by loans. Aggregate domestic long-term and shortterm loans are given in the statement as 12,758,000,000 Rubles or \$6,570,000

000 nominal, the remainder of \$9,749,000,000 nominal thus being covered by
foreign loans, largely advanced by Great Britain.

On September 29, 1917 the Russian State Bank reports among its assets 13,394,795,000 Rubles of short-term Treasury bonds (Bons du Tresor) besides 828,994,000 Rubles of advances for provisioning operations of the Government, or a total of 14,223,789,000 Rubles equivalent to about 7,325 million dollars at the nominal rate of 51.5 cents per Ruble. Per contrathe Bank reports a total of 15,886,953,000 Rubles or \$8,181,781,000 nominal of notes in actual circulation.

Assuming a total war debt to September 1917 of \$16,319,000,000 the yearly increase of the debt would average slightly over 5 billion dollars.

### MEMORANDUM 12

#### GERMAN WAR LOANS.

denimin wan homis	In millions of	
,	Marks @ (In milli	
lst	4,480.8	1,066.4
2nd	9,106,3	2,167.3
3rd	12,162.6	2,894.7
4th	10,767.6	2,562.7
5th	10,699.0	2,546.4
6th	13,120.0	3,122.6
7th	12,430.0	2,958.3
Total	72,766-3	17,318.4

<sup>@ .</sup>Marks converted at 23.8¢ per Mark.

Note: The above totals are exclusive of Treasury Bills,
Treasury Notes, Government War Loan bank notes and other unfunded
obligations of the Imperial Government. The above increase in the
public debt averages about \$5,469,000,000 per year, to which should
be added a certain amount of floating indebtedness chiefly in the
form of Treasury bills and War Loan bank notes.