

# Central Banks: Modern Monetary Theory

Yardeni Research, Inc.

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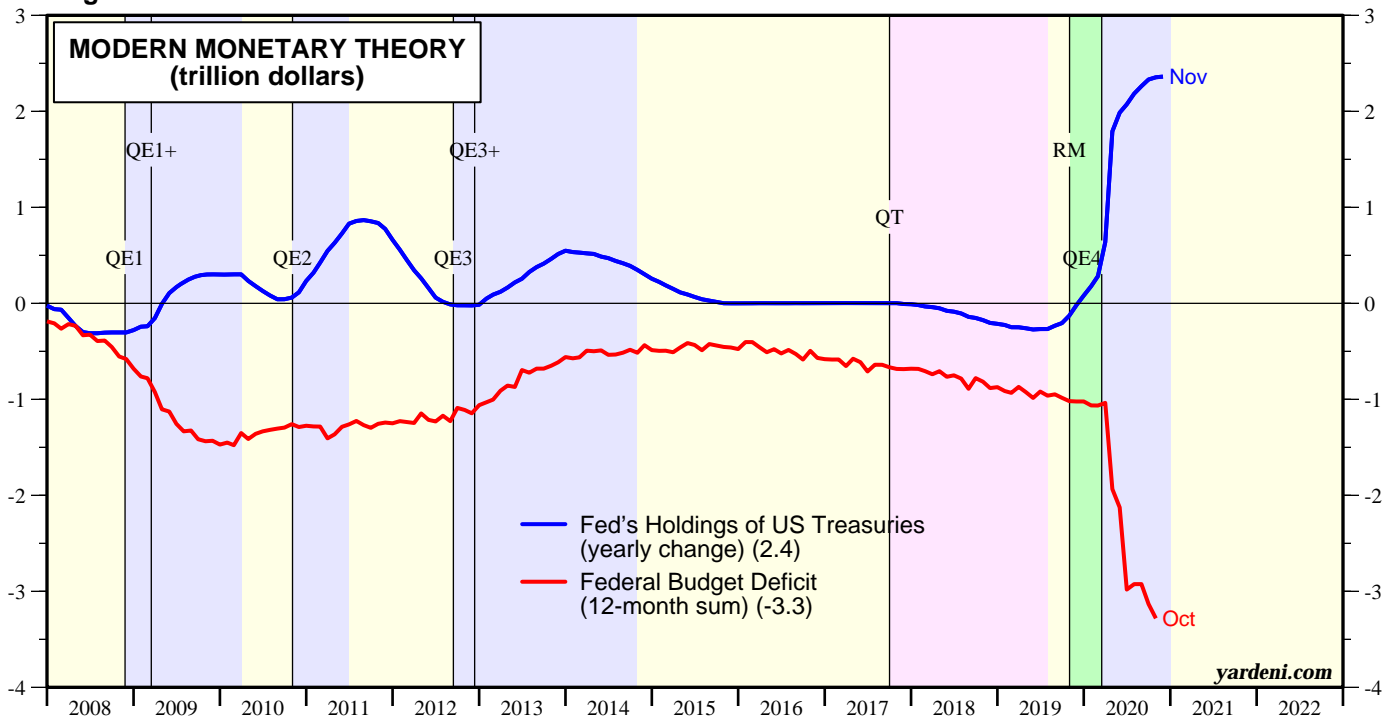
*thinking outside the box*

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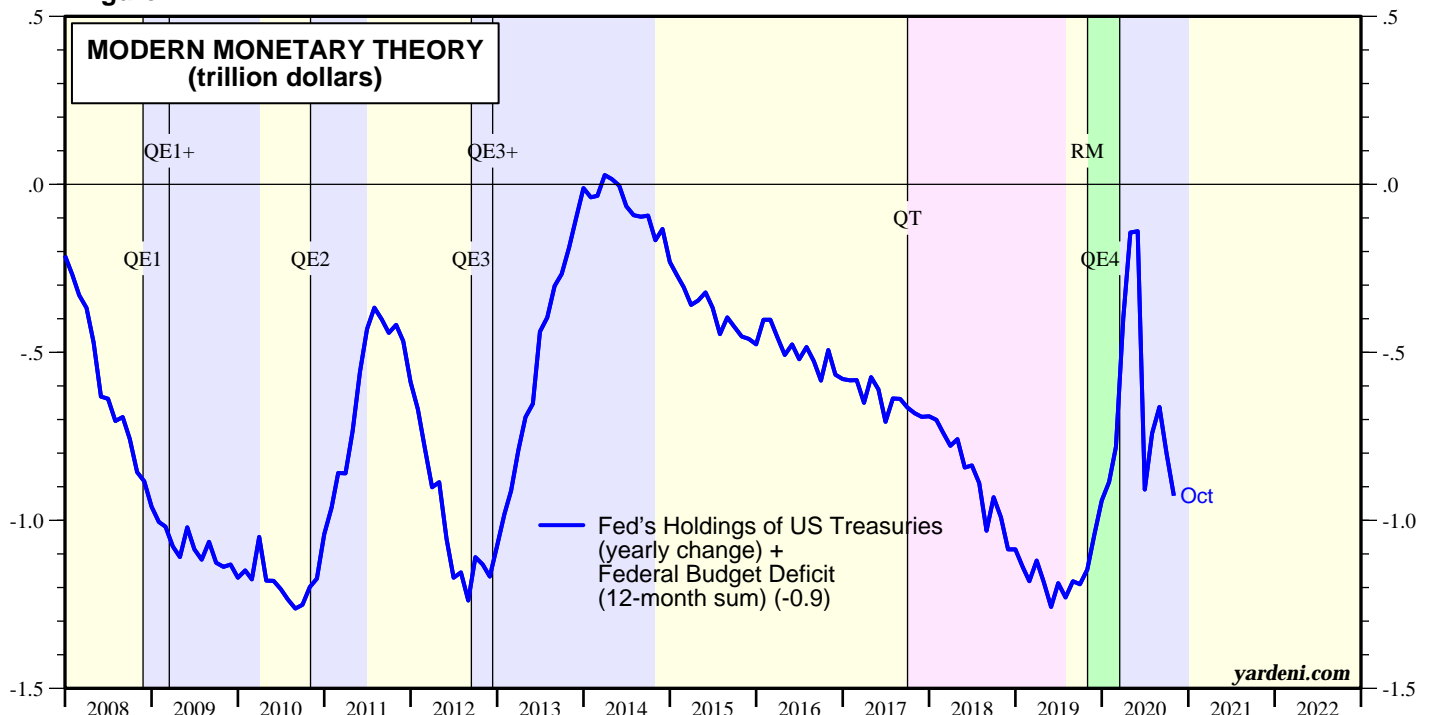
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**Figure 1.**



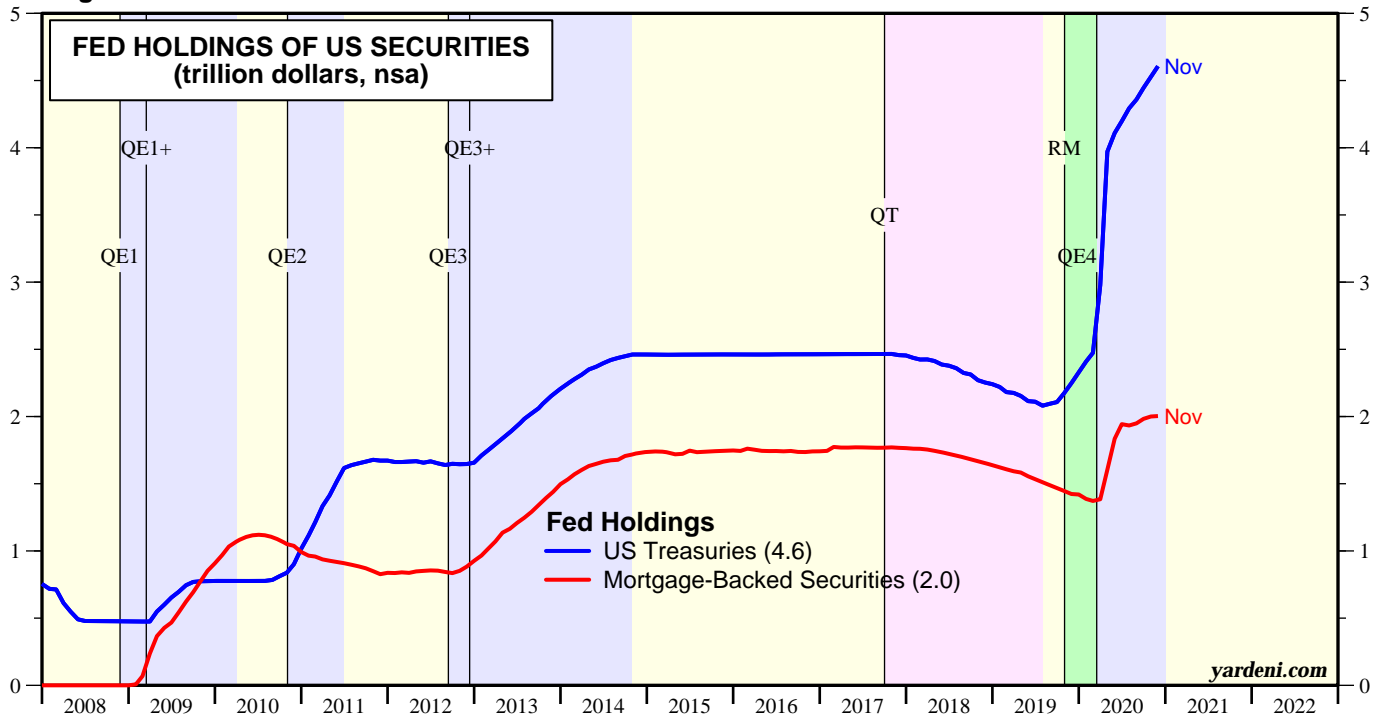
Note: QE1 (11/25/08-3/31/10) = \$1.24tn in mortgage securities; expanded (3/16/09-3/31/10) = \$300bn in Treasuries. QE2 (11/3/10-6/30/11) = \$600bn in Treasuries. QE3 (9/13/12-10/29/14) = \$40bn/month in mortgage securities (open ended); expanded (12/12/12-10/1/14) = \$45bn/month in Treasuries. QT (10/1/17-7/31/19) = balance sheet pared by \$675bn. RM (11/1/19-3/15/20) = reserve management, \$60bn/month in Treasury bills. QE4 (3/16/20-infinity). Source: Federal Reserve Board and US Treasury Department.

**Figure 2.**



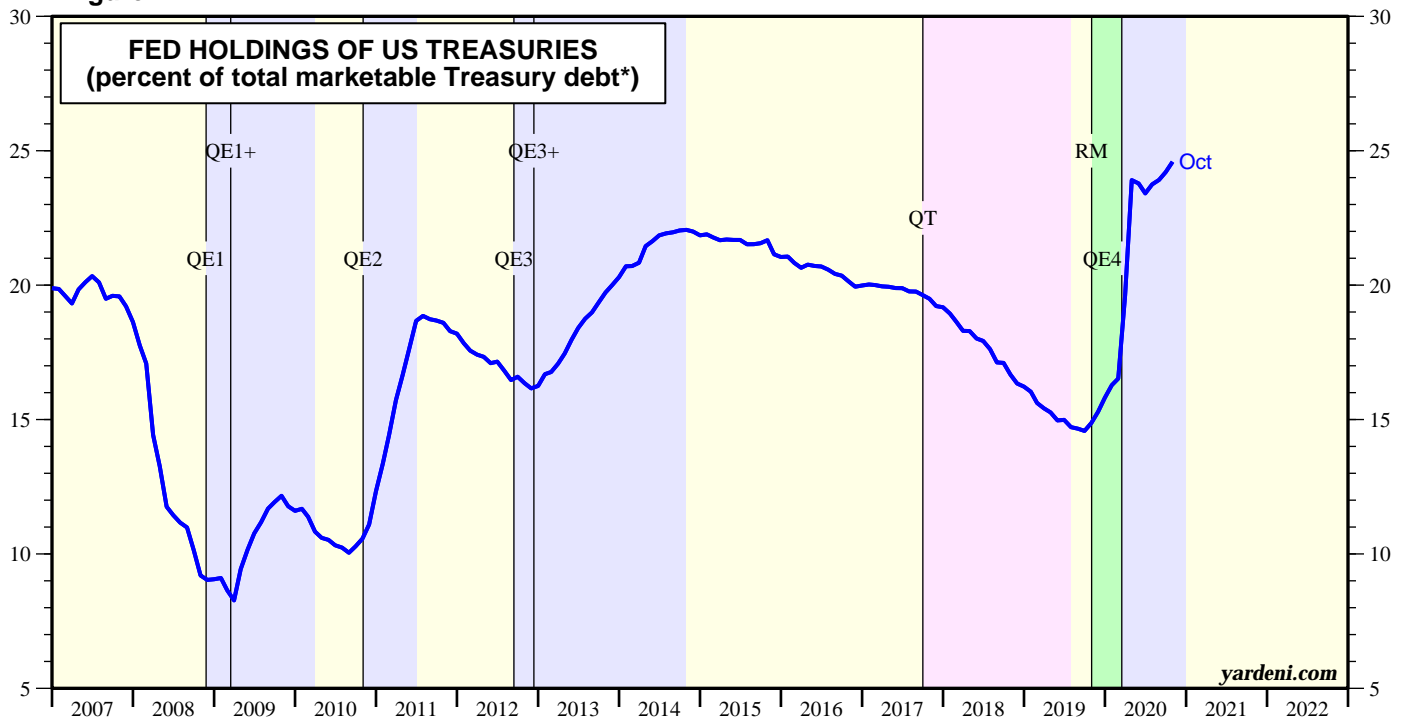
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Figure 3.



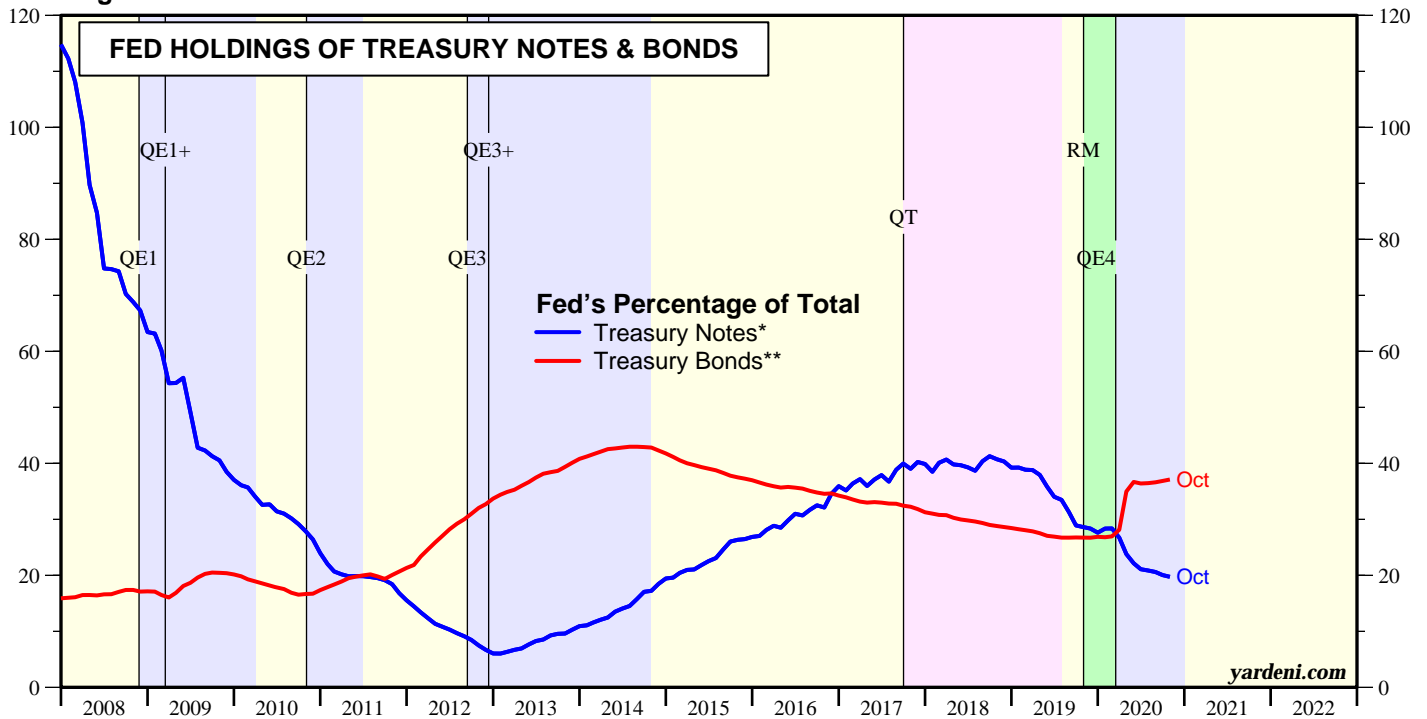
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Figure 4.



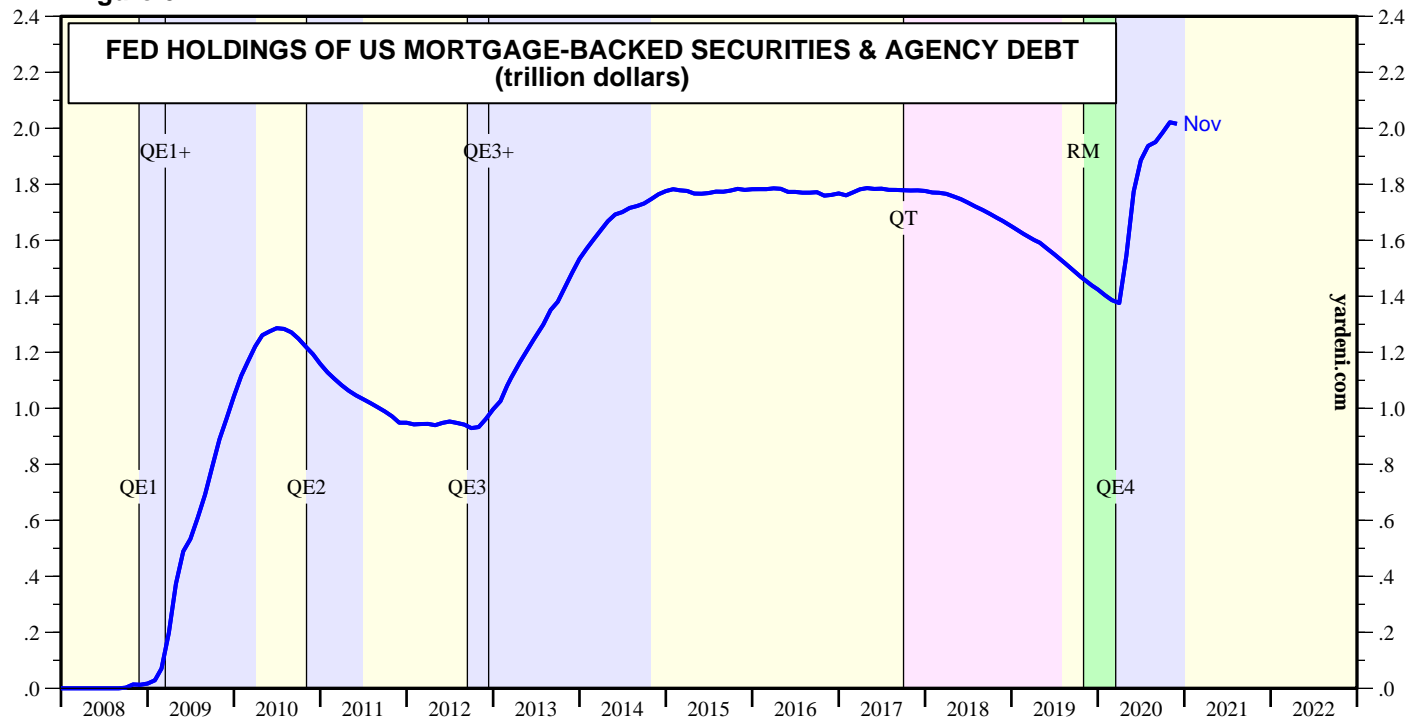
\* Total marketable US Treasury interest-bearing bills, notes and bonds.  
 Note: QE1 (11/25/08-3/31/10) = \$1.24tn in mortgage securities; expanded (3/16/09-3/31/10) = \$300bn in Treasuries. QE2 (11/3/10-6/30/11) = \$600bn in Treasuries. QE3 (9/13/12-10/29/14) = \$40bn/month in mortgage securities (open ended); expanded (12/12/12-10/1/14) = \$45bn/month in Treasuries. QT (10/1/17-7/31/19) = balance sheet pared by \$675bn. RM (11/1/19-3/15/20) = reserve management, \$60bn/month in Treasury bills. QE4 (3/16/20-infinity). Source: Federal Reserve Board (Consolidated Statement of Condition of all Federal Reserve Banks (H.4.1 TABLE 5)).

Figure 5.



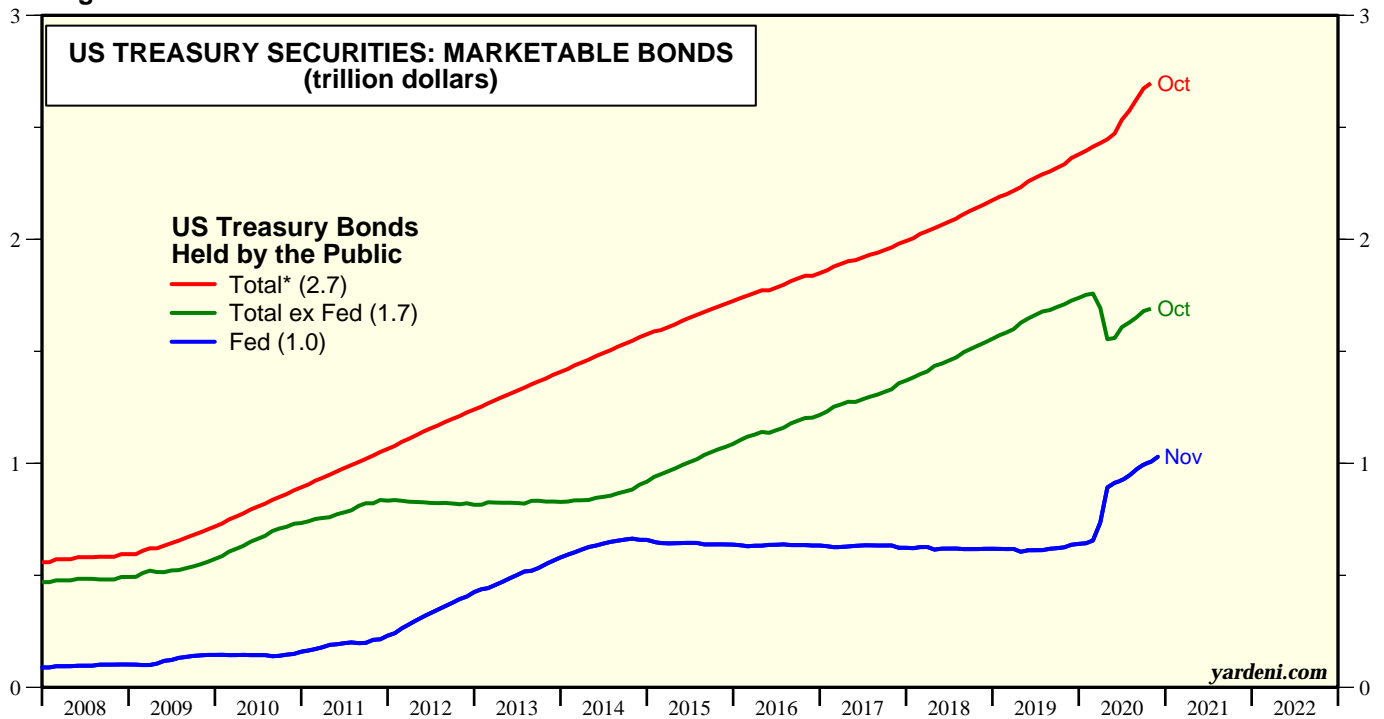
\* 1-10 years. \*\* Over 10 years.  
 Note: QE1 (11/25/08-3/31/10) = \$1.24tn in mortgage securities; expanded (3/16/09-3/31/10) = \$300bn in Treasuries. QE2 (11/3/10-6/30/11) = \$600bn in Treasuries. QE3 (9/13/12-10/29/14) = \$40bn/month in mortgage securities (open ended); expanded (12/12/12-10/1/14) = \$45bn/month in Treasuries. QT (10/1/17-7/31/19) = balance sheet pared by \$675bn. RM (11/1/19-3/15/20) = reserve management, \$60bn/month in Treasury bills. QE4 (3/16/20-infinity).  
 Source: Federal Reserve Board.

Figure 6.



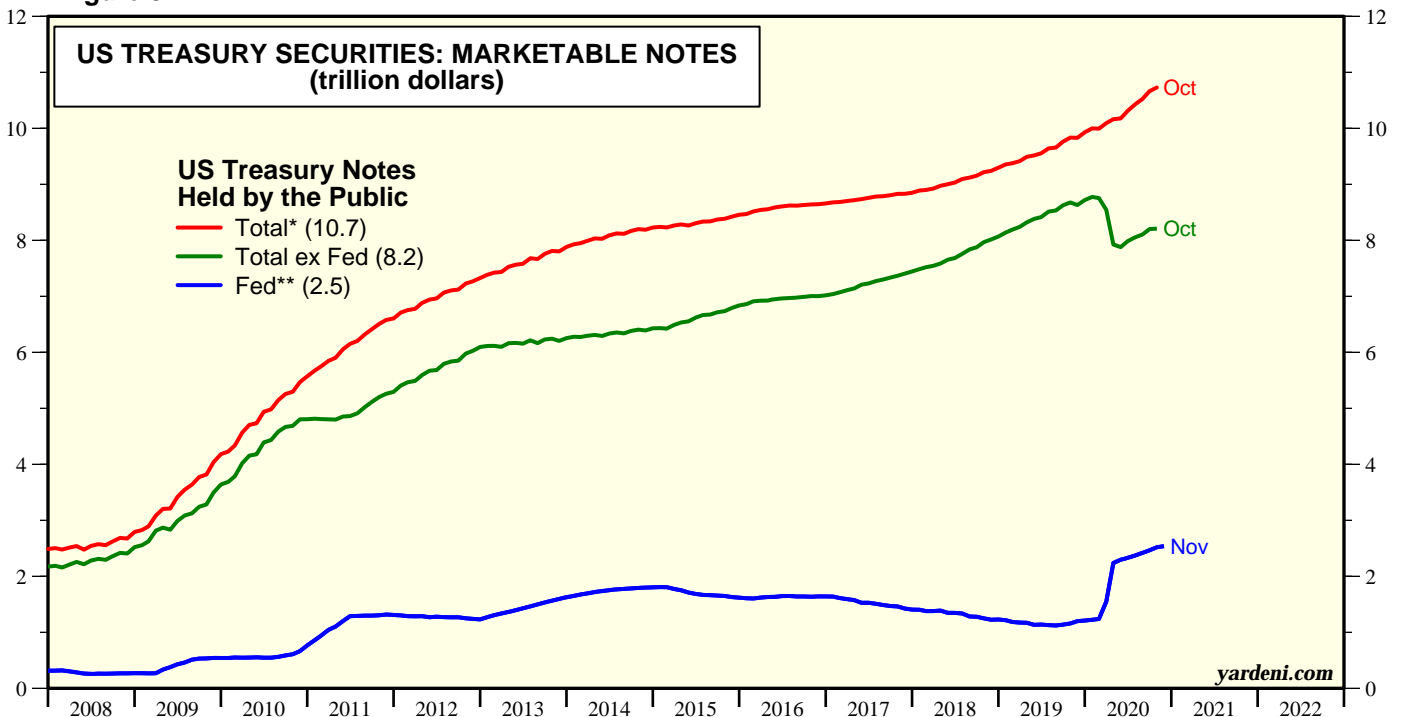
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 \* Fed data are averages of daily figures for weeks ending Wednesday. Source: Federal Reserve Board.

**Figure 7.**



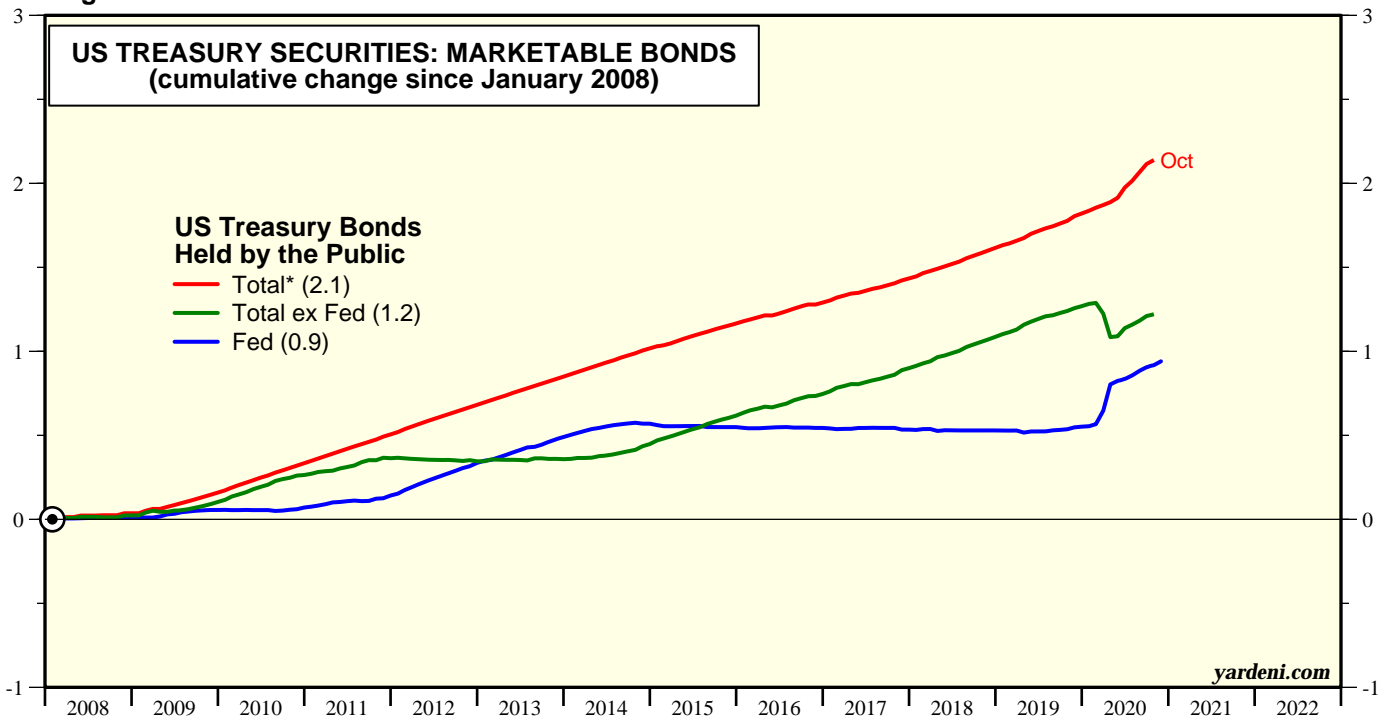
\* Including held by the Fed.  
 Source: Federal Reserve Board and US Treasury Department, Monthly Statement of the Public Debt of the United States.

**Figure 8.**



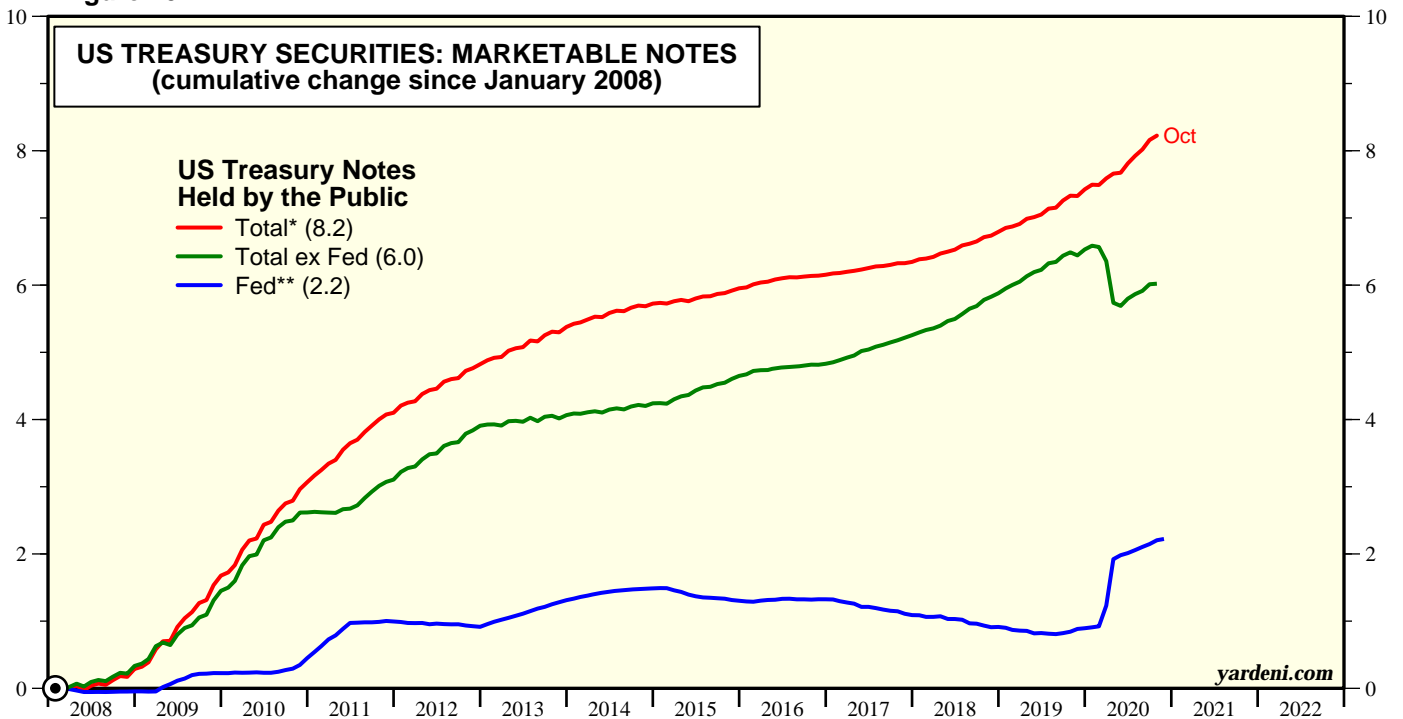
\* Including held by the Fed.  
 \*\* 1-10 years maturities.  
 Source: Federal Reserve Board and US Treasury Department, Monthly Statement of the Public Debt of the United States.

**Figure 9.**



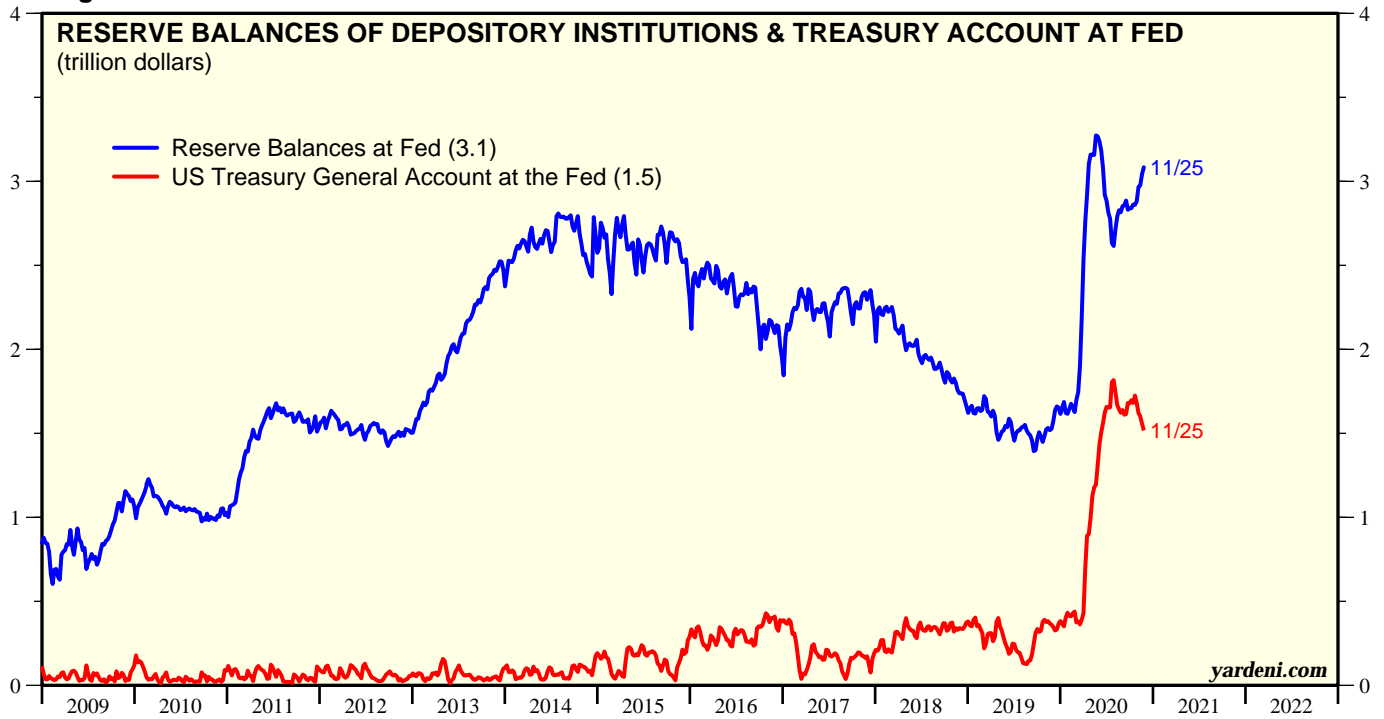
\* Including held by the Fed.  
Source: Federal Reserve Board and US Treasury Department, Monthly Statement of the Public Debt of the United States.

**Figure 10.**



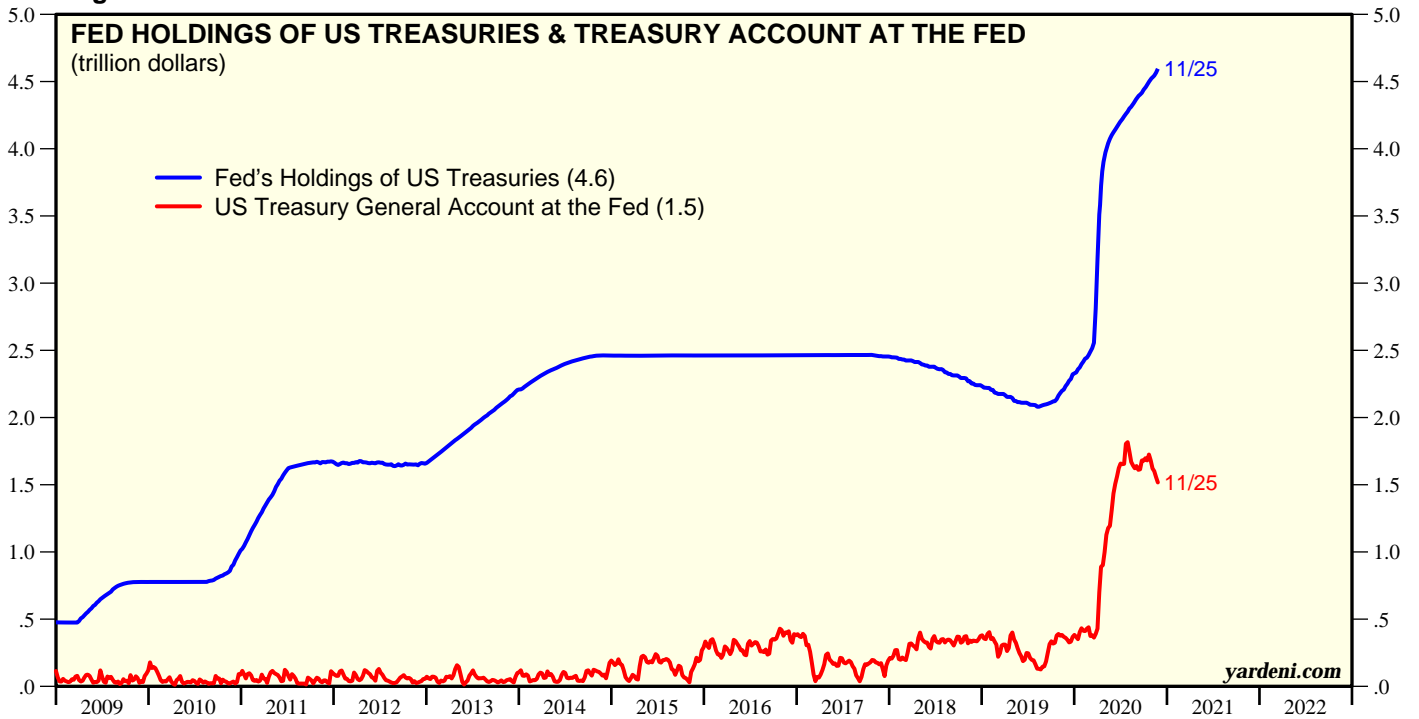
\* Including held by the Fed.  
\*\* 1-10 years maturities.  
Source: Federal Reserve Board and US Treasury Department, Monthly Statement of the Public Debt of the United States.

Figure 11.



Source: Federal Reserve Board, Table H.4.1.

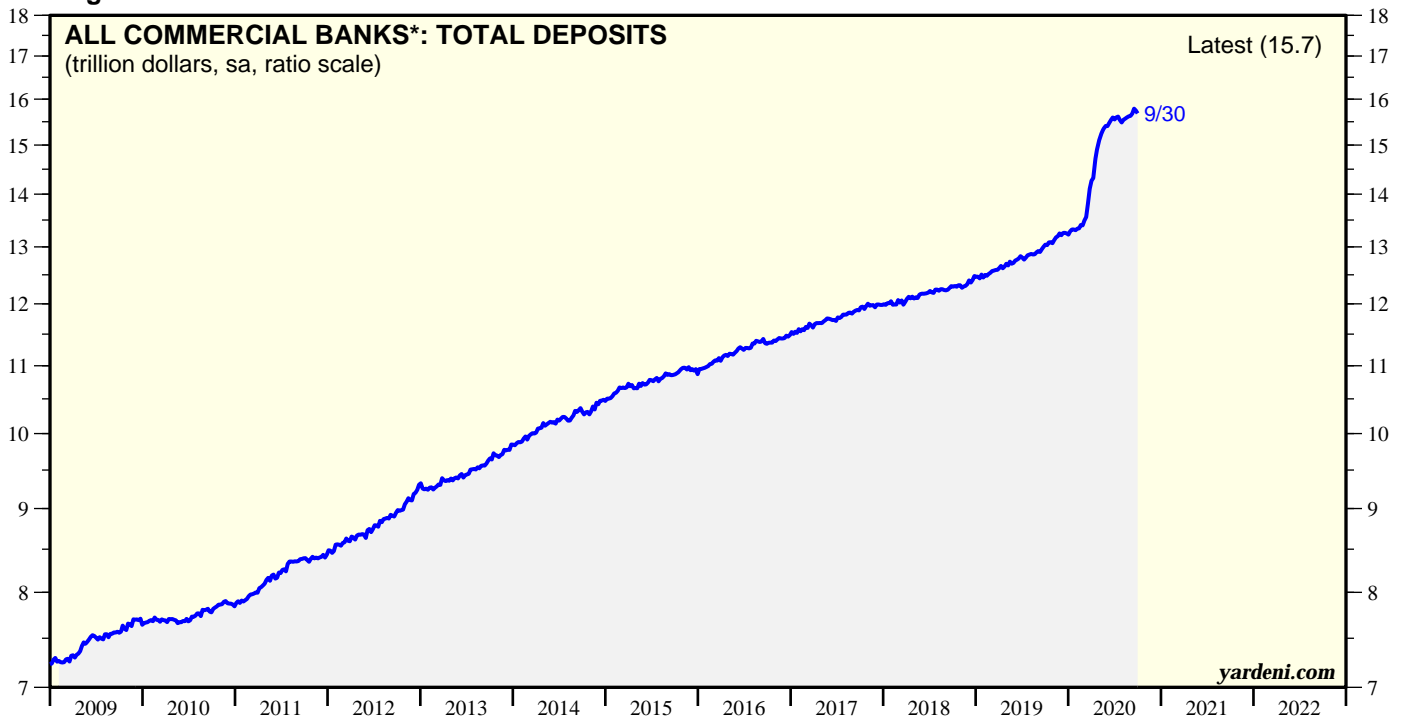
Figure 12.



Source: Federal Reserve Board, Table H.4.1.

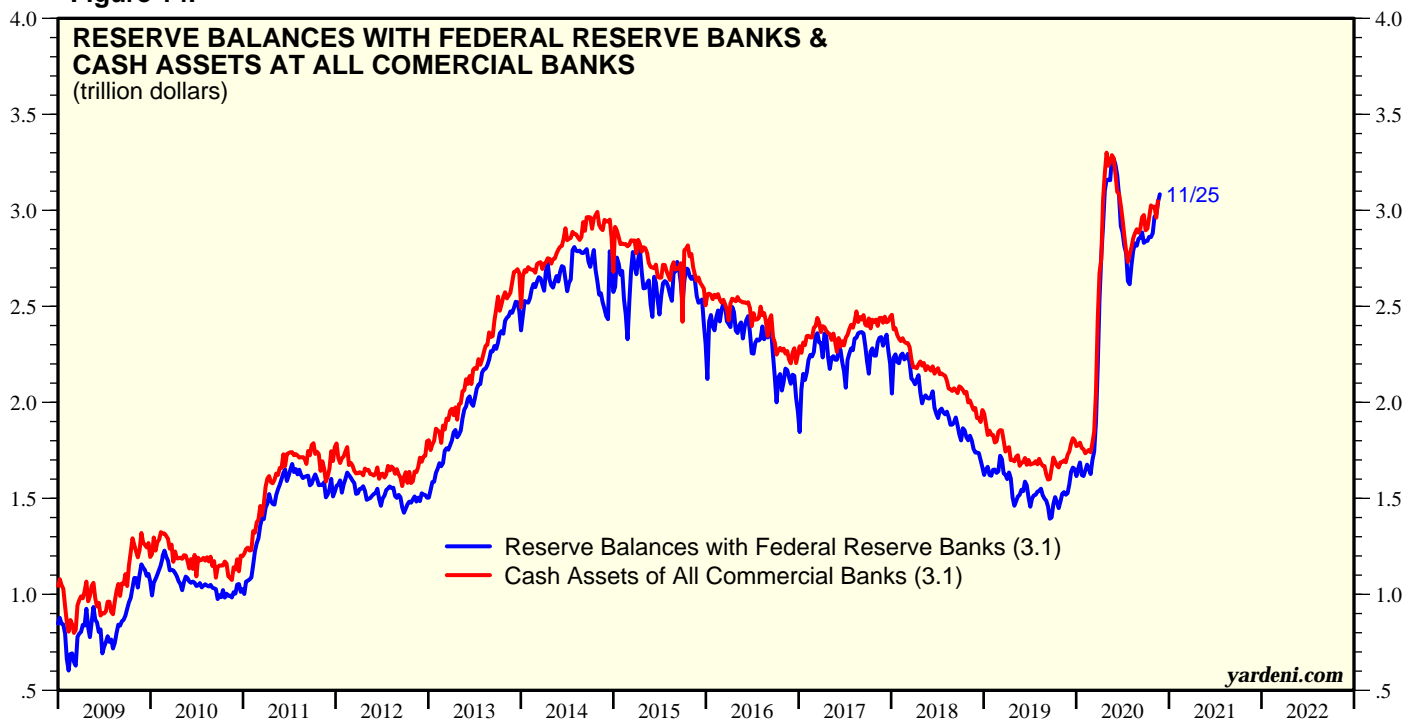


Figure 13.



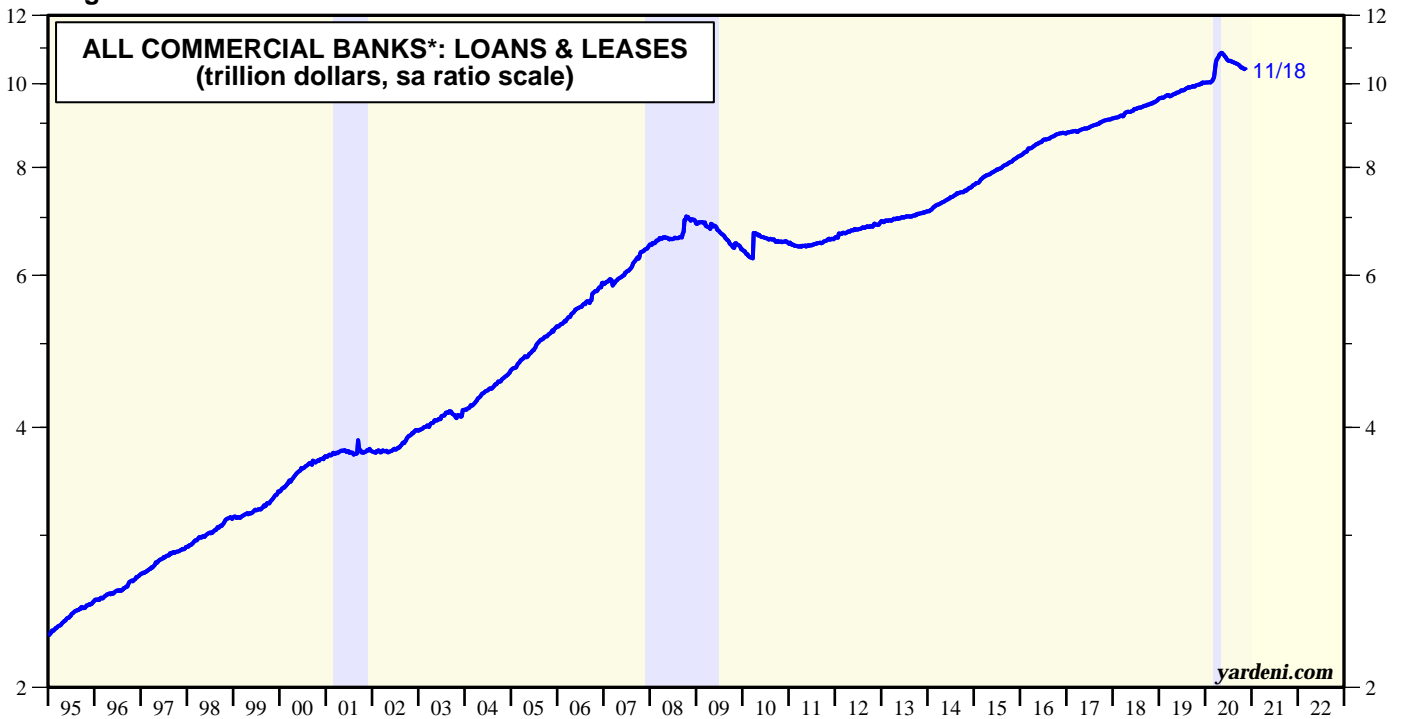
\* Includes domestically chartered commercial banks and foreign-related ones.  
Source: Federal Reserve Board.

Figure 14.



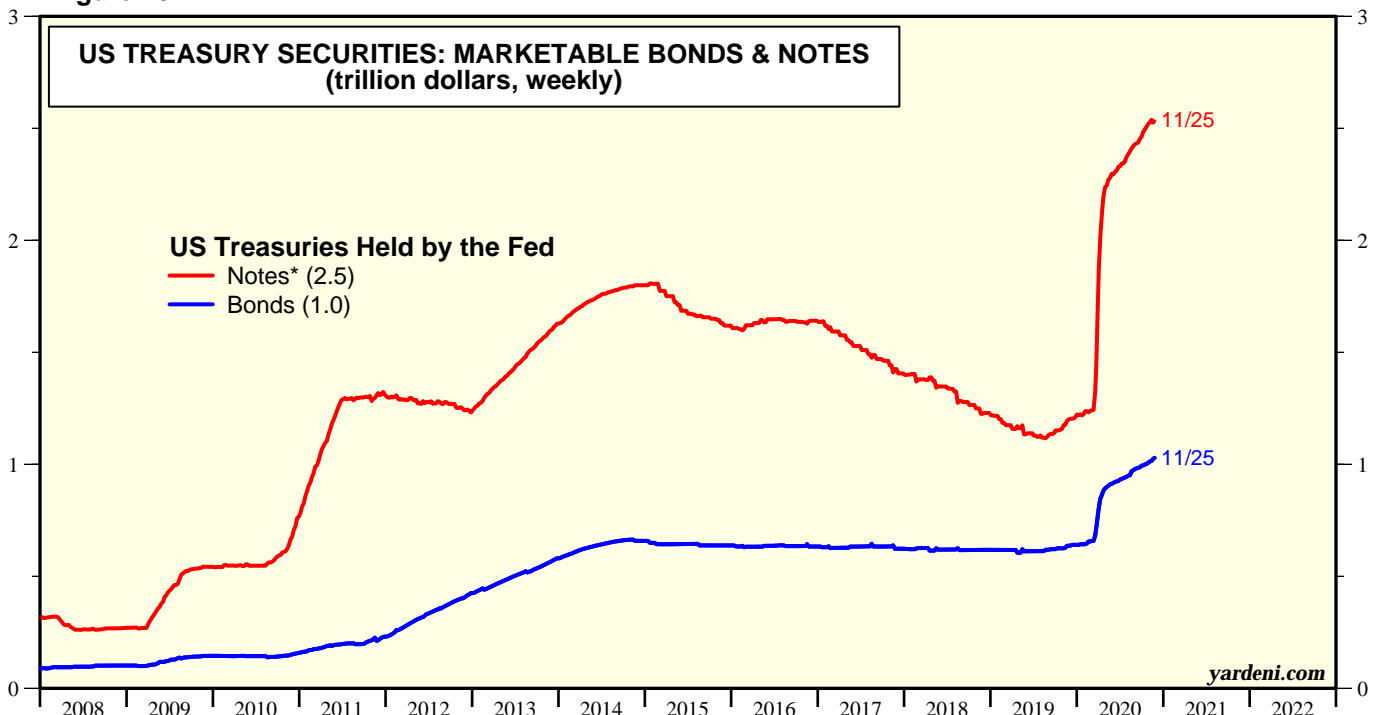
Source: Federal Reserve Board Release H.4.1 and H.8.

**Figure 15.**



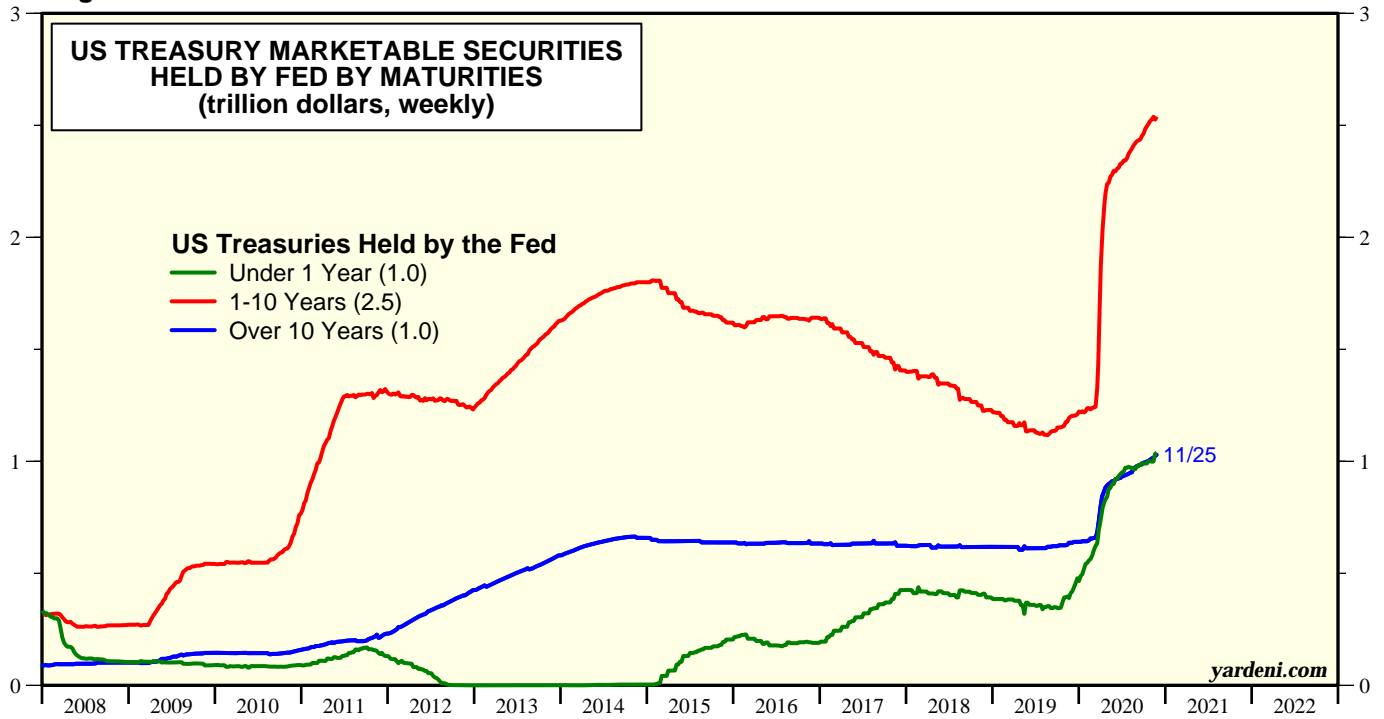
\* Includes domestically chartered commercial banks and foreign-related ones.  
 Note: Shaded areas denote recessions according to the National Bureau of Economic Research.  
 Source: Federal Reserve Board.

**Figure 16.**



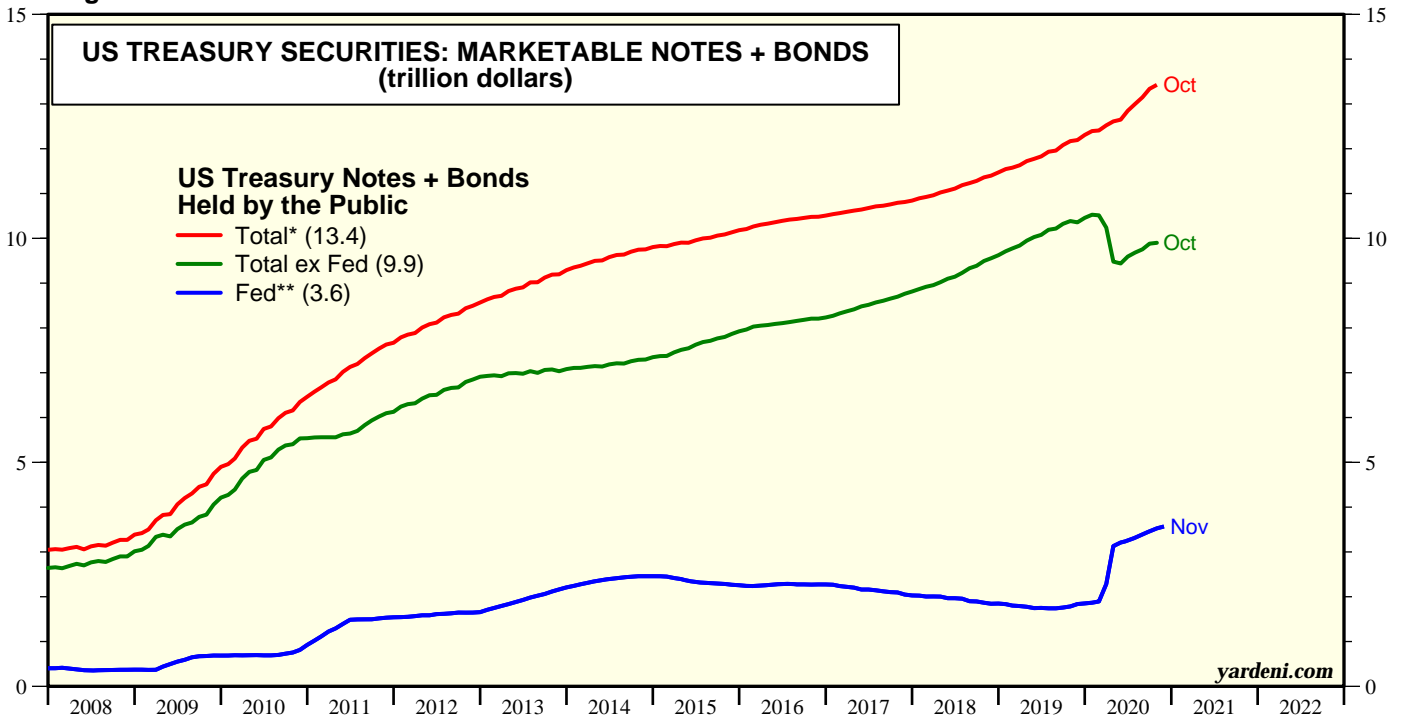
\* 1-10 years maturities.  
 Source: Federal Reserve Board and US Treasury Department, Monthly Statement of the Public Debt of the United States.

Figure 17.



Source: Federal Reserve Board, H.4.1 Table 2.

Figure 18.



\* Including held by the Fed.

\*\* Treasury securities with maturities of 1-10 years plus over 10 years.

Source: FN3 Source: Federal Reserve Board, H.4.1 Table 2.

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