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NEWS RELEASE

EMBARGOED UNTIL RELEASE AT 9:00 A.M. ET, WEDNESDAY, SEPTEMBER 16, 2020.

CFS DIVISIA MONETARY DATA FOR THE UNITED STATES:¹ AUGUST 2020

The CFS Featured Broad Divisia Monetary Aggregates in August 2020

- CFS Divisia M4, including Treasuries (DM4) – the broadest and most important measure of money calculated by the Center for Financial Stability – grew by 29.8% in August 2020, on a year-over-year basis. In contrast, CFS Divisia M4 increased by 5.4% in August 2019 over the preceding year.
- The narrower version of the CFS Divisia M4, excluding Treasuries, (DM4-), increased by 20.0% in August 2020 over the year, relative to a year-over-year gain of 5.6% in August 2019.
- CFS Divisia M3 (DM3) advanced by 20.9% year-over-year, relative to an increase of 5.6% in August 2019.

The Narrow Divisia Monetary Aggregates in August 2020²

- CFS Divisia M2 (DM2) advanced by 24.0% year-over-year, relative to an increase of 4.4% in August 2019 over the preceding year.
- CFS Divisia M1 (DM1) advanced by 45.0% year-over-year, relative to an increase of 4.4% in August 2019 over the preceding year.

Most Significant Factors Influencing CFS Divisia M4 in August 2020

Positive Contributors to CFS Divisia M4 Growth

- The largest positive contributor to CFS Divisia M4 growth was T-bills, contributing an increase of 9.7% in the last 12 months ending August 2020. Their growth-rate weight was 9.0%. Unweighted, they increased 118.0% in the last 12 months. This component is included only in the broadest aggregate (DM4).
- The second largest positive contributor to growth was demand deposits (sweeps adjusted), contributing an increase of 5.8% in the last 12 months ending August 2020. Their growth-rate weight was 14.6%. Unweighted, they increased 50.1% in the last 12 months. This component is included in all of the aggregates.
- The third largest positive contributor to growth was commercial banks' savings deposits (sweeps adjusted), contributing an increase of 5.2% in the last 12 months ending August 2020. Their growth-rate weight was 34.2%. Unweighted, they increased 17.3% in the last 12 months. This component is included in all of the aggregates, except the narrowest (DM1).

¹ The CFS Divisia indexes in this release were constructed under the direction of Professor William A. Barnett. Dr. Barnett is the originator of the Divisia monetary aggregates, which he has been developing and refining for decades, in accordance with modern advances in economic aggregation and index-number theory.

² The narrow aggregates are similar to the Monetary Services Index supplied by the St. Louis Federal Reserve until 2013. See page 13 for the relationship between the CFS narrow aggregates and MSI. No other source currently exists for broad Divisia monetary aggregates, DM3, DM4-, and DM4 which are available only from the CFS.



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Negative Contributors to CFS Divisia M4 Growth

- The largest negative contributor to CFS Divisia M4 growth was commercial banks' small time deposits, contributing a decrease of 0.8% in the last 12 months ending August 2020. Their growth-rate weight was 1.9%. Unweighted, they decreased 42.0% in the last 12 months. This component is included in all of the aggregates, except the narrowest (DM1).
- The second largest negative contributor to CFS Divisia M4 growth was thrift institutions' savings deposits (sweeps adjusted), contributing a decrease of 0.3% in the last 12 months ending August 2020. Their growth-rate weight was 4.4%. Unweighted, they decreased 8.1% in the last 12 months. This component is included in all of the aggregates, except the narrowest (DM1).
- The third largest negative contributor to CFS Divisia M4 growth was large time deposits, contributing a decrease of 0.3% in the last 12 months ending August 2020. Their growth-rate weight was 7.3%. Unweighted, they decreased 6.4% in the last 12 months. This component is included in DM3, DM4-, and DM4, but not in the narrower aggregates (DM1 and DM2).

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The next CFS Divisia M4 data are scheduled to be released at 9:00 AM ET on Wednesday, October 21, 2020.



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Figure 1 - Recent Growth in Broad CFS Divisia Monetary Data³

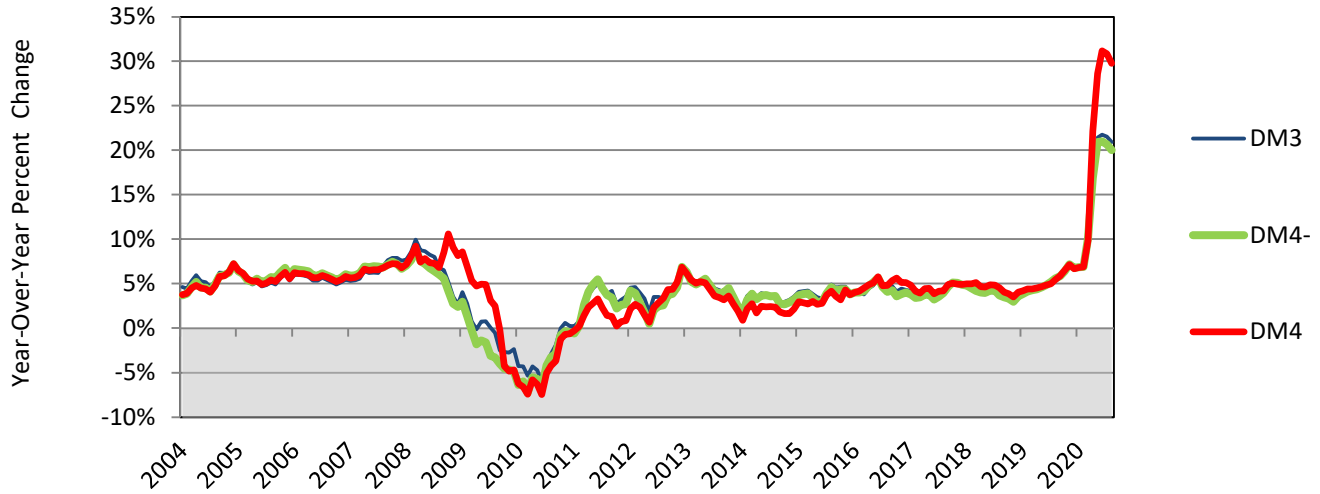
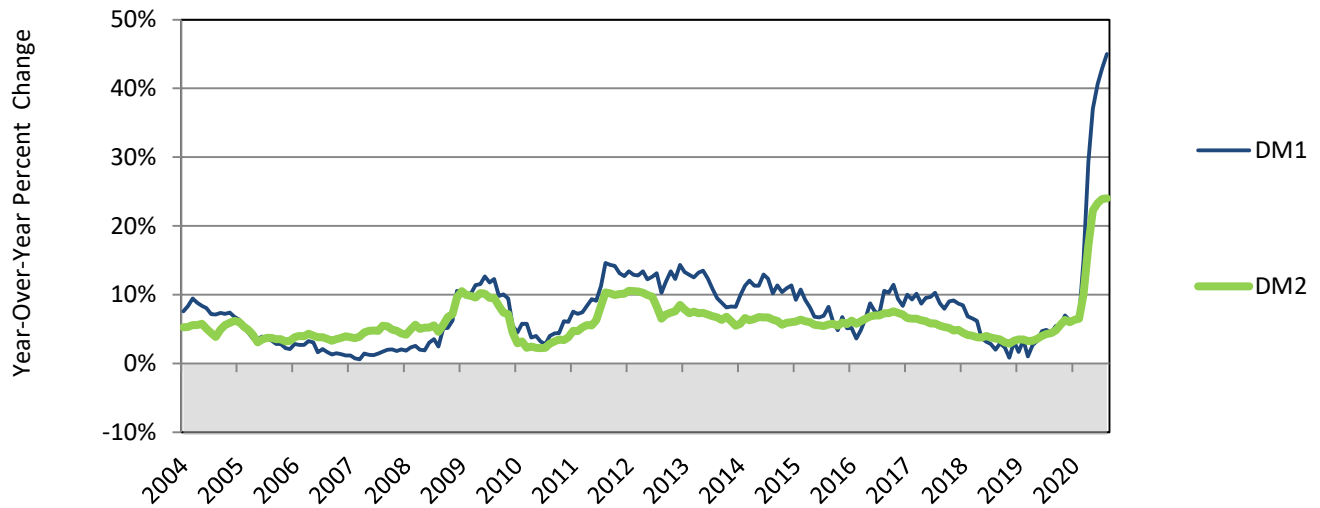


Figure 2 - Recent Growth in Narrow CFS Divisia Monetary Data⁴



³ The broadest CFS Divisia monetary aggregates are **best** for most purposes. See p. 13 for background on the supporting research. We nevertheless provide the narrower CFS Divisia aggregates in Figure 2 for comparison.

⁴ The narrow aggregates shown here, DM1 and DM2, are similar to the MSI (monetary services index) Divisia aggregates, supplied by the St. Louis Federal Reserve Bank. For more information about the St. Louis Fed's MSI Divisia aggregates and their relationship to the CFS Divisia monetary aggregates, see p. 13.



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Figure 3 - CFS Divisia Monetary Aggregates Table, Year-Over-Year Percent Change

Date	Divisia M4 Including Treasuries (DM4)	Divisia M4 Excluding Treasuries (DM4-)	Divisia M3	Divisia M2 (Sweeps Adjusted) ⁵	Divisia M1 (Sweeps Adjusted) ⁵
Nov-17	4.9%	5.1%	4.9%	4.8%	9.2%
Dec-17	4.9%	4.9%	4.9%	4.9%	8.7%
Jan-18	5.0%	4.8%	4.7%	4.5%	8.5%
Feb-18	5.0%	4.5%	4.4%	4.1%	6.8%
Mar-18	5.1%	4.2%	4.1%	4.0%	6.5%
Apr-18	4.6%	4.0%	3.8%	3.8%	6.2%
May-18	4.6%	4.0%	3.8%	3.8%	3.7%
Jun-18	4.9%	4.2%	4.0%	4.0%	3.2%
Jul-18	4.8%	4.2%	4.0%	3.8%	2.9%
Aug-18	4.5%	3.7%	3.5%	3.6%	2.0%
Sep-18	4.1%	3.5%	3.4%	3.5%	2.9%
Oct-18	3.9%	3.3%	3.3%	3.1%	2.3%
Nov-18	3.5%	3.0%	2.9%	2.9%	0.8%
Dec-18	4.0%	3.6%	3.6%	3.3%	3.2%
Jan-19	4.2%	3.8%	3.9%	3.5%	1.7%
Feb-19	4.4%	4.1%	4.2%	3.5%	3.4%
Mar-19	4.4%	4.3%	4.3%	3.3%	1.0%
Apr-19	4.5%	4.4%	4.4%	3.3%	2.7%
May-19	4.7%	4.6%	4.6%	3.6%	3.3%
Jun-19	4.8%	4.8%	4.8%	4.0%	4.7%
Jul-19	5.0%	5.2%	5.2%	4.3%	4.9%
Aug-19	5.4%	5.6%	5.6%	4.4%	4.4%
Sep-19	5.9%	5.8%	5.9%	4.8%	5.5%
Oct-19	6.5%	6.4%	6.4%	5.6%	5.5%
Nov-19	7.1%	7.2%	7.2%	6.3%	7.0%
Dec-19	6.7%	6.8%	6.8%	6.0%	6.3%
Jan-20	6.8%	6.9%	6.8%	6.3%	6.3%
Feb-20	6.9%	6.9%	6.9%	6.5%	6.6%
Mar-20	9.8%	10.1%	10.2%	10.1%	15.1%
Apr-20	22.1%	16.9%	17.1%	17.1%	29.3%
May-20	28.6%	20.9%	21.4%	22.2%	37.0%
Jun-20	31.2%	21.0%	21.8%	23.3%	40.6%
Jul-20	30.8%	20.7%	21.5%	23.9%	42.9%
Aug-20	29.8%	20.0%	20.9%	24.0%	45.0%

Note: Cells are shaded on a gradient from dark green (maximum) to dark red (minimum).

⁵ While the broadest Divisia monetary aggregates are best for most purposes, we provide the narrower CFS Divisia aggregates for comparison. The narrow aggregates shown here, DM1 and DM2, are similar to the MSI (monetary services index) Divisia aggregates, supplied by the St. Louis Federal Reserve Bank. For more information about the St. Louis Fed's MSI Divisia aggregates and their relationship to the CFS Divisia monetary aggregates, see p. 13.



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Figure 4 - CFS Divisia Data Table (DM4, DM4-, and DM3)

Levels are normalized to equal 100 in Jan. 1967

Date	Divisia M4 Including Treasuries (DM4)		Divisia M4 Excluding Treasuries (DM4-)		Divisia M3	
	Level	Yr-Over-Yr % Growth Rate	Level	Yr-Over-Yr % Growth Rate	Level	Yr-Over-Yr % Growth Rate
Nov-17	1,504	4.9%	1,412	5.1%	1,411	4.9%
Dec-17	1,508	4.9%	1,415	4.9%	1,413	4.9%
Jan-18	1,512	5.0%	1,418	4.8%	1,415	4.7%
Feb-18	1,515	5.0%	1,419	4.5%	1,416	4.4%
Mar-18	1,521	5.1%	1,423	4.2%	1,421	4.1%
Apr-18	1,526	4.6%	1,428	4.0%	1,425	3.8%
May-18	1,533	4.6%	1,433	4.0%	1,431	3.8%
Jun-18	1,540	4.9%	1,440	4.2%	1,438	4.0%
Jul-18	1,545	4.8%	1,444	4.2%	1,442	4.0%
Aug-18	1,550	4.5%	1,446	3.7%	1,444	3.5%
Sep-18	1,554	4.1%	1,452	3.5%	1,450	3.4%
Oct-18	1,556	3.9%	1,454	3.3%	1,452	3.3%
Nov-18	1,557	3.5%	1,454	3.0%	1,452	2.9%
Dec-18	1,569	4.0%	1,466	3.6%	1,464	3.6%
Jan-19	1,576	4.2%	1,472	3.8%	1,470	3.9%
Feb-19	1,581	4.4%	1,477	4.1%	1,475	4.2%
Mar-19	1,588	4.4%	1,484	4.3%	1,482	4.3%
Apr-19	1,595	4.5%	1,490	4.4%	1,488	4.4%
May-19	1,604	4.7%	1,499	4.6%	1,497	4.6%
Jun-19	1,615	4.8%	1,510	4.8%	1,507	4.8%
Jul-19	1,622	5.0%	1,519	5.2%	1,516	5.2%
Aug-19	1,634	5.4%	1,527	5.6%	1,525	5.6%
Sep-19	1,645	5.9%	1,537	5.8%	1,534	5.9%
Oct-19	1,657	6.5%	1,547	6.4%	1,545	6.4%
Nov-19	1,668	7.1%	1,559	7.2%	1,556	7.2%
Dec-19	1,674	6.7%	1,565	6.8%	1,563	6.8%
Jan-20	1,683	6.8%	1,573	6.9%	1,571	6.8%
Feb-20	1,690	6.9%	1,579	6.9%	1,577	6.9%
Mar-20	1,744	9.8%	1,633	10.1%	1,633	10.2%
Apr-20	1,948	22.1%	1,741	16.9%	1,743	17.1%
May-20	2,063	28.6%	1,812	20.9%	1,818	21.4%
Jun-20	2,119	31.2%	1,827	21.0%	1,835	21.8%
Jul-20	2,123	30.8%	1,833	20.7%	1,843	21.5%
Aug-20	2,120	29.8%	1,833	20.0%	1,843	20.9%



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Figure 5 - CFS Divisia Data Table (DM2 and DM1)

Levels are normalized to equal 100 in Jan. 1967

Date	Divisia M2 (Sweeps Adjusted)		Divisia M1 (Sweeps Adjusted)	
	Level	Yr-Over-Yr % Growth Rate	Level	Yr-Over-Yr % Growth Rate
Nov-17	1,600	4.8%	2,476	9.2%
Dec-17	1,605	4.9%	2,456	8.7%
Jan-18	1,608	4.5%	2,487	8.5%
Feb-18	1,611	4.1%	2,460	6.8%
Mar-18	1,618	4.0%	2,492	6.5%
Apr-18	1,622	3.8%	2,489	6.2%
May-18	1,629	3.8%	2,482	3.7%
Jun-18	1,636	4.0%	2,477	3.2%
Jul-18	1,639	3.8%	2,490	2.9%
Aug-18	1,644	3.6%	2,495	2.0%
Sep-18	1,647	3.5%	2,505	2.9%
Oct-18	1,647	3.1%	2,516	2.3%
Nov-18	1,646	2.9%	2,497	0.8%
Dec-18	1,658	3.3%	2,535	3.2%
Jan-19	1,664	3.5%	2,529	1.7%
Feb-19	1,667	3.5%	2,544	3.4%
Mar-19	1,671	3.3%	2,518	1.0%
Apr-19	1,676	3.3%	2,557	2.7%
May-19	1,687	3.6%	2,563	3.3%
Jun-19	1,701	4.0%	2,594	4.7%
Jul-19	1,709	4.3%	2,612	4.9%
Aug-19	1,716	4.4%	2,605	4.4%
Sep-19	1,726	4.8%	2,642	5.5%
Oct-19	1,739	5.6%	2,655	5.5%
Nov-19	1,750	6.3%	2,672	7.0%
Dec-19	1,758	6.0%	2,693	6.3%
Jan-20	1,770	6.3%	2,689	6.3%
Feb-20	1,776	6.5%	2,712	6.6%
Mar-20	1,840	10.1%	2,897	15.1%
Apr-20	1,962	17.1%	3,305	29.3%
May-20	2,062	22.2%	3,512	37.0%
Jun-20	2,098	23.3%	3,647	40.6%
Jul-20	2,118	23.9%	3,733	42.9%
Aug-20	2,128	24.0%	3,778	45.0%



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Figure 6 - Components of CFS Divisia M4 - Highlights for August 2020

Components in this table build from the narrowest aggregate at the top to the broadest at the bottom. For example, the darkest green in the left column includes components of DM1. The next tier shows the components included in DM2, but not within DM1.

	Weighted Contribution To DM4 Money Annual Growth Rate*	Divisia Growth-Rate Weights (Average of Last 12 Months)	Unweighted Year-Over-Year Percentage Growth Rate
DM1			
Currency	1.0%	8.6%	14.2%
Demand Deposits **	5.8%	14.6%	50.1%
OCDs at Commercial Banks **	0.8%	3.1%	33.3%
OCDs at Thrift Institutions **	2.7%	3.1%	139.7%
Added into DM2			
Savings Deposits at Commercial Banks **	5.2%	34.2%	17.3%
Savings Deposits at Thrift Institutions **	-0.3%	4.4%	-8.1%
Retail Money-Market Funds	0.4%	2.1%	18.5%
Small Time Deposits at Commercial Banks	-0.8%	1.9%	-42.0%
Small Time Deposits at Thrifts	-0.1%	0.3%	-32.8%
Added into DM3			
Institutional Money-Market Funds	2.6%	5.4%	44.9%
Large Time Deposits	-0.3%	7.3%	-6.4%
Repurchase Agreements	-0.3%	3.9%	-3.2%
Added into DM4-			
Commercial Paper	-0.3%	1.9%	-11.2%
Added into DM4			
T-Bills	9.7%	9.0%	118.0%

Note: The row labels in the first column are shaded to show which components are included into which aggregates. Each data column is shaded on a gradient from dark green (maximum) to dark red (minimum). See the figures 10-15 for these calculations over time and a chart version of the above table. Traveler's Checks were included until their recent discontinuation by the Federal Reserve in January 2019.

* Average of last 12 monthly weighted contributions to CFS Divisia M4 growth rates (annual rates). Unlike the other percent calculations in this report, the weighted contributions use continuous percent changes computed from natural logs.

** Sweeps adjusted.

Components That Are Pulling CFS Divisia M4 Up

The largest positive contributor to CFS Divisia M4 growth was T-bills, contributing an increase of 9.7% in the last 12 months ending August 2020. Their growth-rate weight was 9.0%. Unweighted, they increased 118.0% in the last 12 months. This component is included only in the broadest aggregate (DM4).

The second largest positive contributor to growth was demand deposits (sweeps adjusted), contributing an increase of 5.8% in the last 12 months ending August 2020. Their growth-rate weight was 14.6%. Unweighted, they increased 50.1% in the last 12 months. This component is included in all of the aggregates.

The third largest positive contributor to growth was commercial banks' savings deposits (sweeps adjusted), contributing an increase of 5.2% in the last 12 months ending August 2020. Their growth-rate weight was 34.2%. Unweighted, they increased 17.3% in the last 12 months. This component is included in all of the aggregates, except the narrowest (DM1).

Components That Are Pulling CFS Divisia M4 Down

The largest negative contributor to CFS Divisia M4 growth was commercial banks' small time deposits, contributing a decrease of 0.8% in the last 12 months ending August 2020. Their growth-rate weight was 1.9%. Unweighted, they decreased 42.0% in the last 12 months. This component is included in all of the aggregates, except the narrowest (DM1).

The second largest negative contributor to CFS Divisia M4 growth was thrift institutions' savings deposits (sweeps adjusted), contributing a decrease of 0.3% in the last 12 months ending August 2020. Their growth-rate weight was 4.4%. Unweighted, they decreased 8.1% in the last 12 months. This component is included in all of the aggregates, except the narrowest (DM1).

The third largest negative contributor to CFS Divisia M4 growth was large time deposits, contributing a decrease of 0.3% in the last 12 months ending August 2020. Their growth-rate weight was 7.3%. Unweighted, they decreased 6.4% in the last 12 months. This component is included in DM3, DM4-, and DM4, but not in the narrower aggregates (DM1 and DM2).



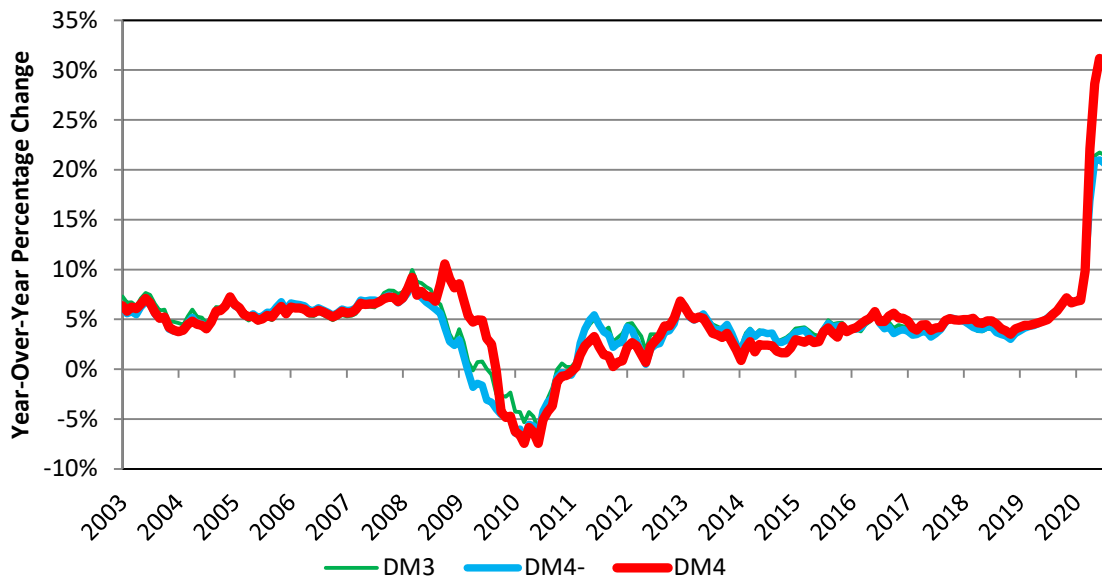
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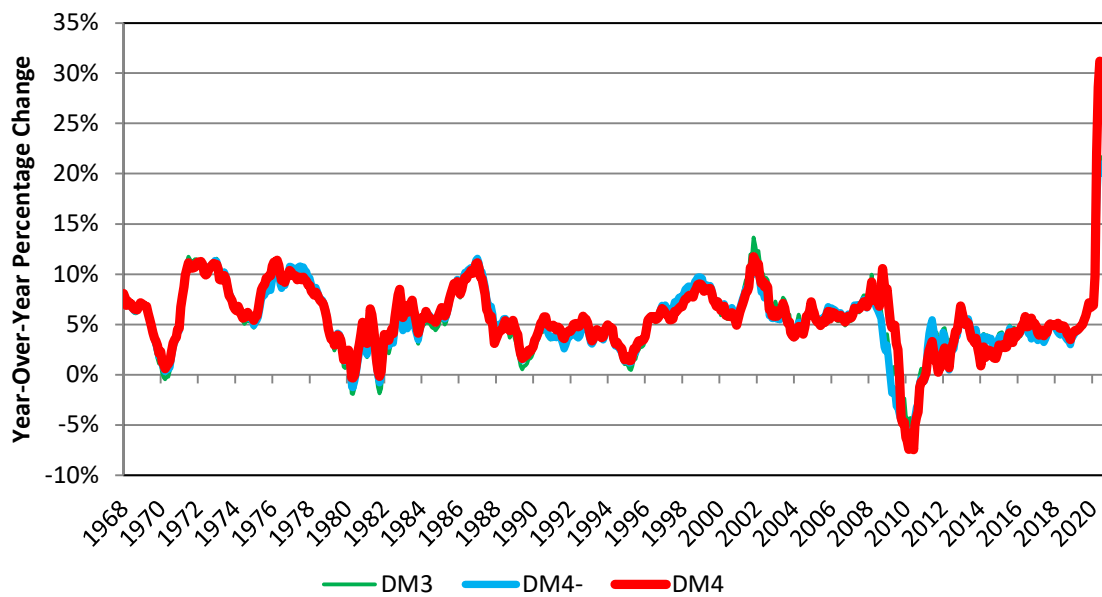
Figure 7 - CFS Divisia Monetary Growth Charts

DM3, DM4-, and DM4 Year-Over-Year Percent Change, Two Date Horizons

2003 to Present



1968 to Present





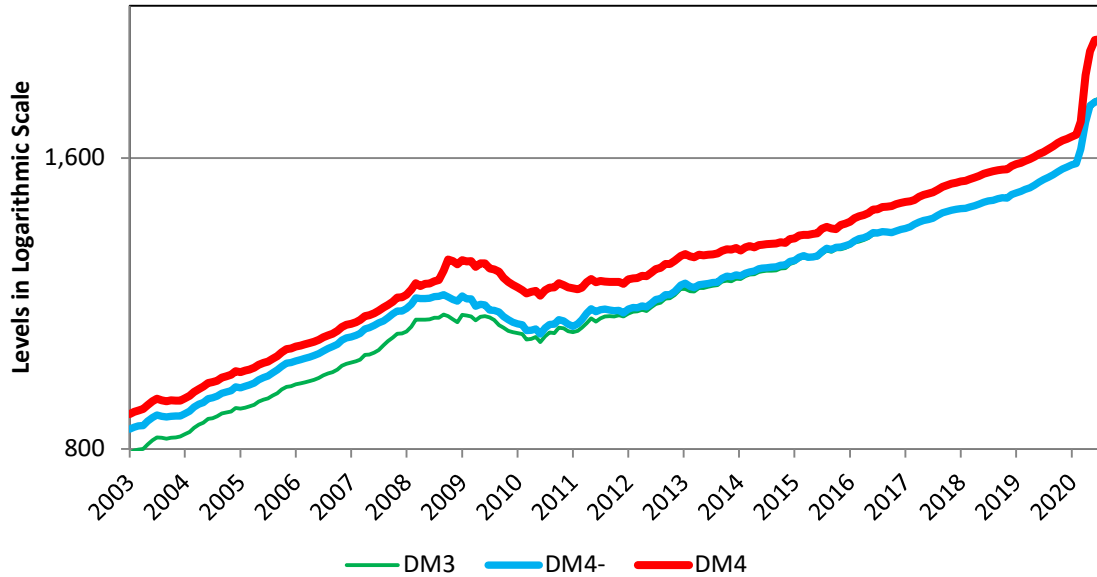
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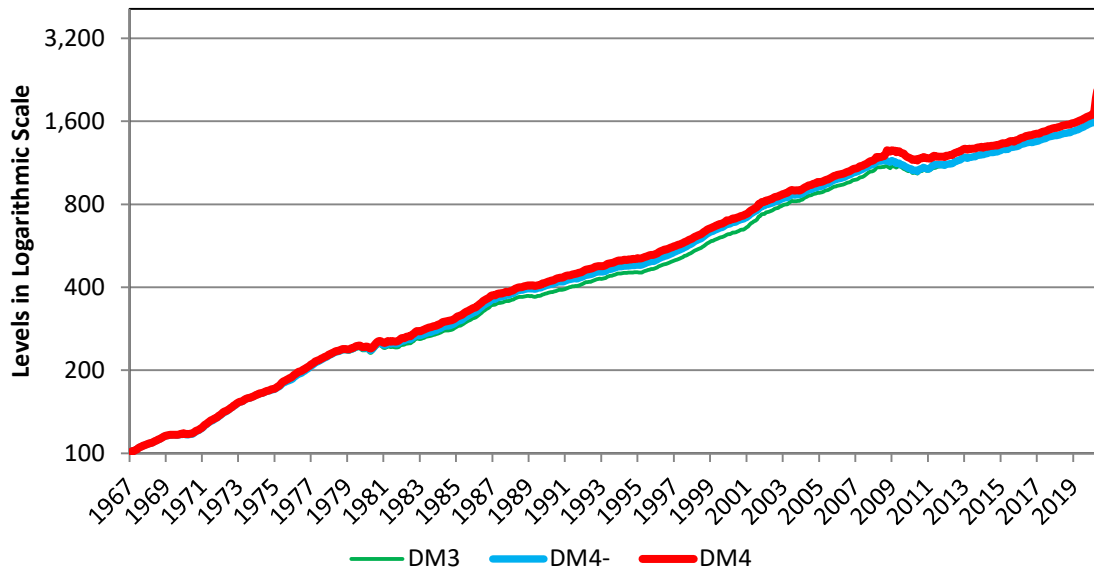
Figure 8 - CFS Divisia Monetary Aggregates Level Charts

DM3, DM4-, and DM4 Levels, Normalized to Equal 100 in Jan. 1967, Logarithmic Scales

2003 to Present



1967 to Present





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Figure 9 - Components of All CFS Divisia Aggregates
Growth-Rate Weights Used in Latest Month (August 2020)

	Divisia M1	Divisia M2M	Divisia M2M	Divisia M2	Divisia ALL	Divisia M3	Divisia M4-	Divisia M4
Currency	25.1%	11.4%	10.1%	11.2%	9.9%	8.6%	8.3%	7.0%
Demand Deposits (Sweeps Adjusted)	50.9%	23.2%	20.5%	22.7%	20.1%	17.5%	16.9%	14.1%
OCDs at Commercial Banks (Sweeps Adjusted)	10.2%	4.7%	4.1%	4.6%	4.1%	3.5%	3.4%	2.8%
OCDs at Thrift Institutions (Sweeps Adjusted)	13.7%	6.2%	5.5%	6.1%	5.4%	4.7%	4.5%	3.8%
Savings Deposits at Commercial Banks (Sweeps Adjusted)		45.1%	39.9%	44.3%	39.2%	34.1%	32.9%	27.5%
Savings Deposits at Thrift Institutions (Sweeps Adjusted)		4.7%	4.2%	4.6%	4.1%	3.6%	3.4%	2.9%
Retail Money-Market Funds		4.7%	4.1%	4.6%	4.1%	3.5%	3.4%	2.8%
Small Time Deposits at Commercial Banks				1.5%	1.4%	1.2%	1.1%	1.0%
Small Time Deposits at Thrifts				0.4%	0.3%	0.3%	0.3%	0.2%
Institutional Money-Market Funds			11.5%		11.4%	9.9%	9.5%	8.0%
Large Time Deposits						6.4%	6.1%	5.1%
Repurchase Agreements						6.8%	6.5%	5.5%
Commercial Paper							3.5%	2.9%
T-Bills								16.4%
Sum of Weights	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

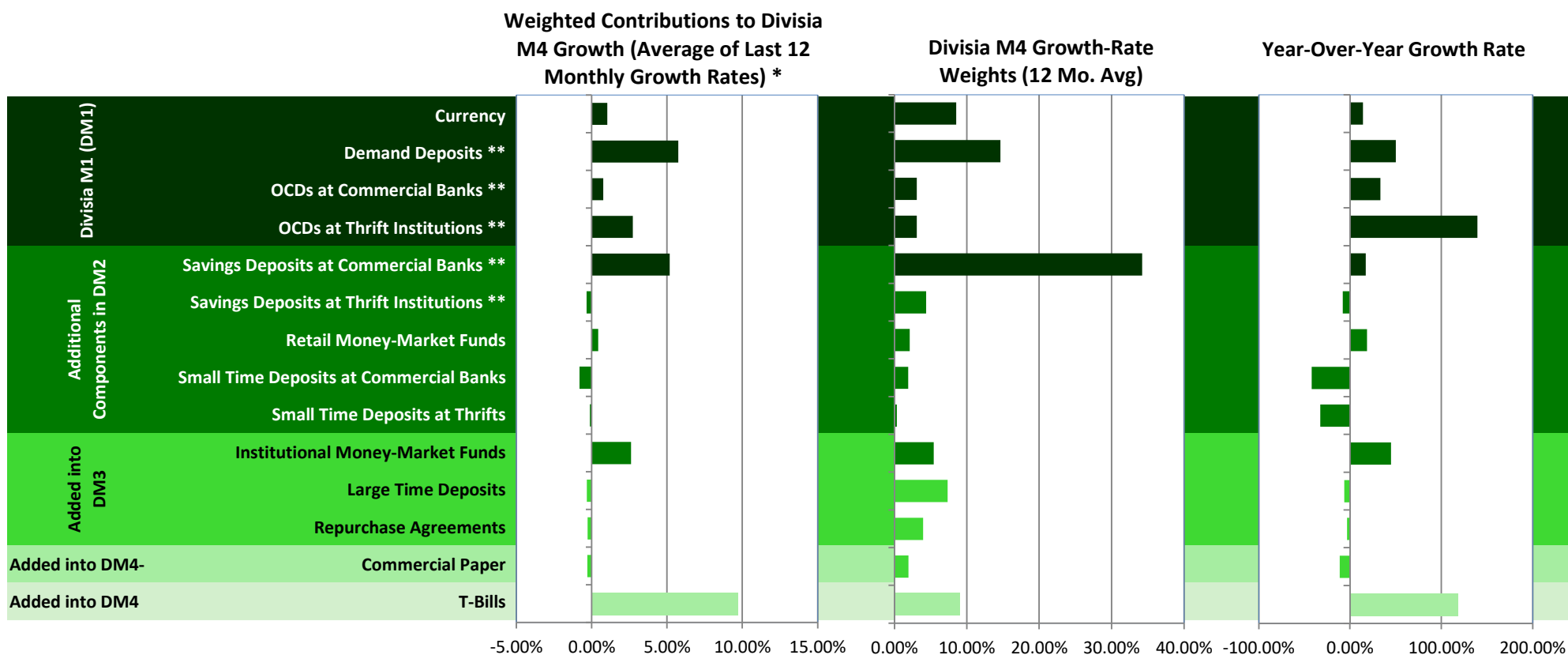
* Sweeps adjusted.



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Figure 10 - Components of CFS Divisia M4 - Highlights for August 2020

Note: Each component's influence on DM4 growth (left chart column) reflects the component's unweighted growth (right chart column) and its growth-rate weight (middle chart column). The background and the bar colors are shaded to show which components are included in which aggregates. The lighter the green, the broader the aggregate.



* Average of last 12 monthly weighted contributions to CFS Divisia M4 growth rates (annual rates). Unlike the other percent calculations in this report, the weighted contributions use continuous percent changes computed from natural logs e.g. $(\ln(x) - \ln(x-1))$.

** Sweeps adjusted.



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Figure 11 - CFS Divisia M4 Quarterly Growth Triangle

Recent Quarterly History (Compound Annual Rates of Change)

This triangular report design was originated by Federal Reserve Bank of St. Louis to show seasonally adjusted annualized growth rates for a variety of time periods.

Terminal Period	Initial Period																			
	Q3 2015	Q4 2015	Q1 2016	Q2 2016	Q3 2016	Q4 2016	Q1 2017	Q2 2017	Q3 2017	Q4 2017	Q1 2018	Q2 2018	Q3 2018	Q4 2018	Q1 2019	Q2 2019	Q3 2019	Q4 2019	Q1 2020	
Q4 2015	2.1																			1,360.27
Q1 2016	4.6	7.1																		1,383.83
Q2 2016	5.1	6.6	6.1																	1,404.42
Q3 2016	5.0	6.0	5.4	4.7																1,420.55
Q4 2016	4.6	5.3	4.7	4.0	3.4															1,432.31
Q1 2017	4.4	4.9	4.3	3.7	3.3	3.2														1,443.47
Q2 2017	4.6	5.0	4.6	4.3	4.1	4.5	5.9													1,464.18
Q3 2017	4.7	5.1	4.7	4.5	4.4	4.8	5.6	5.3												1,483.19
Q4 2017	4.8	5.1	4.9	4.6	4.6	5.0	5.6	5.4	5.6											1,503.46
Q1 2018	4.6	4.9	4.7	4.5	4.4	4.6	5.0	4.7	4.5	3.4										1,515.98
Q2 2018	4.6	4.9	4.7	4.5	4.5	4.6	4.9	4.7	4.5	4.0	4.6									1,533.04
Q3 2018	4.6	4.9	4.6	4.5	4.4	4.6	4.8	4.6	4.5	4.1	4.5	4.4								1,549.56
Q4 2018	4.5	4.7	4.5	4.3	4.3	4.4	4.6	4.3	4.2	3.8	3.9	3.6	2.9							1,560.60
Q1 2019	4.6	4.7	4.6	4.4	4.4	4.5	4.7	4.5	4.4	4.1	4.3	4.2	4.2	5.5						1,581.64
Q2 2019	4.6	4.8	4.7	4.5	4.5	4.6	4.8	4.7	4.6	4.4	4.6	4.7	4.8	5.7	5.9					1,604.60
Q3 2019	4.8	5.0	4.9	4.8	4.8	4.9	5.1	5.0	5.0	4.9	5.1	5.2	5.4	6.3	6.7	7.5				1,633.80
Q4 2019	5.0	5.2	5.1	5.0	5.0	5.2	5.4	5.3	5.3	5.3	5.5	5.7	6.0	6.8	7.2	7.8	8.2			1,666.12
Q1 2020	5.3	5.5	5.4	5.3	5.4	5.5	5.7	5.7	5.8	5.8	6.1	6.3	6.6	7.4	7.9	8.5	9.0	9.9		1,705.84
Q2 2020	9.1	9.5	9.6	9.8	10.2	10.7	11.3	11.7	12.4	13.1	14.2	15.4	17.1	19.7	22.7	27.3	34.7	50.4	105.8	2,043.12

How to Read this Table:

To find a growth rate for a particular date range, find the column that contains the start quarter; then find the row that contains the end quarter of the date range. The cell where they intersect represents the annualized growth rate for that time period. For example, the last row contains the growth rates ending in the most recent quarter for each starting quarter going back 4 3/4 years. The outer diagonal shows the growth rates that are the quarter-over-quarter rates for the last few years. Red and green shades highlight the largest negative and positive growth rates.

Quarterly Data Highlights:

In the last quarter, CFS Divisia M4 grew by 105.8% (seasonally adjusted annual rate).

In the last year, CFS Divisia M4 grew by 27.3% (seasonally adjusted annual rate).

In the last 2 years, CFS Divisia M4 grew by 15.4% (seasonally adjusted annual rate).

In the last 3 years, CFS Divisia M4 grew by 11.7% (seasonally adjusted annual rate).

In the last 4 years, CFS Divisia M4 grew by 9.8% (seasonally adjusted annual rate).



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Introduction to CFS Divisia Monetary Aggregates

Conventional money-supply measures are not adjusted to account for differences in the degree to which various assets actually serve as money, and hence implicitly assume that all assets in the aggregates contribute equally to the economy's monetary services. This assumption has not been reasonable since monetary assets began yielding interest over a half century ago. Divisia measures, using a mathematical formula derived by the famous 20th-century French economist, Francois Divisia, are a weighted aggregate, providing a more accurate picture of what is really happening to the economy's monetary service flow. The growth-rate weights for each component asset are based on their expenditure shares, with expenditures within the shares evaluated with user-cost pricing. The user-cost prices measure the interest foregone by owning the asset in question, instead of the higher, expected, benchmark rate, defined to be the rate of return on pure investment capital, providing no monetary services.

When their components are properly weighted, the broadest monetary aggregates (DM3, DM4-, and DM4) are almost always the best monetary aggregates, with DM4 commonly being the most useful of the three. As a result, this report focuses on the broadest, CFS Divisia aggregate (DM4). See W. A. Barnett, "The Optimal Level of Monetary Aggregation," *Journal of Money, Credit, and Banking*, November 1982.⁶ But we nevertheless provide the narrower CFS Divisia aggregates for comparison.

The CFS Divisia indexes in this release were developed by Professor William A. Barnett, based on his decades of work studying and refining Divisia measures of money supply, in accordance with the latest advances in economic measurement, modern economic aggregation theory, and state-of-the-art economic index-number theory. The Divisia formula for aggregating over imperfect substitutes was adapted for monetary and financial aggregation by W. A. Barnett in his seminal paper, "Economic Monetary Aggregates: An Application of Index Number and Aggregation Theory," *Journal of Econometrics*, September 1980, pp. 6-10.⁷ For more information about the history and methodology in this large literature, see <http://www.centerforfinancialstability.org/amfm.php>.

We consider the St. Louis Fed's MSI (monetary services index) Divisia aggregates to be an admirable and important contribution to public information, and we are indebted to the St. Louis Fed for helping us develop our Divisia monetary aggregates. Our narrowest Divisia monetary aggregates are similar to the St. Louis Fed's MSI Divisia aggregates, which are available only as narrow aggregates. However, we use a different benchmark interest-rate assumption, based on the recently introduced Bank of Israel formula. Since the Divisia quantity-index formula is relatively robust to the benchmark rate,

⁶ Reprinted in W. A. Barnett and A. Serletis, *The Theory of Monetary Aggregation*, Elsevier, 2000, chapter 7, pp. 125-149. Also see W. A. Barnett, *Getting It Wrong: How Faulty Monetary Statistics Undermine the Fed, the Financial System, and the Economy*, MIT Press, 2012, section 4.4, pp. 143-144.

⁷ Reprinted in W. A. Barnett and A. Serletis, *The Theory of Monetary Aggregation*, chapter 2, pp. 11-48. Also see W. A. Barnett, *Getting It Wrong: How Faulty Monetary Statistics Undermine the Fed, the Financial System, and the Economy*, appendix A, pp. 159-215.



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the CFS narrow Divisia quantity indexes can be expected usually to behave similarly to the St. Louis Fed's MSI Divisia aggregates; but the CFS and St. Louis Fed's corresponding user-cost price aggregates behave very differently. For more information about the St. Louis Fed's MSI, see <http://research.stlouisfed.org/msi/> and <http://research.stlouisfed.org/fred2/release?rid=62&soid=4>.

The broad Divisia monetary aggregates, DM3, DM4-, and DM4, are available only from the CFS, since no other source currently exists for broad Divisia monetary aggregates for the US.

CFS Divisia Resources on the Center for Financial Stability Site

See www.centerforfinancialstability.org/amfm.php for more information about the following topics:

- Introduction to Advances in Monetary and Financial Measurement (Divisia)
- Monetary Data for the US: including methodology, data sources, and key takeaway points
- International Advances in Monetary and Financial Measurement: Divisia and Fisher-ideal monetary aggregates for a vast number of countries throughout the world
- Library: Key articles and books regarding advances in monetary and financial measurement

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CFS balances the big picture and financial market mechanics; serves as a private sector check on government actions; integrates finance, law, and economics; and supplements research with a community of public officials, academics, and market participants.

The organization's website is www.centerforfinancialstability.org.

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With appreciation to Lawrence Goodman for his contributions to the Advances in Monetary and Financial Measurement program and to Steve Hanke, Special Counselor at the CFS, for introducing Bill Barnett to the CFS.

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