

ANALYSIS
MAY 2023

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Debt Limit Scenario Update

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Debt Limit Scenario Update

By Mark Zandi, Adam Kamins and Bernard Yaros

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X-date update

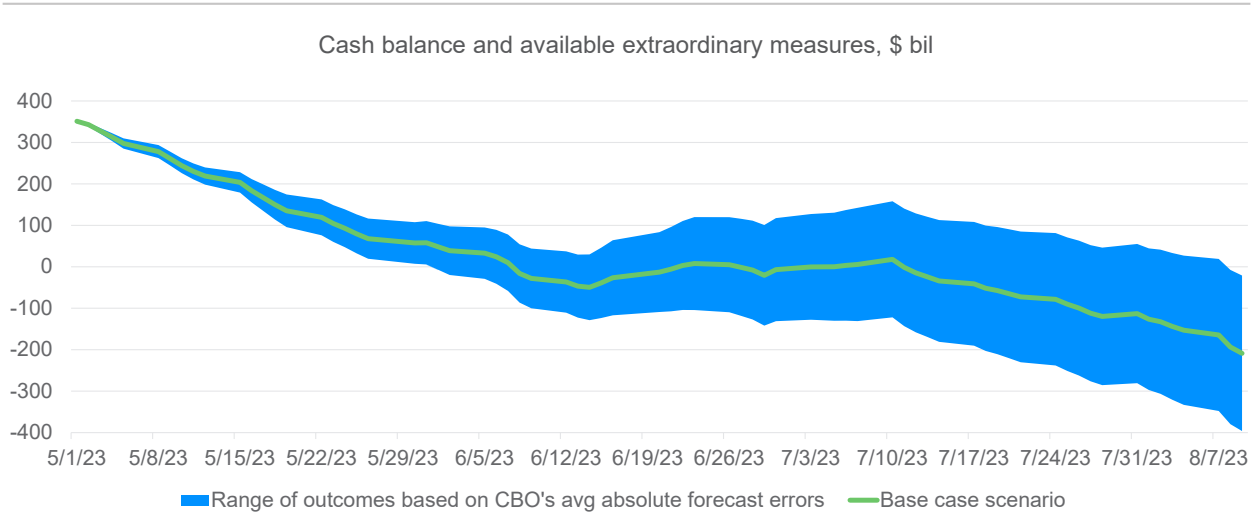
The 2023 tax filing season has come and gone, and it is now clear that Congress and the Biden administration have even less time to hammer out a deal to raise or suspend the debt limit than previously thought. We estimate that the X-date, when the Treasury will run out of the cash needed to pay the government's bills on time, will fall on June 8 (see Chart 1). This is consistent with Treasury Secretary Janet Yellen's "[best estimate](#)" that Treasury will be unable to fulfill all of the federal government's obligations by early June. The Congressional Budget Office [similarly warned](#) that there is a "significantly greater risk" of the X-date falling in early June.

Cumulative non-withheld income tax receipts since the beginning of April are tracking nearly 40% below their year-ago performance (see Chart 2). The Treasury's tax haul has been considerably smaller than we had anticipated just a month ago. In early April, our X-date estimate assumed that by the end of the month the Treasury would have close to \$500 billion in cash-on-hand and so-called extraordinary measures, or accounting tools that limit the amount of debt subject to the statutory limit. However, the sum of the Treasury's cash balance and extraordinary measures was not much more than \$350 billion. The postponement of the tax filing deadline until October 16 for disaster-area taxpayers in California, Alabama and Georgia and smaller capital gains tax receipts are the likely culprits behind the unexpected weakness in April tax revenue.

Our estimate of the X-date is uncertain given the difficulty forecasting tax revenues. Applying the average absolute forecast errors of key deposits and withdrawals from the Treasury's primary operational account at the Federal Reserve as calculated by the CBO, the X-date could come as soon as June 1 and as late as early August. Critical to estimating precisely when is the assumption that the IRS will finish processing this year's

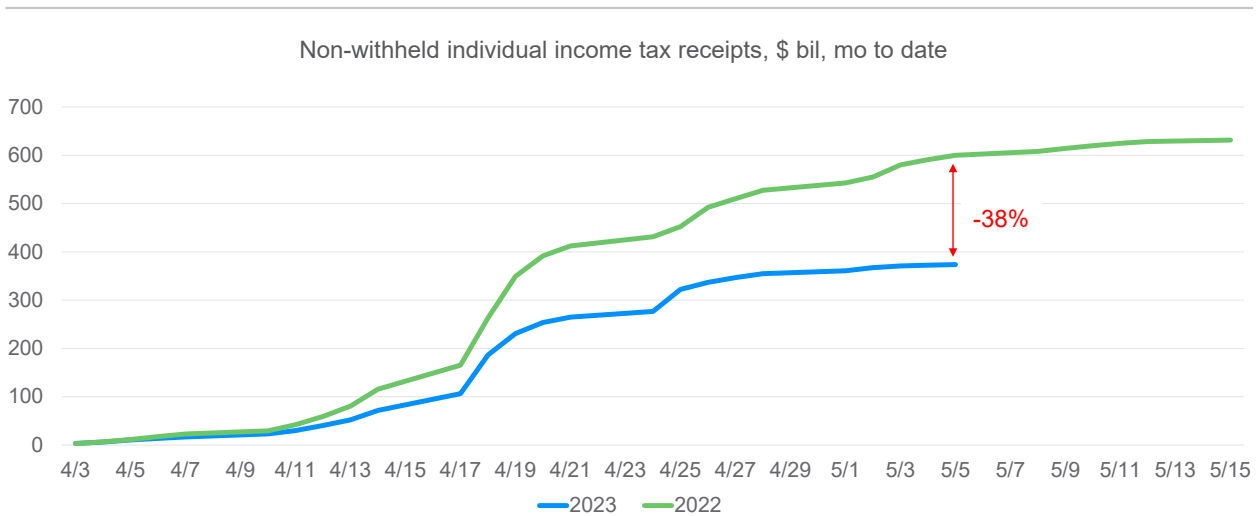
¹ Our baseline—the most likely—scenario is that the debt limit drama will go down to the final hour, but that lawmakers come to terms before there is a breach. This is a so-called clean debt limit increase, although lawmakers also agree to some cuts to future government spending and other modest changes to fiscal policy as part of the fiscal 2024 budget necessary to fund the government and avoid a government shutdown.

Chart 1: June 8 Is the Most Likely X-Date...



Source: Moody's Analytics

Chart 2: ...As Tax Receipts Have Been Weaker Than Anticipated



Sources: U.S. Treasury, Moody's Analytics

tax returns more quickly than it did a year ago when it was hampered by the pandemic. The IRS will thus process fewer extra payments this month than it did last year. This is consistent with non-withheld income tax receipts so far in May.

It is also important to note that the X-date may be June 8 as we forecast, but a few days later the Treasury will benefit from a mid-June surge of quarterly payments of non-withheld taxes owed by higher-income taxpayers. As a result, the Treasury could muddle through the remainder of June, paying the government's bills on time. This could reduce the immediate pressure on lawmakers to act, although that will likely depend on how financial markets react.

Financial system fault lines

Global investors are already on edge. This is evident in the recent surge in yields on one-month Treasury bills, which now mature on the other side of the estimated early June X-date (see Chart 3). It seems incomprehensible that the Treasury would not prioritize Treasury debt payments. It can do so because those payments are made via [Fedwire](#), a system separate from that used to pay the government's other bills. Not paying on the debt would cause immediate financial market chaos resulting forever in higher government borrowing costs. Yet investors are not absolutely sure of timely payment and are thus demanding a higher rate to compensate for the risk.

Chart 3: Fault Lines Develop in the Financial System...



Sources: ICE, Moody's Analytics

Credit default swaps on Treasury securities—the cost of buying insurance in case Treasury defaults on the debt—have also jumped in recent weeks (see Chart 4). At near 130 basis points, the CDS spread on one-year Treasury securities is already substantially more than in 2011 when that debt limit drama was so unnerving it caused rating agency Standard & Poor's to [strip the U.S. of its AAA rating](#).² While stock prices fell almost 20% intraday during the 2011 debt limit battle, they have held up well so far in the current tussle. But this is likely to change soon as the X-date comes into clear view. Indeed, it may well require a selloff in stocks, bonds, and the value of the U.S. dollar to generate the political will necessary to force lawmakers to come to terms. It is only when donors and constituents, angry at their evaporating wealth, pound on lawmakers' doors, that lawmakers will act.

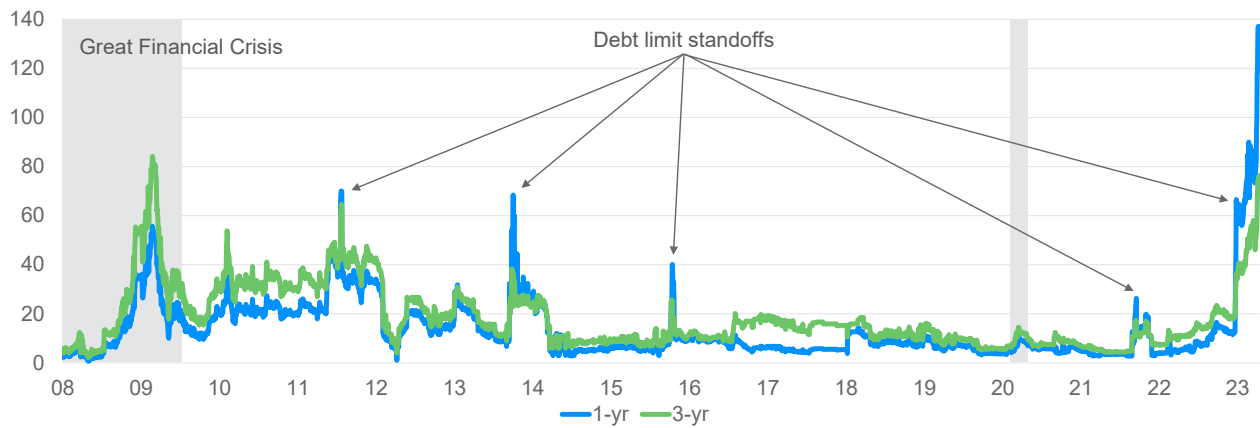
Short Breach scenario

However, odds are increasing that lawmakers will not act before the debt limit is breached. We consider what this means for the national and state economies under the alternative scenario in which it is a short breach of no more than a week.

² A CDS spread of 100 basis points means that it costs \$100 to insure \$10,000 worth of Treasury securities against a default on those securities. The surge in CDS spreads may overstate investors' angst since the CDS market for buying insurance in the case of a Treasury default is not actively traded and it does not take much trading to push up the cost of insurance, but it should not be dismissed out of hand.

Chart 4: ...That Threaten to Become Earthquakes

U.S. Treasury credit default swap spread by tenor, bps



Sources: ICE, Moody's Analytics

The CDS spread on U.S. Treasury securities measures the cost of purchasing insurance to protect against a default on that Treasury. For example, a 100-basis point spread means it costs \$100 to insure \$10,000 worth of Treasuries.

Most immediately, financial markets will be roiled. A [TARP moment](#) seems likely. This harkens to the dark day in autumn 2008 when Congress initially failed to pass the Troubled Asset Relief Program bailout of the banking system, and the stock market and other financial markets cratered. A similar crisis, characterized by spiking interest rates and plunging equity prices, would be ignited. Short-term funding markets, essential to the flow of credit that helps finance the economy's day-to-day activities, likely would freeze up as well. It was a matter of days before Congress reversed itself and voted for TARP, which is about the amount of time we assume is needed to convince this Congress to reverse itself and vote for a debt limit increase.

It is difficult to fathom that lawmakers would allow things to get to this point, but as the TARP experience highlights, it cannot be dismissed. Still, if that harrowing experience is a guide, lawmakers would quickly reverse course and resolve the debt limit impasse to allow the Treasury to resume issuing debt again and pay its bills.

It is unclear whether the credit rating agencies would downgrade Treasury debt in this scenario. According to [Moody's Investors Service](#), it would downgrade if the Treasury failed to make a bond payment. But, according to the rating agency, if the episode was short-lived and cured with full recovery, the ratings impact "would likely be limited, with the sovereign rating likely remaining close to Aaa, consistent with the U.S.' very high capacity to repay debt and supported by a number of key considerations including very strong economic and institutional credit features."³ However, [Standard & Poor's](#) downgraded the nation's debt in the 2011 debt limit battle for much less, citing the political dysfunction at the time. Since then, that dysfunction has only intensified.

A downgrade of Treasury debt would set off a cascade of credit implications and downgrades on the debt of many other financial institutions, nonfinancial corporations, municipalities, infrastructure providers, structured finance transactions, and other debt issuers. Those institutions that are clearly backstopped by the U.S. government, institutions such as Fannie Mae, Freddie Mac, and the Federal Home Loan Banks, would

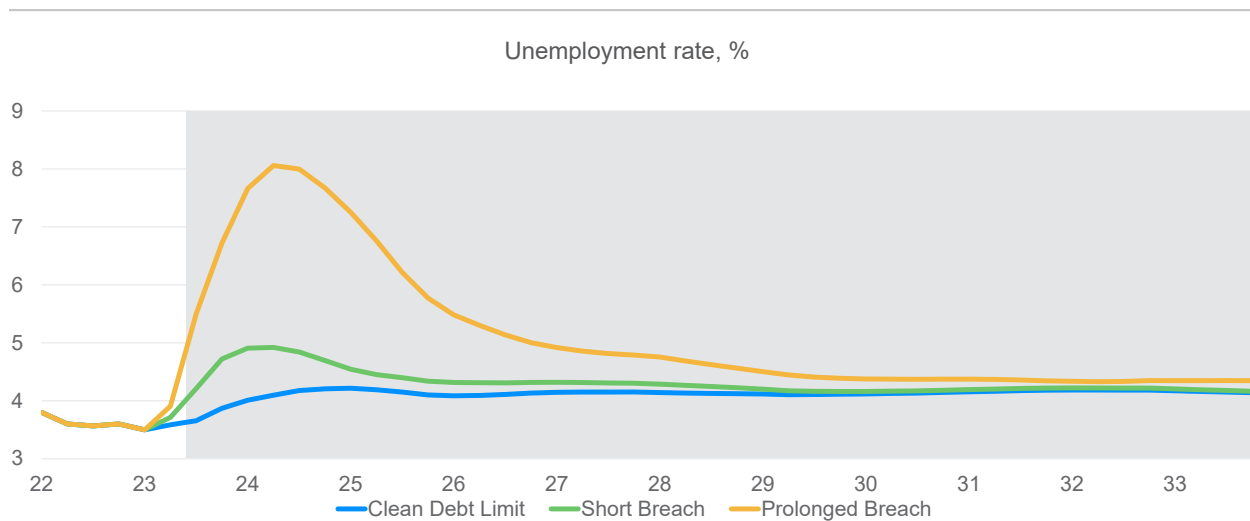
3 Additional documentation from Moody's Investors Service is available upon request.

suffer the biggest changes to their ratings. The effects on other institutions' ratings would vary depending on their relationship with the U.S. government and offsetting financial strengths.

Despite lawmakers' quick reversal in this scenario and our assumption that the rating agencies do not engage in downgrades, considerable damage will have already been done. The timing could not be worse for the economy; even without the specter of a debt limit breach many CEOs and economists believe a recession is dead ahead. With the Federal Reserve ramping up interest rates to quell wage and price pressures, avoiding a recession would be difficult even if nothing else went wrong. Most leading indicators of recession, including the prescient Treasury yield curve—the difference between long- and short-term Treasury yields—strongly point to recession beginning later this year, about when lawmakers will be battling over the limit.

Although the debt limit breach is short, it is enough to undermine the already-fragile U.S. economy, which suffers a mild recession in the second half of this year. Real GDP declines by 0.7 percentage point peak to trough, employment declines by 1.5 million jobs, and the unemployment rate rises from 3.4% to a peak of almost 5% (see Chart 5). Financial markets sell off but settle as investors take solace in lawmakers' decision to quickly reverse course. There is little long-term fallout on the economy, although global investors demand several basis points more in interest on Treasury debt to compensate for the meaningful risk that lawmakers may breach the debt limit again in the future. Of course, even a few basis points more on trillions in Treasury debt adds up to a significant cost to taxpayers. If Treasury securities are no longer perceived as risk-free by global investors, future generations of Americans would pay a steep economic price.

Chart 5: Unemployment Under Different Debt Limit Scenarios



Sources: FHFA, Federal Reserve, Moody's Analytics

Prolonged Breach scenario

In this much darker alternative scenario, lawmakers breach the debt limit and trigger a TARP moment but then fail to reverse course quickly. Instead, the political impasse drags on for weeks through much of the summer with the Treasury prioritizing debt payments over other bills. We assume in these circumstances that the credit rating agencies would downgrade Treasury debt, precipitating widespread downgrades throughout the financial system.

The blow to the economy would be cataclysmic. The federal government would have no option but to slash its outlays, since outlays could be no greater than revenues the Treasury collects. Assuming a June 8 debt limit breach that dragged on through July, the Treasury would have no choice but to eliminate a cumulative cash deficit of approximately \$150 billion by slashing government spending. As these cuts work through the economy, the hit to growth would be overwhelming.

Adding to the economic turmoil would be the damage to consumer, business and investor confidence. Political brinkmanship over the operations of the federal government has been frightening for Americans to watch. In both the 2011 and 2013 debt limit episodes, households were closely attuned to the political hardball being played in Washington, and consumer sentiment slumped. The brinkmanship is also unnerving for businesses that will curtail investment and hiring, and for financial institutions that will quickly turn more cautious in extending credit to households and businesses.

It is difficult to envisage what steps policymakers could take to mitigate the economic carnage. With lawmakers at loggerheads over the debt limit, it is unlikely they would agree on any fiscal support for the economy in response to the self-inflicted crisis, at least not quickly. The Federal Reserve would immediately cut short-term rates to near the zero lower bound and ramp up quantitative easing—Fed purchases of Treasury bonds—but any benefit would be undermined as global investors sold or stopped buying U.S. securities.⁴

The economic downturn that would ensue would be comparable to that suffered during the global financial crisis. That means real GDP would decline during the second half of this year and into 2024, falling 4.6% peak to trough, costing the economy more than 7.8 million jobs, and pushing the unemployment rate to 8%. Stock prices would fall by almost a fifth at the worst of the selloff, wiping out \$10 trillion in household wealth. Treasury yields, mortgage rates, and other consumer and corporate borrowing rates would spike until the debt limit is resolved. They would decline during the subsequent deep recession, but ultimately remain elevated as investors demand compensation for the risk of a future breach (see Chart 6). The economy's long-term growth prospects are also weakened. A decade from now, real GDP is almost 1 percentage point lower, there are 1.2 million fewer jobs, and the full-employment, or structural, unemployment rate is close to 0.2 percentage point higher.

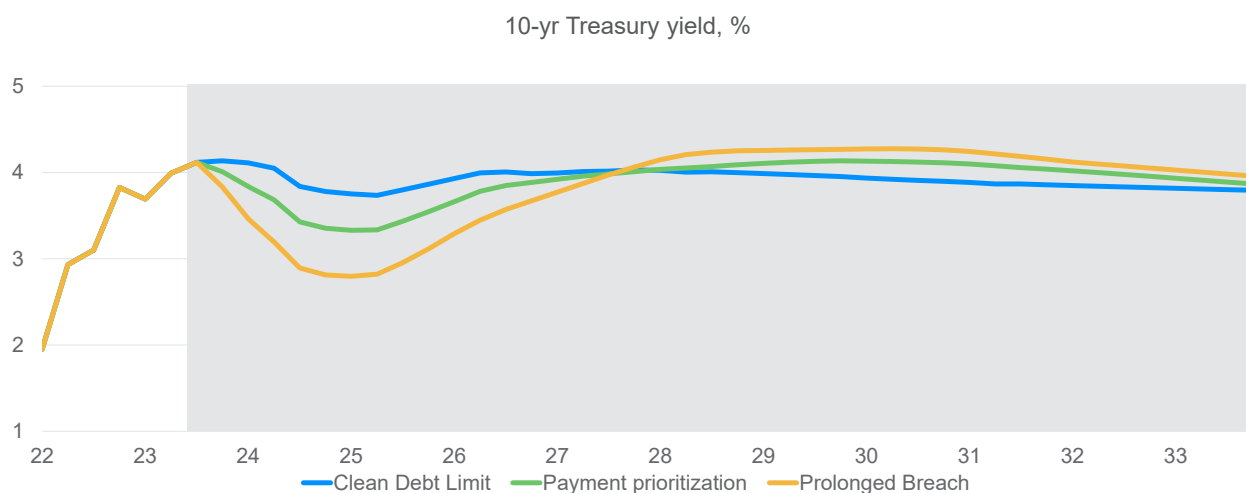
The broad trade-weighted value of the U.S. dollar increases in the immediate wake of the breach as global investors are unsure of alternative global safe havens to the dollar. However, this does not last long, and the dollar soon begins to decline in value as its status as the global reserve currency is diminished. A decade from now, the broad trade-weighted dollar is worth about 5% less.

Regional economic fallout

Most state economies will be hit hard if there is a debt limit breach, although the economic pain varies. A breach most immediately impacts regions with a large federal government presence. Washington DC, where the federal government accounts for approximately one in four jobs, more than four times the share in the next-highest state, is the poster child (see Tables 1 and 2). With many of those jobs jeopardized by a breach, the nation's capital is easily the most immediately vulnerable economy. It is followed by states that are either located nearby or lean heavily on federal installations such as national laboratories or military

⁴ Federal Reserve policy in the scenarios is determined endogenously with the Moody's Analytics macroeconomic model. The federal funds rate equation in the model is a reaction function, which accounts for the Fed's dual mandate of low and stable inflation and full employment. It also captures financial conditions, which impact the transmission of Fed policy to the economy, and global economic conditions.

Chart 6: 10-Year Treasury Yield Under Different Debt Limit Scenarios



Sources: FHFA, Federal Reserve, Moody's Analytics

bases, including Alaska, Hawaii and New Mexico. While the public sector typically serves as a stabilizing force, in the case of a breach it supercharges its economic fallout.

Regional economies that are heavily reliant on federal outlays are also impacted more significantly by a debt limit breach. Professional services firms suffer, hurting white-collar support firms in and around the Beltway, particularly Northern Virginia. Aerospace is also hurt, impacting states including Connecticut, Kansas and Washington.

Disruptions to Medicare and Medicaid payments are a problem for the healthcare industry and most significantly smaller hospitals and doctors' offices with little financial wiggle room, especially in rural areas. Longer term, healthcare providers would likely be more hesitant to see Medicare and Medicaid patients. Other government transfers to households, including Social Security and unemployment insurance benefits, are also impacted. As these payments are delayed, spending and confidence weaken, especially in areas with a larger number of lower-income households or a larger retiree population.

It takes somewhat longer for the economic fallout from the selloff in stock and bond markets to make itself felt. But once it does, wealthy states and retiree havens are most in the crosshairs given their economies' reliance on capital gains, dividends, interest and rent. Although all regions are hurt, the Northeast bears a particularly heavy burden in this respect.

Regional economies more sensitive to the ups and downs in the business cycle are also disproportionately impacted by a debt limit breach. Tourist- and business travel-dependent states such as Arizona, Florida and Nevada will experience sharp job losses; so do the vehicle industry-dependent Michigan and South Carolina economies as vehicle sales and production fall. Other manufacturing centers like Tennessee and Kentucky face challenges as firms struggle to raise capital and remain afloat given softness in financial markets

Conclusions

Global investors and Americans more generally appear largely unruffled by the fast-approaching X-date, at least so far. There are some indications that investors are taking notice, but the stock market remains firm as does much of the bond market and the value of the U.S. dollar. This blasé attitude toward the debt limit likely stems from the notion that we have seen this movie many times over the decades and know the ending well. That is, there will be lots of political drama right up to the X-date and at the 11th hour lawmakers will pass legislation avoiding a breach. But the longer it takes for financial markets to react, the greater the odds that lawmakers will not act in time, since market turmoil is probably what it will take to generate the political will lawmakers will need to come to terms.

It is thus increasingly important to consider the possibility that lawmakers fail to act in time and there is a breach of the debt limit. We now assign a 10% probability to a breach. If there is a breach, it is much more likely to be a short one than a prolonged one. But even a lengthy standoff no longer has a zero probability. What once seemed unimaginable now seems a real threat.

Table 1: Employment Under Treasury Debt Limit Scenarios

	Total jobs lost, ths				Decline in payrolls, %			
	Prolonged Breach		Short Breach		Prolonged Breach		Short Breach	
	Near term	Peak to trough	Near term	Peak to trough	Near term	Peak to trough	Near term	Peak to trough
Alaska	6.9	11.3	0.3	0.9	2.12	3.45	0.10	0.29
Alabama	50.7	109.5	10.8	20.9	2.37	5.12	0.51	0.98
Arkansas	29.1	68.8	7.9	15.4	2.14	5.07	0.58	1.14
Arizona	78.9	188.1	21.7	36.2	2.51	5.98	0.69	1.15
California	325.9	841.6	67.9	130.1	1.81	4.68	0.38	0.72
Colorado	55.7	139.3	10.2	20.6	1.93	4.82	0.35	0.71
Connecticut	36.6	75.6	7.2	14.9	2.17	4.48	0.43	0.88
District of Columbia	28.5	28.5	4.5	6.3	3.70	3.70	0.59	0.82
Delaware	8.4	21.4	1.7	3.2	1.76	4.46	0.36	0.66
Florida	182.2	474.7	18.0	46.1	1.88	4.91	0.19	0.48
Georgia	96.5	249.4	19.2	39.3	1.98	5.11	0.39	0.80
Hawaii*	9.2	16.9	0.5	4.0	1.44	2.66	0.08	0.62
Iowa	29.3	73.9	7.8	14.9	1.84	4.64	0.49	0.94
Idaho	18.1	44.4	3.4	7.0	2.14	5.26	0.41	0.83
Illinois	111.5	290.6	33.7	65.6	1.82	4.75	0.55	1.07
Indiana	58.0	164.8	11.7	26.2	1.79	5.09	0.36	0.81
Kansas	31.0	72.5	7.4	14.6	2.14	5.00	0.51	1.01
Kentucky	45.1	113.9	13.1	25.4	2.27	5.73	0.66	1.28
Louisiana	26.4	69.4	0.6	3.2	1.36	3.56	0.03	0.17
Massachusetts	74.6	175.0	17.9	35.4	2.00	4.68	0.48	0.95
Maryland	64.4	119.7	9.2	18.0	2.36	4.38	0.34	0.66
Maine	12.6	31.7	3.5	6.9	1.95	4.89	0.55	1.07
Michigan	100.6	239.4	16.6	36.8	2.28	5.42	0.38	0.83
Minnesota	51.7	138.8	11.0	21.7	1.74	4.66	0.37	0.73
Missouri	69.7	163.7	25.3	48.0	2.35	5.52	0.85	1.62
Mississippi	27.4	64.0	8.7	14.5	2.33	5.43	0.74	1.23
Montana	9.6	23.5	2.1	4.3	1.86	4.53	0.41	0.84
North Carolina	88.5	236.1	16.0	33.8	1.81	4.83	0.33	0.69
North Dakota	8.1	18.8	1.9	4.2	1.87	4.34	0.45	0.96
Nebraska	17.9	45.7	4.6	9.0	1.71	4.38	0.44	0.86
New Hampshire	13.2	34.8	3.3	6.8	1.88	4.96	0.47	0.96
New Jersey	73.5	193.4	18.8	37.3	1.70	4.47	0.44	0.86
New Mexico	20.0	37.5	2.2	5.1	2.32	4.35	0.25	0.59
Nevada	37.3	90.0	8.0	15.0	2.43	5.86	0.52	0.98
New York	147.3	398.3	22.2	50.9	1.52	4.11	0.23	0.53
Ohio	114.5	296.5	33.0	63.9	2.05	5.31	0.59	1.14
Oklahoma	32.1	77.3	6.7	12.6	1.86	4.47	0.38	0.73
Oregon	38.9	104.2	6.8	14.1	1.95	5.23	0.34	0.71
Pennsylvania	105.3	269.0	29.3	53.2	1.73	4.41	0.48	0.87
Rhode Island	9.4	23.2	2.5	4.9	1.89	4.65	0.50	0.97
South Carolina	56.9	127.5	14.9	28.3	2.50	5.60	0.65	1.24
South Dakota	9.5	22.1	2.2	4.3	2.07	4.80	0.47	0.93
Tennessee	69.1	179.0	16.9	33.9	2.09	5.40	0.51	1.02
Texas	217.2	561.7	16.5	43.1	1.57	4.07	0.12	0.31
Utah	31.3	80.4	3.3	7.7	1.83	4.71	0.20	0.45
Virginia	107.4	195.4	18.7	34.5	2.60	4.73	0.45	0.83
Vermont	5.7	14.1	1.2	2.6	1.85	4.60	0.39	0.84
Washington	73.0	187.8	14.8	29.9	2.02	5.20	0.41	0.83
Wisconsin	57.2	153.6	16.4	32.1	1.91	5.13	0.55	1.07
West Virginia	14.2	34.4	3.6	7.7	2.03	4.92	0.52	1.10
Wyoming	5.9	14.4	1.5	3.0	2.03	5.01	0.51	1.05

Notes:

Near term reflects change from 2023Q1 to 2023Q3 (*except for Hawaii due to a sharp increase in Q2, requiring use of near-term 2023Q2 forecast as starting point).

Peak to trough reflects lowest quarterly payroll count from 2023 to 2025.

Source: Moody's Analytics

Table 2: Unemployment Rate Under Different Debt Limit Scenarios

	Unemployment rate, %				Change from 2023Q1, ppt			
	Prolonged Breach		Short Breach		Prolonged Breach		Short Breach	
	2023Q3	Peak	2023Q3	Peak	2023Q3	Peak	2023Q3	Peak
Alaska	6.5	7.0	4.6	5.5	2.49	3.07	0.62	1.52
Alabama	6.2	9.3	4.2	5.5	3.57	6.74	1.55	2.91
Arkansas	4.8	6.4	3.8	4.4	1.49	3.12	0.52	1.11
Arizona	6.2	8.9	4.8	5.5	2.38	5.07	1.02	1.74
California	6.2	8.7	5.0	5.6	1.92	4.51	0.74	1.37
Colorado	4.5	6.4	3.4	3.9	1.61	3.50	0.51	1.02
Connecticut	5.5	6.9	4.1	4.6	1.53	2.97	0.18	0.66
District of Columbia	8.9	8.9	5.2	5.8	4.36	4.36	0.63	1.20
Delaware	5.1	6.6	4.3	4.5	0.65	2.10	-0.10	0.02
Florida	4.8	7.5	3.6	4.5	2.21	4.82	1.01	1.86
Georgia	5.1	7.6	4.0	4.8	2.01	4.49	0.93	1.74
Hawaii	4.2	4.5	2.9	3.4	0.80	1.07	-0.47	0.00
Iowa	4.2	5.9	3.4	3.8	1.22	2.91	0.43	0.87
Idaho	4.4	6.5	3.3	4.0	1.76	3.85	0.66	1.34
Illinois	6.3	9.1	5.0	5.7	1.83	4.60	0.57	1.20
Indiana	5.2	8.3	4.0	4.9	2.07	5.17	0.92	1.82
Kansas	4.4	5.9	3.4	3.9	1.46	2.94	0.46	0.98
Kentucky	5.9	8.4	4.7	5.4	2.01	4.55	0.78	1.48
Louisiana	5.5	7.5	4.7	5.3	1.83	3.80	0.99	1.65
Massachusetts	4.8	6.2	3.7	4.0	1.26	2.73	0.20	0.53
Maryland	5.3	6.5	3.6	4.3	2.26	3.43	0.54	1.21
Maine	4.1	6.3	3.3	4.2	1.14	3.32	0.31	1.21
Michigan	7.5	10.8	5.3	6.3	3.14	6.50	0.99	1.96
Minnesota	4.5	6.5	3.7	4.3	1.55	3.61	0.79	1.38
Missouri	5.1	7.6	3.9	4.9	2.41	4.92	1.19	2.15
Mississippi	6.5	9.2	5.3	6.4	2.50	5.24	1.37	2.47
Montana	3.8	5.3	3.0	3.6	1.26	2.78	0.49	1.08
North Carolina	5.6	8.6	4.3	5.0	1.96	4.90	0.63	1.39
North Dakota	3.6	4.7	2.7	3.1	1.44	2.52	0.52	0.95
Nebraska	3.0	4.3	2.5	2.9	0.62	1.94	0.10	0.50
New Hampshire	3.9	5.8	3.2	3.6	1.19	3.06	0.45	0.91
New Jersey	5.4	7.8	4.4	5.1	1.89	4.34	0.87	1.57
New Mexico	6.5	7.7	4.5	5.2	2.75	3.94	0.80	1.45
Nevada	6.8	8.8	5.6	5.9	1.42	3.43	0.21	0.48
New York	5.4	7.2	4.5	4.8	1.19	3.09	0.34	0.68
Ohio	6.3	9.5	4.9	5.8	2.32	5.48	0.90	1.79
Oklahoma	4.9	6.6	3.6	4.0	1.84	3.56	0.48	0.90
Oregon	6.1	8.6	4.9	5.4	1.43	3.95	0.28	0.78
Pennsylvania	5.7	7.8	4.6	5.0	1.43	3.55	0.33	0.73
Rhode Island	5.1	7.7	4.1	5.0	1.96	4.52	0.91	1.84
South Carolina	5.7	8.3	4.1	4.9	2.54	5.14	0.87	1.71
South Dakota	3.4	4.7	2.7	3.2	1.30	2.55	0.52	1.04
Tennessee	5.3	7.9	4.0	4.7	1.87	4.50	0.59	1.25
Texas	5.5	7.2	4.4	4.7	1.58	3.27	0.50	0.79
Utah	3.9	5.9	2.9	3.4	1.54	3.49	0.53	1.04
Virginia	5.5	6.3	3.5	3.9	2.36	3.18	0.37	0.73
Vermont	4.0	5.7	3.2	3.7	1.21	2.83	0.41	0.83
Washington	6.0	8.1	4.9	5.4	1.50	3.66	0.43	0.91
Wisconsin	4.8	7.7	3.7	4.6	1.94	4.82	0.88	1.76
West Virginia	6.2	8.9	4.6	5.5	2.42	5.12	0.78	1.68
Wyoming	5.0	6.4	3.7	3.9	1.29	2.72	-0.01	0.21

Note:

Peak reflects highest quarterly unemployment rate from 2023 to 2025.

Source: Moody's Analytics

About the Authors

Mark Zandi is chief economist of Moody's Analytics, where he directs economic research. Moody's Analytics, a subsidiary of Moody's Corp., is a leading provider of economic research, data and analytical tools. Dr. Zandi is a cofounder of Economy.com, which Moody's purchased in 2005.

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He is a trusted adviser to policymakers and an influential source of economic analysis for businesses, journalists and the public. Dr. Zandi frequently testifies before Congress and conducts regular briefings on the economy for corporate boards, trade associations, and policymakers at all levels.

Dr. Zandi is the author of *Paying the Price: Ending the Great Recession and Beginning a New American Century*, which provides an assessment of the monetary and fiscal policy response to the Great Recession. His other book, *Financial Shock: A 360° Look at the Subprime Mortgage Implosion, and How to Avoid the Next Financial Crisis*, is described by *The New York Times* as the "clearest guide" to the financial crisis. Dr. Zandi is host of the *Inside Economics* podcast.

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