

## CREDIT OPINION

5 September 2023



### Contacts

Dan Kowalski +1.312.706.9992  
AVP-Analyst  
dan.kowalski@moodys.com

Nicholas Samuels +1.212.553.7121  
Senior Vice President  
nicholas.samuels@moodys.com

### CLIENT SERVICES

Americas 1-212-553-1653  
Asia Pacific 852-3551-3077  
Japan 81-3-5408-4100  
EMEA 44-20-7772-5454

# Indiana (State of)

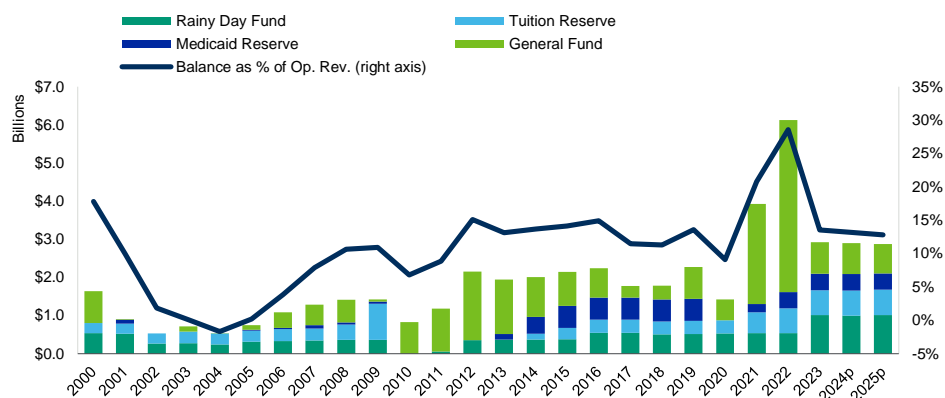
## Update to credit analysis

### Summary

The [State of Indiana's](#) (Aaa stable) fiscal 2024/25 budget includes a structural surplus that will ensure strong reserves and liquidity following its recent draw down in fiscal 2023 from all-time highs for one-time expenses like supplemental pension contributions, capital outlays and tax rebates (Exhibit 1). Leverage will continue to decline through at least fiscal 2024 because of higher interest rates used to discount pension liabilities and continued proactive reduction of debt and pension obligations. Indiana has extraordinarily strong fiscal governance and the state has a track record of using its above-average financial flexibility in times of fiscal challenges. Continued population gains, low unemployment rates and private investments in emerging technologies support near term economic growth; however Indiana's concentrated industrial mix and exposure to carbon transition risks will pose challenges to long-term production and income growth.

Exhibit 1

### Reserves will remain high over the next biennium after a draw down for one-time expenses Budgetary basis fund balances



2024p and 2025p are based on the state's revenue and expenditure projections for the biennium. Reserves on a GAAP-basis are higher than those shown above on a budgetary basis.

Source: Indiana State Budget Agency Close-Out Statements

### Credit strengths

- » Very strong fiscal governance that results in high reserves and liquidity, stable financial operations and sound budgeting practices
- » Low leverage and fixed costs including proactive reduction of legacy teacher retirement liabilities

- » Above average flexibility to adjust revenue and expenditures and conservative fiscal practices such as midyear budget cuts to retain structural balance

## Credit challenges

- » High economic reliance on the manufacturing industry and below average incomes may stunt long-term growth

## Rating outlook

The stable outlook reflects Indiana's very strong reserves and liquidity that can readily support the state through bouts of economic volatility.

## Factors that could lead to an upgrade

- » Not applicable

## Factors that could lead to a downgrade

- » Economic weakening that reduces revenue collections and leads to a deterioration of the state's financial reserves
- » Significant increase in state's long-term liabilities

## Key indicators

Exhibit 2

	2020	2021	2022	State Medians (2021)
<b>Economy</b>				
Nominal GDP (\$billions)	373.8	413.0	455.8	264.2
Real GDP, annual growth	-3.1%	5.8%	1.9%	5.5%
RPP-adjusted per capita income as % of US	95%	95.0%	95.0%	96.6%
Nonfarm employment, annual growth	-5%	3.2%	3.1%	2.7%
<b>Financial performance</b>				
Available balance as % of own-source revenue	40.2%	45.4%	49.6%	27.2%
Net unrestricted cash as % of own-source revenue	52.1%	60.1%	67.0%	63.0%
<b>Leverage</b>				
Total long-term liabilities as % of own-source revenue	102%	96.0%	78.4%	155.0%
Adjusted fixed costs as % of own-source revenue	5.4%	4.6%	3.6%	6.6%

Source: audited financial statements, US Bureau of Economic Analysis (US BEA), US Bureau of Labor Statistics (US BLS)

## Profile

The State of Indiana has the 17th largest population (6.8 million in 2022) and the 19th largest GDP (\$456 billion in 2022) of the United States of America (Aaa stable).

## Detailed credit considerations

### Economy: Population growth and a new battery plant are positives but high reliance on manufacturing sector will stunt long term growth

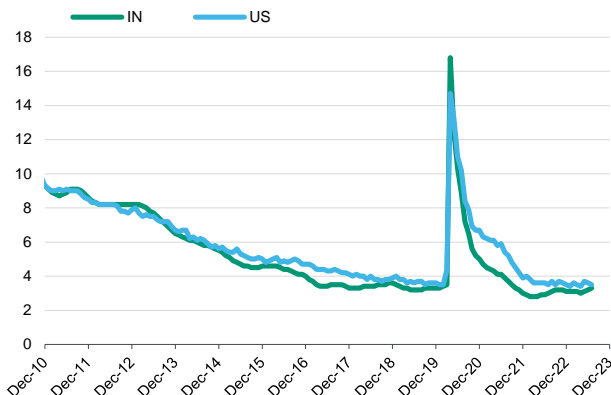
Indiana's economy will grow in line with the US over the next year given positive migration trends and tail winds in the automotive manufacturing and logistics sectors, according to Moody's Analytics. [General Motors](#) (Baa2 stable) and Samsung SDI announced earlier

This publication does not announce a credit rating action. For any credit ratings referenced in this publication, please see the issuer/deal page on <https://ratings.moody.com> for the most updated credit rating action information and rating history.

this year a plan to build a \$3 billion electric vehicle battery plant in northern Indiana that will bring more than 1,000 jobs when it opens in 2026. Indiana continues to lead the Midwest in annual population growth, ranking near the average for the nation as a whole. Unemployment remains low and near the national rate (Exhibit 2) while employment continues to rise and is well above pre-pandemic peaks (Exhibit 3). Moody's Analytics forecasts the state's employment growth to modestly outpace the median state over the next five years.

Exhibit 3

### Indiana's unemployment rate tracks near the US

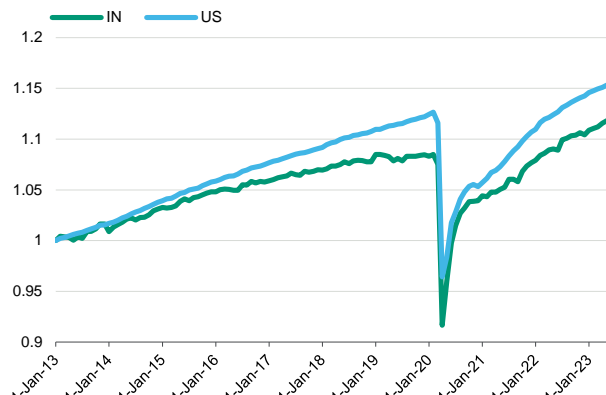


Source: US Bureau of Labor Statistics

Exhibit 4

### Employment is well beyond pre-pandemic highs, but growth lags the nation

Payroll employment indexed to 2013 levels



Source: US Bureau of Labor Statistics

Despite a positive near term economic outlook, the state faces a number of longer term challenges. Indiana is more reliant on the manufacturing industry — especially durable goods — than any other state in the country. The sector contributes 25% of Indiana's GDP and 17% of its employment compared to 11% of GDP and 8% of employment for the US. Its high reliance on the manufacturing sector limits longer term growth potential including the ability to attract jobs in higher income industries and exposes the state to international and domestic competition, and trade policy and demand shocks for durable goods. Indiana's manufacturing employment growth lags that of competitor states like [Tennessee](#) (Aaa stable) and [South Carolina](#) (Aaa stable) while manufacturing GDP growth lags the nation as well.

Similarly, the state is exposed to global carbon transition risks, as the shift away from hydrocarbon production and consumption affects the state's key energy-intensive industries like steel production, auto and other manufacturing and logistics, [sectors Moody's views as having the most heightened carbon transition risks](#). Indiana is the largest producer of steel in the nation at more than a quarter of nation's output, and steel production is among the most energy intensive industries, in part because of its reliance on coal. Likewise, the state's energy consumption and production remains fairly concentrated in coal, which may sway some industrial companies toward other states with higher rates of renewable energies.

Despite some long-term challenges, Indiana has other long-term economic opportunities. Population growth is concentrated in the [Indianapolis](#) (Aaa stable) metropolitan area, where employment is more diverse, including in healthcare, higher education and pharmaceuticals given the headquarters of [Eli Lilly](#) (A1 stable), one of the state's largest employers. And while the state's industrial mix is one of the most concentrated in the country, its employment performance nonetheless has exhibited relatively lower volatility compared to the nation as a whole.

### Finances: Very strong reserves and liquidity even after recent draw down of balances

Indiana's finances will remain sound through fiscal year 2025 (ending June 30) given ample fund balances and liquidity and a modest structural surplus through the biennium. After reaching all-time high fund balances in fiscal 2022, the state spent down more than \$3 billion of its balances through fiscal 2023 for one-time items such as a large supplemental pension contribution and automatic taxpayer refunds. The state forecasts combined general fund balances to remain high and steady from fiscal 2023 to fiscal 2025, with a notable increase to its Rainy Day Fund from undesignated balances. The fiscal 2024/25 biennial budget is in structural surplus with

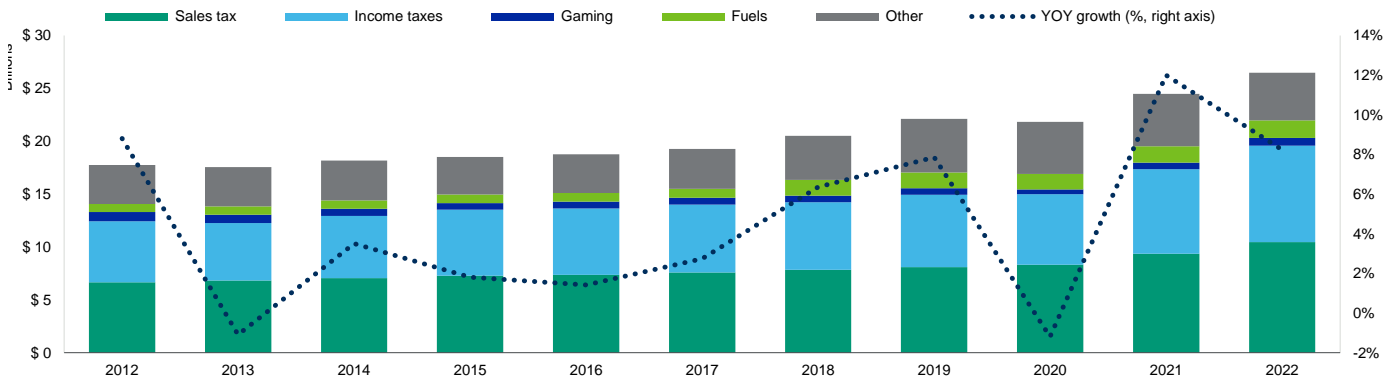
roughly \$730 million in fiscal 2024 and over \$400 million in fiscal 2025 in recurring revenue exceeding recurring spending. This surplus will be spent primarily on one-time capital expenditures, though the surplus gives financial flexibility in the event of fiscal challenges.

The state forecasts revenue to grow at a modest pace of about 2%-3% in each of the next two years, which incorporates an acceleration in its income tax cuts to reach a rate of 2.9% from 3.23% by 2027, two years earlier than originally planned. Revenue was down by roughly 1% in fiscal year 2023 compared to the prior year, which ranks near the [median for US state revenue performance](#). Weaker personal and corporate income tax collections from lower capital gains and the first year of tax rate reductions led to the decline, despite strong sales tax performance. Given the ongoing phase-in of income tax reductions, sales taxes will make up an increasing share of overall revenue (Exhibit 4), and sales taxes currently contribute the largest share at about 50% of total general fund revenue in fiscal 2023.

The biennial budget increases recurring appropriations by about 15% from fiscal 2023. K-12 school districts received a large part of this bump, including large contributions to the pre-1996 teacher retirement fund. One provision of the budget requires supplemental pension contributions if combined reserves exceed \$3 billion on a budgetary basis (compared to the \$2.7 billion in reserves projected). Higher education will also receive a moderate appropriations bump of 5%. Nearly two-thirds of the state's general fund expenditures go to education. The budget also includes increased salaries for state troopers and sizable pay-go capital spending for a new correctional facility, new state archives building, state-run schools for blind, deaf and visually impaired students and housing and water infrastructure.

The state also benefits from a number of fiscal governance strengths (described in more detail in the "Governance" section) including wide executive authority to make midyear spending adjustments, no supermajority requirement for tax increases, automatic rainy day fund appropriations and regularly conservative budget assumptions that lead to stable financial performance. Fixed costs, including debt service and retirement contributions, are low, providing additional financial flexibility.

Exhibit 5  
**Revenue mix will slowly shift more to sales taxes as income tax cut phases in through 2027**



Source: audited financial statements

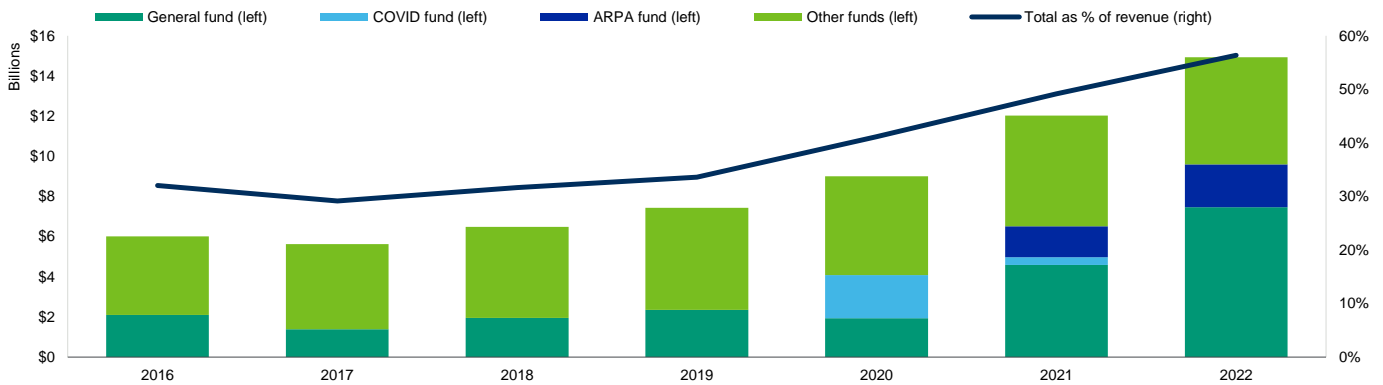
**Liquidity**

Cash and liquid investments will remain strong after reaching all-time highs in fiscal year 2022 (Exhibit 5). Liquidity and fund balance are higher on a GAAP basis than on a budgetary basis, in part because of unrestricted balances outside the general fund. Total available governmental fund balance will likely be between 30-40% of own-source revenue through fiscal year 2025, which is very strong.

Exhibit 6

**Liquidity reached all-time highs in 2022**

Historical GAAP-basis cash and investments by fund



COVID and ARPA funds are included as unrestricted cash but are excluded from fund balance calculations.

Source: audited financial statements

**Leverage: Manageable debt and proactive pension contributions will keep leverage low**

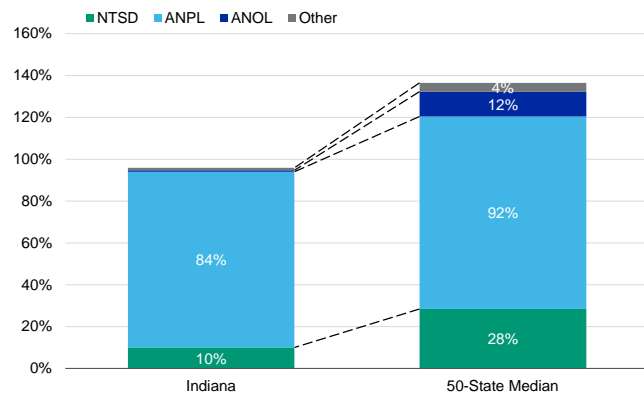
Indiana's leverage from debt, pension and OPEB liabilities will remain very low thanks to conservative debt management, a lack of future appropriation-backed debt issuance plans and proactive pension contribution practices. As of our latest liabilities report, Indiana ranks the 15th lowest in total liabilities compared to revenue and 5th lowest on net tax supported debt to revenue. In 2022 Indiana also de-risked its debt portfolio by refunding the last of its outstanding variable rate bonds with fixed rate debt and terminating its remaining interest rate swaps.

The state's adjusted net pension liability (ANPL), which discounts liabilities using market interest rates, contributes the largest share of the state's leverage largely because Indiana, unlike many other states, takes on most K-12 school district pension liabilities through its contributions to the pay-go pre-1996 teacher retirement plan. After standardizing direct and indirect teacher retirement liabilities across states, Indiana instead ranks in the bottom 10 of total pension burdens. All said, the state's leverage and annual fixed costs rank well below the median for US states (Exhibits 6 and 7).

Exhibit 7

**Leverage manageable and primarily from the closed, pre-1996 teacher pension plan**

As % of own-source revenue in fiscal 2021\*



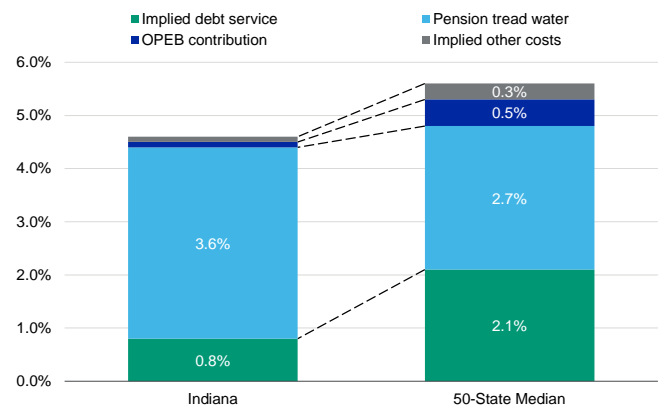
NTSD = net tax supported debt; ANPL = adjusted net pension liability; ANOL = adjusted net OPEB liability

Source: audited financial statements

Exhibit 8

**Fixed costs are low for Indiana**

As % of own-source revenue in fiscal 2021\*



\*Fiscal 2021 data is displayed instead of fiscal 2022 because of data availability for comparison to other states. Charts reflect medians per category rather than median for total leverage. See key indicators table for that comparison.

Source: audited financial statements

### Legal security

Indiana does not issue general obligation debt. Instead, the state pays use and lease rental payments to the Indiana Finance Authority (IFA), a component unit of the state, on the lease revenue obligations the IFA issues (see Exhibit 8).

Exhibit 9

#### Moody's ratings on Indiana governmental debt

Security type	Related projects	Moody's rating on pledge
Issuer	N/A - Hypothetical general obligation rating	Aaa stable
Lease/appropriation - more essential	Highways, bridges, neurodiagnostic facility	Aa1 stable
Lease/appropriation - less essential	Stadium, convention center, arena, motor speedway	Aa2 stable

Source: Moody's Investors Service

The state payments, made through various state agencies, are subject to biennial legislative appropriation and to project availability for use. To mitigate the risk of project availability, the indentures require the finance authority to maintain rental income loss insurance and loss and damage insurance equal to replacement cost. The use agreements expire at the end of each of the state's fiscal biennia but are automatically renewed. The bonds have been issued for projects of varying essentiality to general governmental operations, with transportation projects and a health facility being more essential than the stadium, convention center, and motor speedway. Essentiality is a key consideration for appropriation-backed bonds since wide political support for appropriation and repairs in abatement circumstances are more likely. However, we consider the risk of non-appropriation for the State of Indiana as generally remote.

Some appropriation-backed debt, such as the stadium and convention center bonds, are supported from local excise taxes and fees imposed by local governments and paid to the state through subleases. While the state appropriates for lease payments each biennium, the sublease revenue is used first to pay debt service and are sufficient to pay the lease obligations alone. State appropriations then revert to the state general fund. The stadium and convention center bonds also benefit from an Excess Revenues Account (\$50 million balance) and Reserve Account (one year MADS, \$102 million), which supports debt service if sublease revenue is insufficient. The IFA used a portion of this reserve account to pay debt service in 2020 when local hospitality revenue tumbled.

The IFA enters into public private partnerships (PPP), and the state appropriates for availability payments. The PPP agreement with the [East End Crossing Partners LLC](#) (A1 stable) bridge project has very similar mechanics to other lease appropriation bonds whereby the finance authority pledges to make the availability payment to the developer from state appropriations. However, Indiana expects toll revenue to cover these availability payments with little to no appropriation required from the general fund.

### Debt structure

Lease appropriation debt makes up the vast majority of outstanding net tax-supported debt followed by PPP availability payment obligations. As of the IFA's June 2023 debt overview report, roughly \$2.8 billion of debt is payable from state appropriations while another \$5.1 billion is non-appropriation debt paid from the university system, housing development authority or bond bank. A relatively small portion of bond bank debt carries the state's moral obligation enhancement. Much of the appropriation debt is fully paid from downstream entities such as the [Marion County Capital Improvement Board](#) (A1 stable) for the stadium and convention center bonds and universities for fee-replaced obligations.

### Debt-related derivatives

The state no longer has variable rate debt or debt-related derivatives outstanding.

### Pensions and OPEB

Indiana's pension burden will remain manageable and will decline over the next two years thanks to strong contributions and higher interest rates we use to discount liabilities. For fiscal year 2023 (which uses pension performance from June 2022), we expect the adjusted net pension liability (ANPL) to decline by about 20% from 2022 levels largely because of higher interest rates, even considering a moderate asset decline for the June 2022 report date. For fiscal year 2024 (June 2023 pension performance), the ANPL will likely decline further because of the state's large \$2.5 billion supplemental contribution (equivalent to 14% of the state's ANPL) to the pre-1996 closed teacher retirement plan and higher interest rates for that period. Given the state's plan to pay down the unfunded liability of the pre-1996 TRF plan, state officials expect the plan to be fully funded by about 2030.

Indiana's ANPL is manageable and moderate, ranking near the median for US states. However, Indiana directly covers a larger share of teacher pension liabilities than other states. When including all teacher liabilities compared to state own-source revenue, Indiana instead ranks as having the eighth lowest pension burden among the states. Indiana contributes to a number of pension plans, most notably the Teachers' Retirement Fund (TRF) and the Public Employees' Retirement Fund of Indiana (PERF). These are hybrid plans with a portion defined benefit and another portion defined contribution, limiting the state's exposure to retirement obligations. Employees may also participate in a defined contribution only plan. The largest pension contribution is for the closed pre-1996 TRF plan, which is closed and funded on a pay-as-you-go basis through general fund appropriations and lottery transfers.

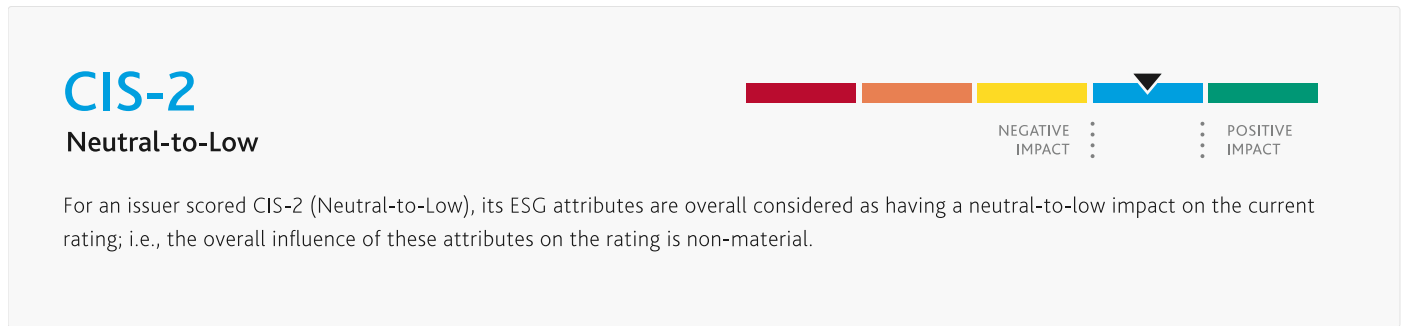
State pension contributions are typically strong and above the tread water benchmark, which is the contribution level needed for the net pension liability to remain stable from one year to the next, assuming investment returns and actuarial assumptions are met. In fiscal years 2021 and 2022, state contributions were more than double this tread water benchmark, signifying a proactive paying down of liabilities. While a 2023 audit is not yet published, we estimate fiscal 2023 contributions were similarly well above the tread water benchmark. For fiscal years 2024 and 2025, strong revenue performance and/or expenditure savings will automatically trigger additional supplemental pension contributions, described in the Finances section above.

The OPEB liability will remain minimal, and the state pre-funds a sizable portion of its OPEB liability.

**ESG considerations**

**Indiana (State of)'s ESG Credit Impact Score is Neutral-to-Low CIS-2**

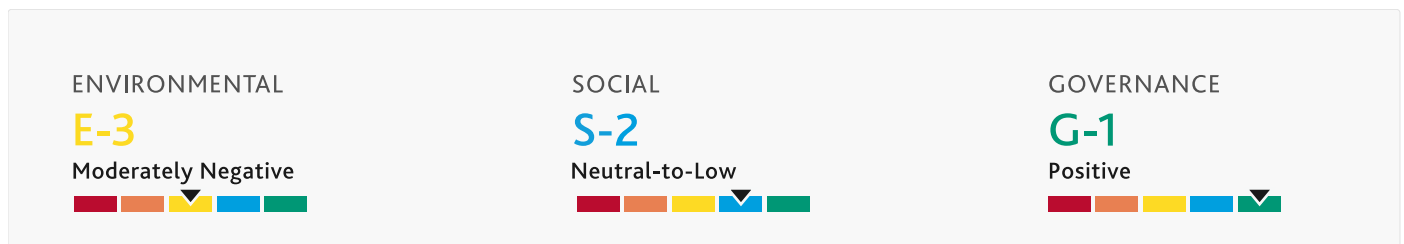
Exhibit 10  
ESG Credit Impact Score



Source: Moody's Investors Service

Indiana's ESG Credit Impact Score of **CIS-2** reflects low credit impacts from ESG risks as strong fiscal governance somewhat offsets long-term carbon transition risks to the state's economy.

Exhibit 11  
ESG Issuer Profile Scores



Source: Moody's Investors Service

**Environmental**

Indiana's **E-3** issuer profile score reflects long term economic growth challenges as the global transition away from hydrocarbons will have unique stresses on the state given its high reliance on — and national leadership in - energy-intensive industries like

manufacturing, logistics, steel production and agriculture as well as its higher consumption of coal energy compared to the nation as a whole. Consequently, Indiana has high on carbon emissions per GDP, even compared to traditional oil and gas producing states.

Indiana also has high heat exposure and flood risk, which will increase costs for certain sectors particularly for improved cooling and flood mitigation. Flooding, along with aged sewer infrastructure, has led to perennial issues for local wastewater systems in Indiana, notably a high level of combined sewer overflows that lead to pollution in waterways. Many local governments in the state are under EPA consent decrees to rectify these overflows, and the state often provides financing for these projects through its revolving loan fund. The state also ranks high in its rate of industrial toxins in the environment.

### Social

Indiana's **S-2** issuer profile score reflects its solid population growth, the strongest among Midwest states, low unemployment rate and relatively low cost of living. Below average wages and educational attainment pose moderate challenges to economic diversification and growth, however.

### Governance

Indiana's **G-1** issuer profile score is based on its strong fiscal track record and wide financial flexibility even compared to other states. The governor has strong executive powers to make midyear budget adjustments and has used these powers in the past to trim spending when revenue has underperformed. Tax increases do not require a legislative supermajority, enhancing flexibility and the state has increased tax rates in prior periods of fiscal challenges. Statute requires automatic rainy day fund transfers when economic growth in the state exceeds certain benchmarks, and the state's reserves are generally quite stable as it often runs structural surpluses and uses excess funds for capital or pay down of liabilities. Liability management is likewise conservative with strong pension contribution practices. The state's financial reporting is sound as it produces monthly revenue reports, biannual revenue and expenditure forecasts and timely annual financial audits.

ESG Issuer Profile Scores and Credit Impact Scores for the rated entity/transaction are available on Moody's.com. In order to view the latest scores, please click [here](#) to go to the landing page for the entity/transaction on MDC and view the ESG Scores section.



## Rating methodology and scorecard factors

The US States and Territories Rating Methodology includes a scorecard, which summarizes the 10 rating factors generally most important to state and territory credit profiles. Because the scorecard is a summary, and may not include every consideration in the credit analysis for a specific issuer, a scorecard-indicated outcome may or may not map closely to the actual rating assigned.

Exhibit 12

### State rating methodology scorecard Indiana (State of)

	Measure	Weight	Score
<b>Economy</b>			
Resident Income (PCI Adjusted for RPP / US PCI)	95.0%	15%	Aa
Economic Growth (5-year CAGR real GDP - 5-year CAGR US real GDP)	-0.4%	15%	Aa
<b>Financial performance</b>			
Financial performance	Aaa	20%	Aaa
<b>Governance/Institutional Framework</b>			
Governance/Institutional Framework	Aaa	20%	Aaa
<b>Leverage</b>			
Long-term liabilities ratio (adjusted long-term liabilities / own-source revenue)	78.4%	20%	Aaa
Fixed-costs ratio (adjusted fixed costs / own-source revenue)	3.6%	10%	Aaa
<b>Notching factors</b>			
Very limited and concentrated economy			
Scorecard-Indicated Outcome			Aaa
<b>Assigned rating</b>			Aaa

Source: audited financial statements, US Bureau of Economic Analysis, Moody's Investors Service

© 2023 Moody's Corporation, Moody's Investors Service, Inc., Moody's Analytics, Inc. and/or their licensors and affiliates (collectively, "MOODY'S"). All rights reserved. CREDIT RATINGS ISSUED BY MOODY'S CREDIT RATINGS AFFILIATES ARE THEIR CURRENT OPINIONS OF THE RELATIVE FUTURE CREDIT RISK OF ENTITIES, CREDIT COMMITMENTS, OR DEBT OR DEBT-LIKE SECURITIES, AND MATERIALS, PRODUCTS, SERVICES AND INFORMATION PUBLISHED BY MOODY'S (COLLECTIVELY, "PUBLICATIONS") MAY INCLUDE SUCH CURRENT OPINIONS. MOODY'S DEFINES CREDIT RISK AS THE RISK THAT AN ENTITY MAY NOT MEET ITS CONTRACTUAL FINANCIAL OBLIGATIONS AS THEY COME DUE AND ANY ESTIMATED FINANCIAL LOSS IN THE EVENT OF DEFAULT OR IMPAIRMENT. SEE APPLICABLE MOODY'S RATING SYMBOLS AND DEFINITIONS PUBLICATION FOR INFORMATION ON THE TYPES OF CONTRACTUAL FINANCIAL OBLIGATIONS ADDRESSED BY MOODY'S CREDIT RATINGS. CREDIT RATINGS DO NOT ADDRESS ANY OTHER RISK, INCLUDING BUT NOT LIMITED TO: LIQUIDITY RISK, MARKET VALUE RISK, OR PRICE VOLATILITY. CREDIT RATINGS, NON-CREDIT ASSESSMENTS ("ASSESSMENTS"), AND OTHER OPINIONS INCLUDED IN MOODY'S PUBLICATIONS ARE NOT STATEMENTS OF CURRENT OR HISTORICAL FACT. MOODY'S PUBLICATIONS MAY ALSO INCLUDE QUANTITATIVE MODEL-BASED ESTIMATES OF CREDIT RISK AND RELATED OPINIONS OR COMMENTARY PUBLISHED BY MOODY'S ANALYTICS, INC. AND/OR ITS AFFILIATES. MOODY'S CREDIT RATINGS, ASSESSMENTS, OTHER OPINIONS AND PUBLICATIONS DO NOT CONSTITUTE OR PROVIDE INVESTMENT OR FINANCIAL ADVICE, AND MOODY'S CREDIT RATINGS, ASSESSMENTS, OTHER OPINIONS AND PUBLICATIONS ARE NOT AND DO NOT PROVIDE RECOMMENDATIONS TO PURCHASE, SELL, OR HOLD PARTICULAR SECURITIES. MOODY'S CREDIT RATINGS, ASSESSMENTS, OTHER OPINIONS AND PUBLICATIONS DO NOT COMMENT ON THE SUITABILITY OF AN INVESTMENT FOR ANY PARTICULAR INVESTOR. MOODY'S ISSUES ITS CREDIT RATINGS, ASSESSMENTS AND OTHER OPINIONS AND PUBLISHES ITS PUBLICATIONS WITH THE EXPECTATION AND UNDERSTANDING THAT EACH INVESTOR WILL, WITH DUE CARE, MAKE ITS OWN STUDY AND EVALUATION OF EACH SECURITY THAT IS UNDER CONSIDERATION FOR PURCHASE, HOLDING, OR SALE.

MOODY'S CREDIT RATINGS, ASSESSMENTS, OTHER OPINIONS, AND PUBLICATIONS ARE NOT INTENDED FOR USE BY RETAIL INVESTORS AND IT WOULD BE RECKLESS AND INAPPROPRIATE FOR RETAIL INVESTORS TO USE MOODY'S CREDIT RATINGS, ASSESSMENTS, OTHER OPINIONS OR PUBLICATIONS WHEN MAKING AN INVESTMENT DECISION. IF IN DOUBT YOU SHOULD CONTACT YOUR FINANCIAL OR OTHER PROFESSIONAL ADVISER.

ALL INFORMATION CONTAINED HEREIN IS PROTECTED BY LAW, INCLUDING BUT NOT LIMITED TO, COPYRIGHT LAW, AND NONE OF SUCH INFORMATION MAY BE COPIED OR OTHERWISE REPRODUCED, REPACKAGED, FURTHER TRANSMITTED, TRANSFERRED, DISSEMINATED, REDISTRIBUTED OR RESOLD, OR STORED FOR SUBSEQUENT USE FOR ANY SUCH PURPOSE, IN WHOLE OR IN PART, IN ANY FORM OR MANNER OR BY ANY MEANS WHATSOEVER, BY ANY PERSON WITHOUT MOODY'S PRIOR WRITTEN CONSENT.

MOODY'S CREDIT RATINGS, ASSESSMENTS, OTHER OPINIONS AND PUBLICATIONS ARE NOT INTENDED FOR USE BY ANY PERSON AS A BENCHMARK AS THAT TERM IS DEFINED FOR REGULATORY PURPOSES AND MUST NOT BE USED IN ANY WAY THAT COULD RESULT IN THEM BEING CONSIDERED A BENCHMARK.

All information contained herein is obtained by MOODY'S from sources believed by it to be accurate and reliable. Because of the possibility of human or mechanical error as well as other factors, however, all information contained herein is provided "AS IS" without warranty of any kind. MOODY'S adopts all necessary measures so that the information it uses in assigning a credit rating is of sufficient quality and from sources MOODY'S considers to be reliable including, when appropriate, independent third-party sources. However, MOODY'S is not an auditor and cannot in every instance independently verify or validate information received in the credit rating process or in preparing its Publications.

To the extent permitted by law, MOODY'S and its directors, officers, employees, agents, representatives, licensors and suppliers disclaim liability to any person or entity for any indirect, special, consequential, or incidental losses or damages whatsoever arising from or in connection with the information contained herein or the use of or inability to use any such information, even if MOODY'S or any of its directors, officers, employees, agents, representatives, licensors or suppliers is advised in advance of the possibility of such losses or damages, including but not limited to: (a) any loss of present or prospective profits or (b) any loss or damage arising where the relevant financial instrument is not the subject of a particular credit rating assigned by MOODY'S.

To the extent permitted by law, MOODY'S and its directors, officers, employees, agents, representatives, licensors and suppliers disclaim liability for any direct or compensatory losses or damages caused to any person or entity, including but not limited to by any negligence (but excluding fraud, willful misconduct or any other type of liability that, for the avoidance of doubt, by law cannot be excluded) on the part of, or any contingency within or beyond the control of, MOODY'S or any of its directors, officers, employees, agents, representatives, licensors or suppliers, arising from or in connection with the information contained herein or the use of or inability to use any such information.

NO WARRANTY, EXPRESS OR IMPLIED, AS TO THE ACCURACY, TIMELINESS, COMPLETENESS, MERCHANTABILITY OR FITNESS FOR ANY PARTICULAR PURPOSE OF ANY CREDIT RATING, ASSESSMENT, OTHER OPINION OR INFORMATION IS GIVEN OR MADE BY MOODY'S IN ANY FORM OR MANNER WHATSOEVER.

Moody's Investors Service, Inc., a wholly-owned credit rating agency subsidiary of Moody's Corporation ("MCO"), hereby discloses that most issuers of debt securities (including corporate and municipal bonds, debentures, notes and commercial paper) and preferred stock rated by Moody's Investors Service, Inc. have, prior to assignment of any credit rating, agreed to pay to Moody's Investors Service, Inc. for credit ratings opinions and services rendered by it fees ranging from \$1,000 to approximately \$5,000,000. MCO and Moody's Investors Service also maintain policies and procedures to address the independence of Moody's Investors Service credit ratings and credit rating processes. Information regarding certain affiliations that may exist between directors of MCO and rated entities, and between entities who hold credit ratings from Moody's Investors Service, Inc. and have also publicly reported to the SEC an ownership interest in MCO of more than 5%, is posted annually at [www.moody.com](http://www.moody.com) under the heading "Investor Relations — Corporate Governance — Charter Documents - Director and Shareholder Affiliation Policy."

Additional terms for Australia only: Any publication into Australia of this document is pursuant to the Australian Financial Services License of MOODY'S affiliate, Moody's Investors Service Pty Limited ABN 61 003 399 657 AFSL 336969 and/or Moody's Analytics Australia Pty Ltd ABN 94 105 136 972 AFSL 383569 (as applicable). This document is intended to be provided only to "wholesale clients" within the meaning of section 761G of the Corporations Act 2001. By continuing to access this document from within Australia, you represent to MOODY'S that you are, or are accessing the document as a representative of, a "wholesale client" and that neither you nor the entity you represent will directly or indirectly disseminate this document or its contents to "retail clients" within the meaning of section 761G of the Corporations Act 2001. MOODY'S credit rating is an opinion as to the creditworthiness of a debt obligation of the issuer, not on the equity securities of the issuer or any form of security that is available to retail investors.

Additional terms for Japan only: Moody's Japan K.K. ("MJKK") is a wholly-owned credit rating agency subsidiary of Moody's Group Japan G.K., which is wholly-owned by Moody's Overseas Holdings Inc., a wholly-owned subsidiary of MCO. Moody's SF Japan K.K. ("MSFJ") is a wholly-owned credit rating agency subsidiary of MJKK. MSFJ is not a Nationally Recognized Statistical Rating Organization ("NRSRO"). Therefore, credit ratings assigned by MSFJ are Non-NRSRO Credit Ratings. Non-NRSRO Credit Ratings are assigned by an entity that is not a NRSRO and, consequently, the rated obligation will not qualify for certain types of treatment under U.S. laws. MJKK and MSFJ are credit rating agencies registered with the Japan Financial Services Agency and their registration numbers are FSA Commissioner (Ratings) No. 2 and 3 respectively.

MJKK or MSFJ (as applicable) hereby disclose that most issuers of debt securities (including corporate and municipal bonds, debentures, notes and commercial paper) and preferred stock rated by MJKK or MSFJ (as applicable) have, prior to assignment of any credit rating, agreed to pay to MJKK or MSFJ (as applicable) for credit ratings opinions and services rendered by it fees ranging from JPY100,000 to approximately JPY550,000,000.

MJKK and MSFJ also maintain policies and procedures to address Japanese regulatory requirements.

## CLIENT SERVICES

Americas	1-212-553-1653
Asia Pacific	852-3551-3077
Japan	81-3-5408-4100
EMEA	44-20-7772-5454