Discussion Document

June 23, 2020

MASSACHUSETTS
Department of
Higher Education

Agenda

1. Project objectives and observations

2. FY21 sensitivity analysis
   - Description of sensitivities and key levers
   - Community college observations
   - State university observations

Project Activities

The analysis was conducted in collaboration with state universities and community colleges to assess financial risk across plausible FY21 scenarios

Key objectives

- Provide a normalized, aggregate view of the **degree, nature, and timeline of liquidity risk** across the higher education system in Massachusetts under common sensitivities (analysis **excludes** UMass entities, see note in footer)
- Summarize a high-level perspective on potential mitigation strategies and opportunities for **tactical counter-measures**

Approach and activities

Sensitivity analysis for FY21

- Collected FY17A to FY20E financial data and FY21 preliminary forecasts from all 24 institutions (analysis **excludes** UMass entities)
- Normalized FY21 Base Case based on three primary assumptions:
  - Enrollment impact on gross tuition and fee revenue is based on recent trend less 5%
  - State appropriations assumed to be based on FY20 General Appropriations Act levels (before adjustments)
  - Cost savings measures excluded and instead considered as a mitigating strategy
- Developed hypothetical Downside and Pessimistic Cases to illustrate the following sensitivities on cash and liquidity and cash flow:
  - Downside Case assumes a further 5% decline (total 10% effect) in enrollment and 10% decline in state appropriations
  - Pessimistic Case assumes a further 10% decline in enrollment (15% effect) and 20% decline in appropriations; in addition, assumes dorms closed for half of the school year
  - In both cases, cost savings measures are excluded and instead considered as a mitigating strategy (similar to Base Case)
- Summarized observations of planned and potential mitigating strategies on any shortfalls

Institution engagement

- Held group and individual meetings with CFOs and presidents of each institution to align on data submission and sensitivity development

Note: Analysis includes 9 MA state universities and 15 MA community colleges, excluding UMass entities

In Pessimistic Case, most institutions appear to have adequate liquidity[1], though several would be expected to face shortfalls requiring significant action

State university and community college context

- MA institutions face demographic headwinds from declining student population; state university enrollment has remained flat and community college enrollment has decreased ~3% since 2010
- Per FTE expenses have increased ~3-4% annually in both systems since 2010, state appropriations (30-40% of revenue) have remained fairly flat and institutions have increased fees to increase revenue
- Segmental financial performance has shown increasing financial losses; from FY17 to FY20E, net loss before capital appropriations declined from negative $45m to negative $63m at state universities and negative $4m to negative $20m at community colleges
- COVID-19 has caused uncertainty around level of student enrollment and tuition/fee revenue; early indicators show a wide range of enrollment possibilities

Sensitivity observations

- Based on early enrollment indicators, all three of the Base, Downside, and Pessimistic Cases appear possible for fall-20
- Under the sensitivities, FY21 net cash flow ranges from negative $27m to negative $118m in the community college system and negative $74m to negative $248m in the state university system
- In the normalized **Base Case sensitivity, one institution could have a slight negative liquidity[1] position** by Jun-21
- In the **Pessimistic Case, as many as 8 institutions** (4 community colleges, 4 state universities) could face challenged liquidity[1] levels with **at least one monthly shortfall** when controlling for a minimum liquidity balance need of 30 days cash operating expenses
    - Ongoing restructuring proposals at the Massachusetts State College Building Authority ("MSCBA") to defer debt service payments could help avoid potential liquidity[1] shortfalls for state universities; most universities have also identified potential cost savings which could be sufficient to independently avoid shortfalls
    - Community colleges with potential liquidity[1] shortfalls have identified some cost savings but under pessimistic sensitivities would be expected to need to identify and achieve additional cost savings to avoid estimated liquidity[1] shortfalls
- State universities begin FY21 with cash and investment liquidity[1] equal to ~6.3 months of projected cash operating expenses and community colleges with ~4.4 months; when applying Pessimistic Case sensitivities, both end FY21 with only ~2.5 months

All 24 institutions are expected to be in a notably worse financial position by June 2021 compared with June 2020 under all scenarios, indicating a **reduced resiliency to cope with a continued adverse outlook** for enrollment and state appropriations going into FY22

1. Cash and investment liquidity includes cash, short-term and other investments which may or may not be quickly convertible to cash, as provided by institution-submitted data

Source: Internal data

Executive Summary

Institutions’ focus in FY21 is to mitigate negative effects of COVID, looking to the future, institutions can focus on adaptations to thrive in FY22 and beyond

Dimensions of assessment

Financial viability in FY21

- Analyzing cash flow leads to key insights for institution-level viability in FY21
- Across all scenarios, most state universities and community colleges are expected to be in a viable position at the end of FY21
- Those that do experience FY21 potential cash shortfalls have a number of mitigating strategies:
  - Identified cost reductions
  - Potential MSCBA restructuring

Financial sustainability beyond FY21

- On an aggregated basis, the community colleges have projected positive net cash flow of $7M for FY21 while the state universities have projected a cash burn of $31M for the same period
- Individually, most entities reported balanced budget forecasts, however, 6 state universities and 8 community colleges expected a negative change in net position in FY21, implying some reliance on dipping into reserves to manage through the upcoming fiscal year

System-wide resiliency

- In all three scenarios, resiliency could be considerably reduced, threatening future financial viability and the ability of community colleges and state universities to have sustainably balanced budget trajectories going into FY22 and beyond

Keys to FY21 financial viability are mitigating potential shortfalls through selective cost reductions and potential MSCBA restructuring

When FY21 financial viability is sufficiently secure, institutions can focus on the adaptations needed for a healthier and more sustainable system in FY22 and beyond

Source: internal data

Agenda

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2. FY21 sensitivity analysis

   - Description of sensitivities and key levers
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Sensitivity Analysis

The overall objective of the sensitivity analysis is to quantify the hypothetical impact of certain sensitivities on the institutions' available liquidity in FY21

Sensitivity analysis methodology and objectives

- Illustrative financial sensitivity exercise to estimate and quantify the impact of certain assumption changes on financial condition/cash flow holding all else stable/constant
- Sensitization process normalized as-reported assumptions of tuition and fee revenue, state appropriations revenue, and cost savings measure so that information can be compared between institutions
- This is an effort to understand steady-state run-rate **before** cost mitigation efforts, and **excluding** extraordinary pandemic-related costs
- Considers both estimated timing of cash flows and a minimum cash threshold in order to understand / estimate the liquidity position through FY21 under the sensitivities
- Focus on system-level outcome and aggregated liquidity impact while considering if individual entities may be impacted

For the avoidance of doubt …

- … this is NOT an exercise to determine probable outcomes
- … this is NOT an effort to supersede or replace the institutions' budget / forecast which may have already been prepared by the entity and/or submitted to boards of regents
- … it is highly likely that the sensitivities presented in this analysis differ from the individual scenarios prepared by the individual institutions which may have been shared with the individual boards of regents

Source: Internal data

Sensitivity Analysis – Community Colleges

Base Case shows normalized FY21 figures, while Downside and Pessimistic Cases estimate the impact of certain revenue sensitivities

Sensitivity Lever	Base Case	Downside Case	Pessimistic Case
Tuition and academic fees+	► Gross tuition and fees normalized as 3-yr CAGR less 5% ► Net revenue per student rate as-reported by institutions	► Further 5% decrease from Base Case (cumulative 10% pandemic effect)	► Further 10% decrease from Base Case (cumulative 15% pandemic effect)
State appropriations	► Held at FY20 General Appropriations Act levels without any adjustment items	► 10% decrease from Base Case* (see note on fringe impact below)	► 20% decrease from Base Case* (see note on fringe impact below)
Cost savings	► Sensitivities exclude cost savings included in as-reported data and are considered instead as a mitigating strategy; normalized costs are the greater of FY20E and FY21F ► Entities are proactively working towards identifying and implementing cost savings and/or revenue enhancement opportunities; more work is required to understand stage, timing, and associated risks ► No additional costs have been included related to extraordinary pandemic-related activities that may be under consideration		

+ Enrollment projections varied by institution with individual assumptions of the magnitude of projected COVID-19 effects. All showed declines, ranging from -2% to -20%. Normalization process uses gross tuition revenues as driver to control for differences in as-reported assumptions, resulting in scenario assumptions that student mix, list price and discount rate are consistent with institutional trend

* Note: in all adverse scenarios when state appropriations are reduced from as-reported, fringe variance will be absorbed by institutions and increase projected cash cost (i.e. 10% decrease in cash appropriations is 14% decrease to cash flow), Jun-20 end –of-month liquidity position and FY21 forecasts include effects of CARES Act funding where applicable

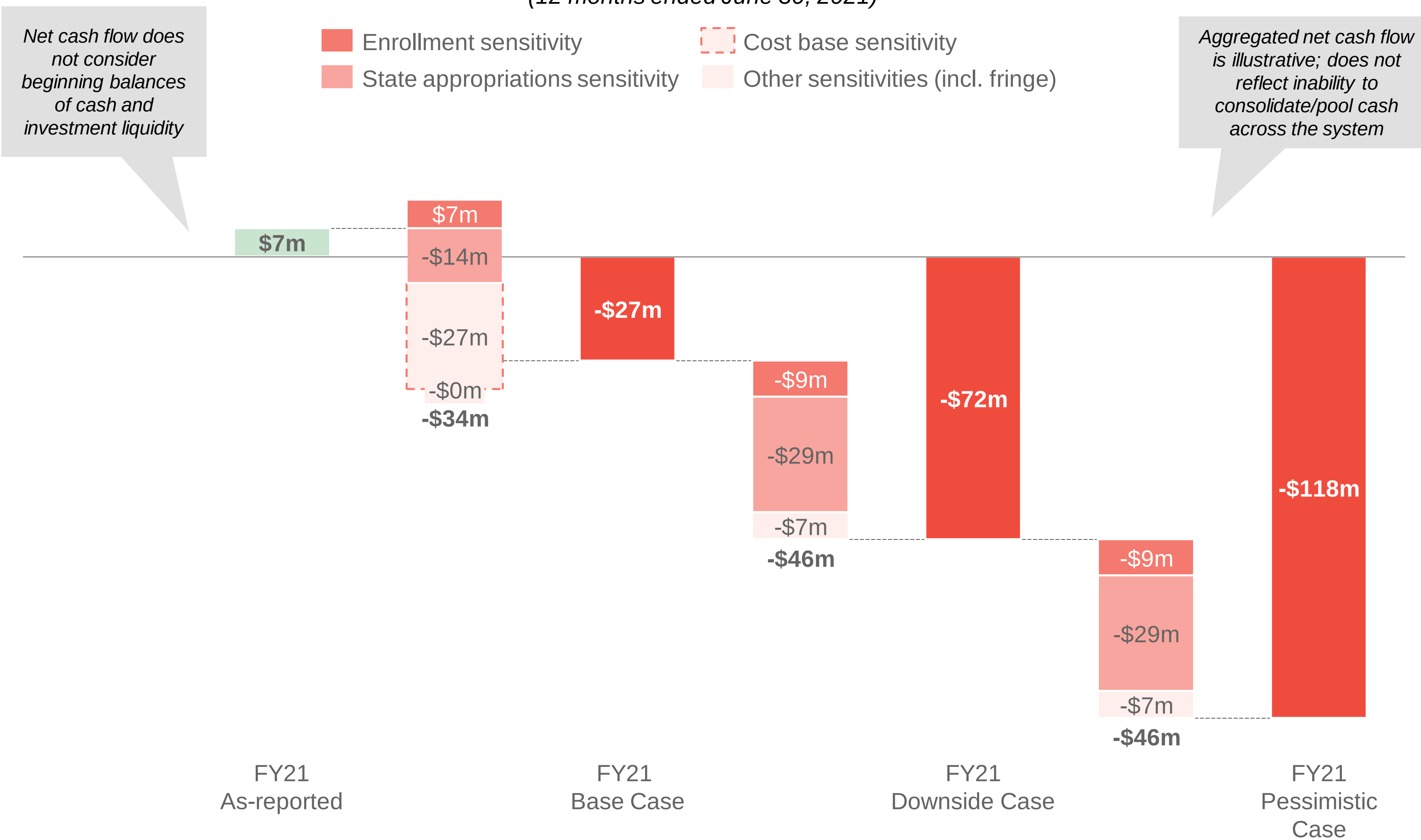
Sensitivity analysis does not include possible extraordinary costs related to COVID

Source: Internal data

Sensitivity Analysis – Community Colleges

While community colleges' as-reported FY21 data projects a small positive net cash flow, sensitivity analysis results in negative net cash flow after adjustments

Projected FY21 aggregate net cash flow by scenario for community colleges,
(12 months ended June 30, 2021)

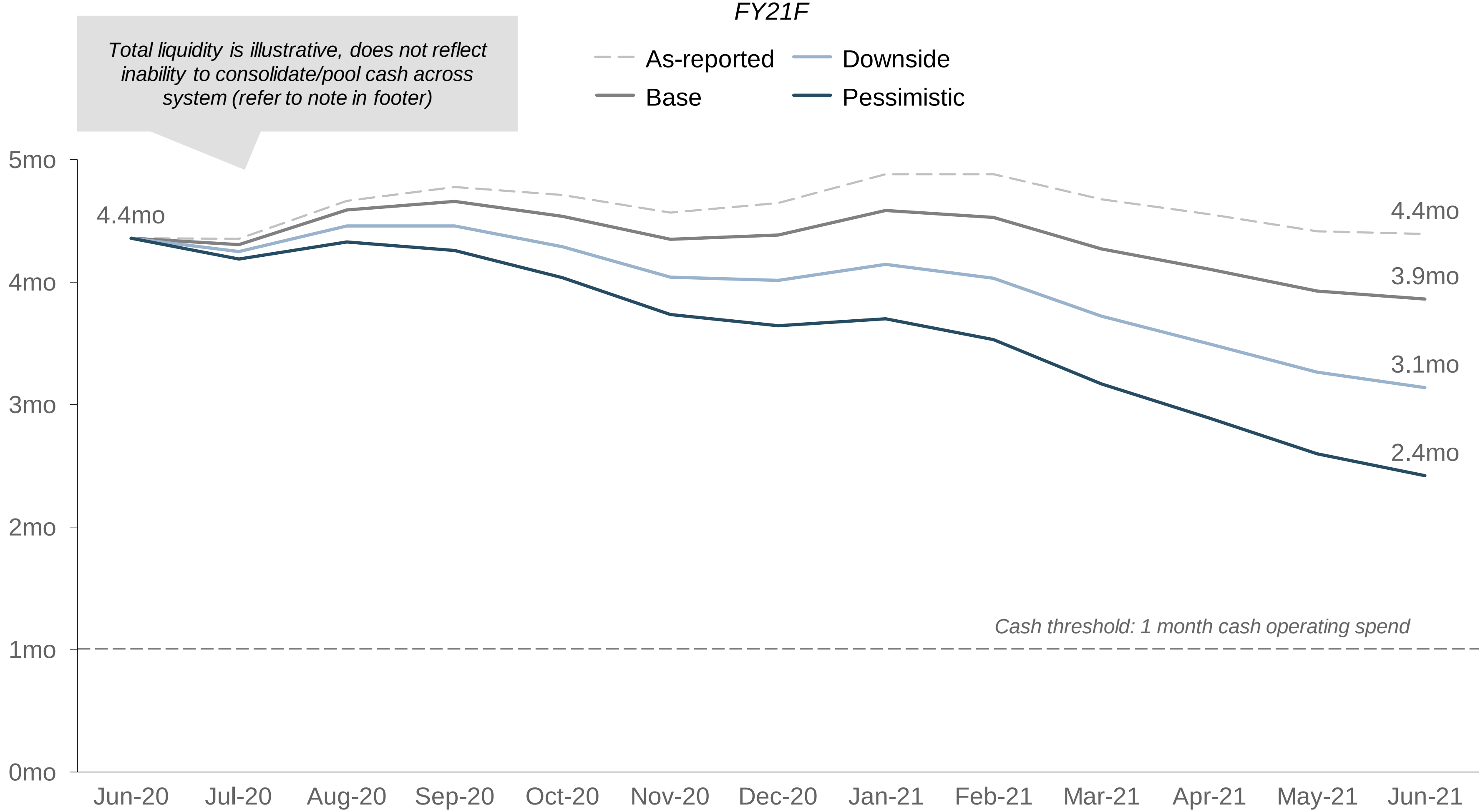


Enrollment normalization and adjustment process uses gross tuition revenues as driver to control for differences in as-reported assumptions, resulting in scenario assumptions that student mix, list price and discount rate are consistent with institutional trend; cost base sensitivity normalizes as-reported costs to the greater of FY20E and FY20F
Source: Internal data

Sensitivity Analysis – Community Colleges

In the Base Case, the community college system begins the year with >4 months of liquidity, which could be depleted to <2.5 months in the Pessimistic Case

Projected aggregated liquidity in months cash operating spend for community colleges,
FY21F



Note: Cash and investment liquidity includes cash, short-term and other investments which may or may not be quickly convertible to cash, as provided by the institutions; Cash threshold calculated as projected average 30 days of cash operating expenditures, actual minimum cash needs of the individual institutions may vary and should be considered by each institution

Source: Internal data

Sensitivity Analysis – Community Colleges

Across the FY21 scenarios, up to four community colleges could experience liquidity below a threshold of 30-days of cash operating needs

	Shortfalls below cash threshold	Months below threshold	Observations	Mitigating strategies
Base Case	1	Some to all of year	► Community college system in aggregate **burns ~10% of starting liquidity** during FY21 ► 14 colleges end FY21 with positive liquidity ► 1 college ends FY21 in a negative cash position	**Institutions with projected shortfalls have identified cost savings measures that could reduce part of the shortfall, including:** ► Elimination of grant-funded equipment purchases ► Reduced administration and supply costs ► Reduction in payroll through unfilled vacancies, layoffs, and reduced hours **Further savings would be expected to need to be identified to close the remaining gap** ► In a Pessimistic Case, to-be-identified savings are ~5% of the four institutions' combined spend
Downside Case	1	Some to all of year	► System **burns ~27%** of starting liquidity, but 14 colleges still end FY21 with positive liquidity and above the 30 day threshold ► 1 college ends year in negative position (~19% of revenue)	
Pessimistic Case	4	Some to all of year	► System **burns >40%** of starting liquidity during FY21, but 14 colleges end the year with positive liquidity balances ► 3 of the 14 colleges end FY21 below the 30 day threshold of cash operating expenses ► 1 college ends FY21 in a negative liquidity position	

Note: Cash threshold calculated as projected average 30 days of cash operating expenditures, actual minimum cash needs of the individual institutions may vary and should be considered by each institution; operating expenditures refers to cash portion of projected operating expenses in the Base Case, revenue refers to total annual revenue in the Base Case
Source: Internal data

Sensitivity Analysis – State Universities

Base Case shows normalized FY21 figures, while Downside and Pessimistic Cases estimate the impact of certain revenue sensitivities

Sensitivity Lever	Base Case	Downside Case	Pessimistic Case
Tuition and academic fees+	► Gross tuition and fees normalized as 3-yr CAGR less 5% ► Net revenue per student rate as-reported by institutions	► Further 5% decrease from Base Case (cumulative 10% pandemic effect)	► Further 10% decrease from Base Case (cumulative 15% pandemic effect)
Residence life and housing	► Dormitories open fall 2020 ► 19% reduction in overall housing revenue from FY19 (pre-COVID) due to public health density reduction	► 5% decrease from Base Case due to lower enrollment assumption	► Delayed opening (spring 2021) ► 50% decrease in dorm revenue from closed semester ► 10% decrease from Base due to lower enrollment assumption
State appropriations	► Held at FY20 General Appropriations Act levels without any adjustment items	► Further 10% decrease from Base Case* (see note on fringe impact below)	► Further 20% decrease from Base Case* (see note on fringe impact below)
Cost savings	► Sensitivities exclude cost savings included in as-reported data and are considered instead as a mitigating strategy; normalized costs are the greater of FY20E and FY21F ► Entities are proactively working towards identifying and implementing cost savings and/or revenue enhancement opportunities; more work is required to understand stage, timing, and associated risks ► No additional costs have been included related to extraordinary pandemic-related activities that may be under consideration		

+ Enrollment projections varied by institution with individual assumptions of the magnitude of projected COVID-19 effects. All showed declines, ranging from -2% to -18%.Normalization process uses gross tuition revenues as driver to control for differences in as-reported assumptions, resulting in scenario assumptions that student mix, list price and discount rate are consistent with institutional trend

* Note: in all adverse scenarios when state appropriations are reduced from as-reported, fringe variance will be absorbed by institutions and increase projected cash cost (i.e. 10% decrease in cash appropriations is 14% decrease to cash flow), Jun-20 end –of-month liquidity position and FY21 forecasts include effects of CARES Act funding where applicable

Sensitivity analysis does not include possible extraordinary costs related to COVID

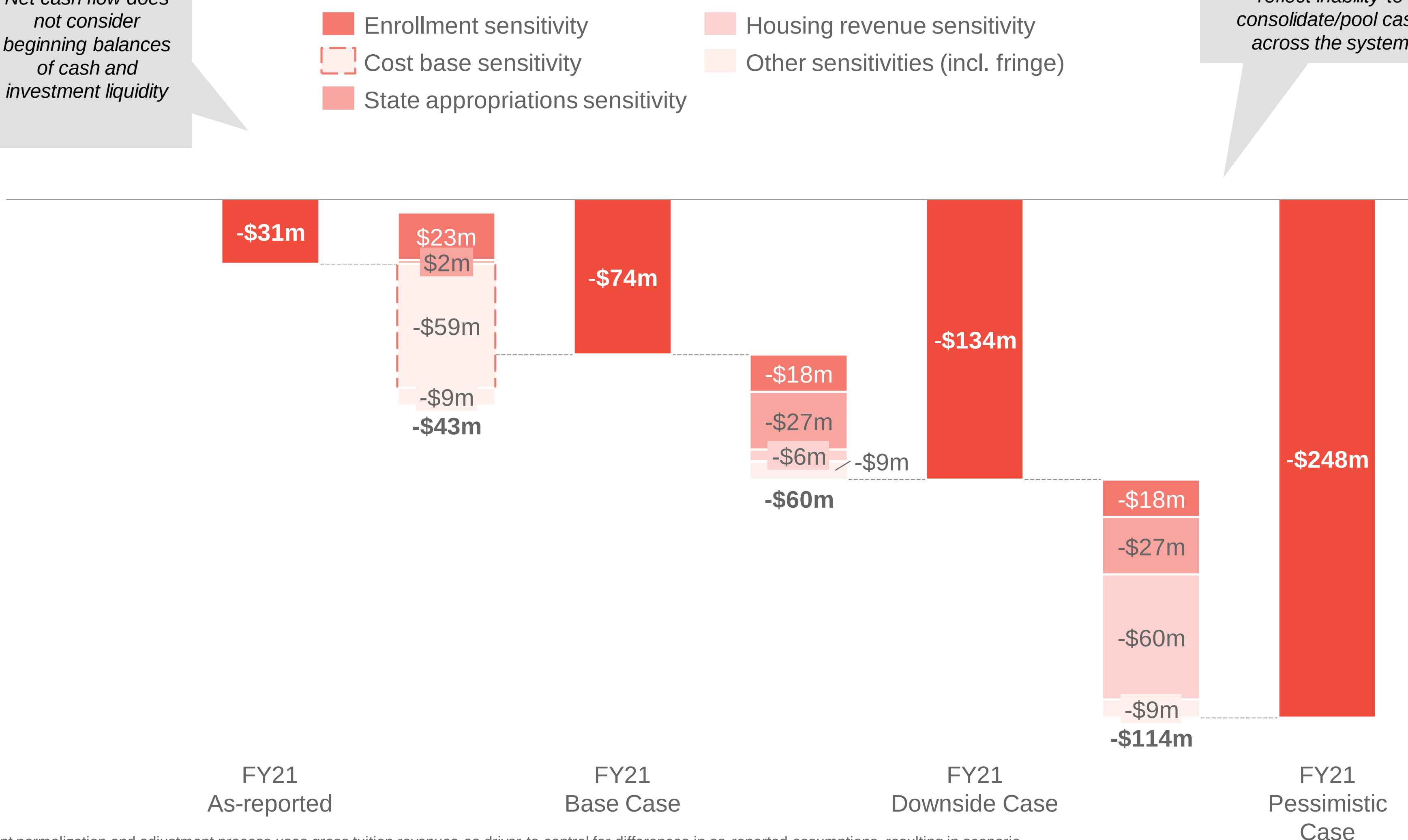
Source: Internal data

The state universities could burn up to ~$248m of liquidity under the Pessimistic Case due to lost housing and enrollment revenue before mitigating activities

Projected FY21 aggregated net cash flow by scenario for state universities,
(12 months ended June 30, 2021)

Net cash flow does not consider beginning balances of cash and investment liquidity

Aggregated net cash flow is illustrative; does not reflect inability to consolidate/pool cash across the system



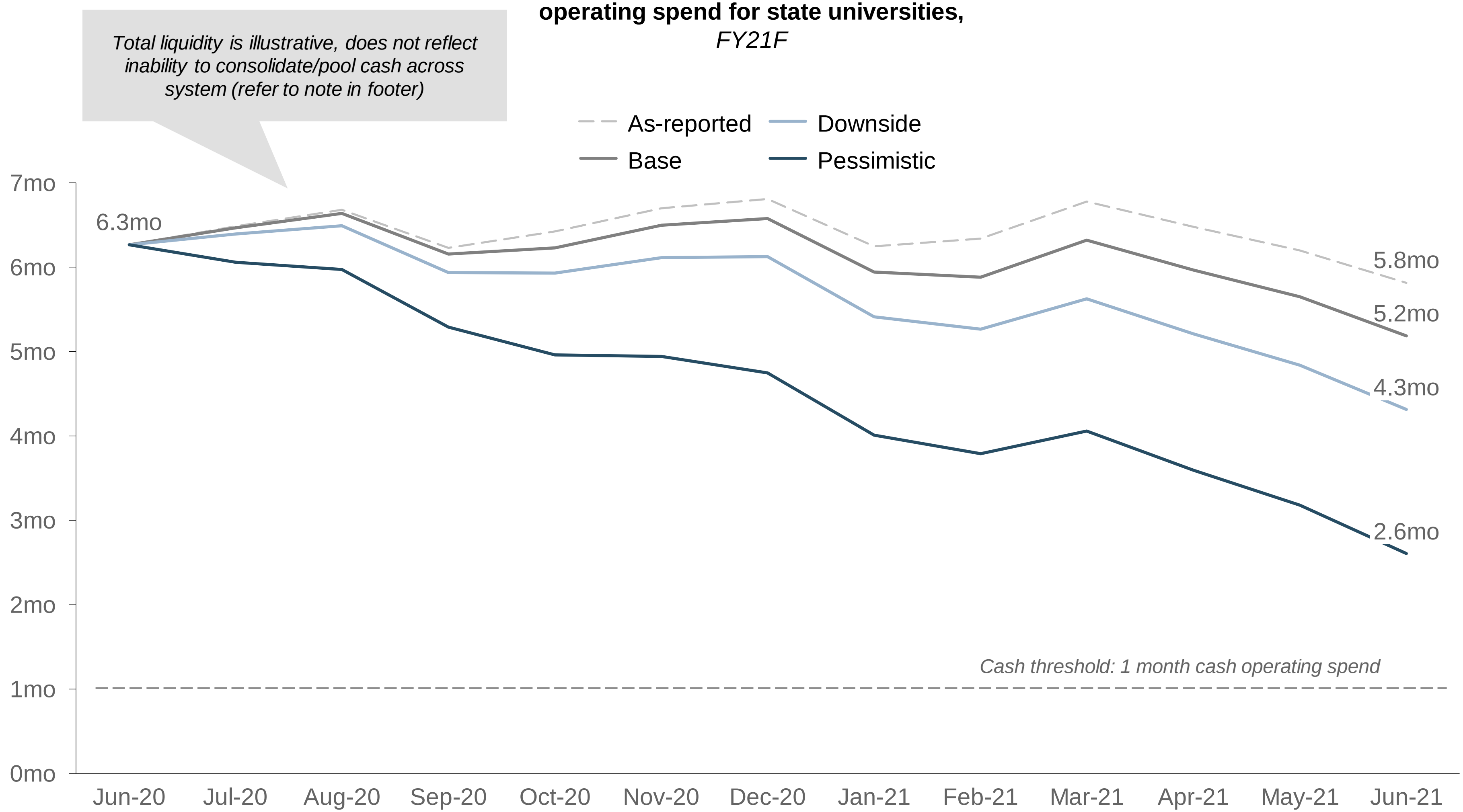
Enrollment normalization and adjustment process uses gross tuition revenues as driver to control for differences in as-reported assumptions, resulting in scenario assumptions that student mix, list price and discount rate are consistent with institutional trend; cost base sensitivity normalizes as-reported costs to the greater of FY20E and FY20F; state university set (9 institutions) excludes UMass system

Source: Internal data

Sensitivity Analysis – State Universities

The state university system begins the year with >6 months of liquidity reserves, which could be depleted to as low as ~2.6 months in the Pessimistic Case

Projected aggregate liquidity in months cash operating spend for state universities,
FY21F

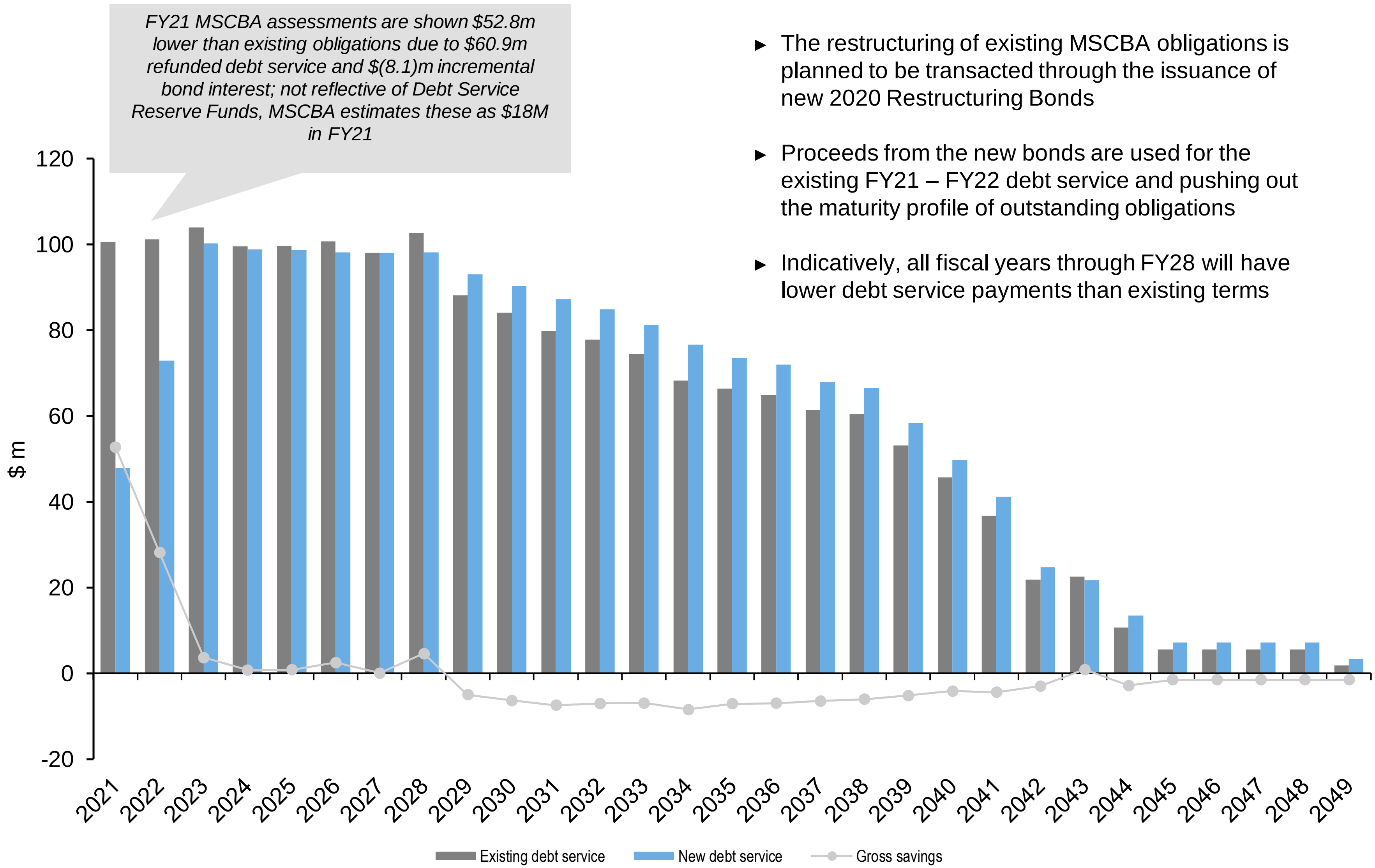


Note: Cash and investment liquidity includes cash, short-term and other investments which may or may not be quickly convertible to cash, as provided by the institutions; Cash threshold calculated as projected average 30 days of cash operating expenditures, actual minimum cash needs of the individual institutions may vary and should be considered by each institution; state university set (9 institutions) excludes UMass system

Source: Internal data

Mitigation Strategies – State Universities

The ongoing process to restructure the near-term MSCBA obligations is projected to alleviate $53m of revenue assessments in FY21



- The restructuring of existing MSCBA obligations is planned to be transacted through the issuance of new 2020 Restructuring Bonds
- Proceeds from the new bonds are used for the existing FY21 – FY22 debt service and pushing out the maturity profile of outstanding obligations
- Indicatively, all fiscal years through FY28 will have lower debt service payments than existing terms

Note: preliminary assumptions based on latest indicative terms of the proposed new 2020 Restructuring Bonds
Source: Massachusetts State College Building Authority

Sensitivity Analysis – State Universities

Across the FY21 sensitivities, up to four state universities could experience liquidity below a threshold of 30-days of cash operating needs

	Shortfalls below cash threshold	Months below threshold	Observations	Mitigating strategies
Base Case	**0**	**N/A**	► State university system in aggregate burns **~17%** of starting liquidity ► All 9 end FY21 in positive liquidity position ► None have shortfalls after considering a cash threshold of 30-days operating spend	**Proposed MSCBA restructuring could help avoid estimated FY21 liquidity shortfalls under the sensitivities performed** ► Proceeds from new bonds could result in lower FY21-FY28 debt service payments **Even with MSCBA restructuring, there could be a considerable cash burn unless institutions undertake significant cost reductions; identified strategies include:** ► Furlough program, hiring freeze, raise cap, and other personnel cost reductions ► Reduction of travel and transportation expenses ► Decrease in administrative, facilities, equipment, and other costs
Downside Case	**0**	**N/A**	► System **burns ~31%** of starting liquidity, all end year in positive liquidity position ► None have shortfalls after considering a cash threshold of 30-days operating spend	
Pessimistic Case	**4**	**One to three months during spring semester**	► System **burns 58%** of starting liquidity, but all 9 end FY21 with positive liquidity balances ► However, 4 of the 9 universities fall below the threshold of 30-days operating spend during the course of the year	

Note: Cash threshold calculated as projected average 30 days of cash operating expenditures, actual minimum cash needs of the individual institutions may vary and should be considered by each institution; operating expenditures refers to cash portion of projected operating expenses in the Base Case, revenue refers to total annual revenue in the Base Case; state university set (9 institutions) excludes UMass system

Source: Internal data

Action Steps

As scenarios for FY21 continue to unfold, actions at the state, campus, and department level can position institutions for resiliency in FY21 and beyond

State

For state universities and community college, state appropriations represent ~30-40% of their revenues

As the FY21 budget is developed, consider current and future impact – the larger any cut, the higher the charges to students and the greater the risk to fiscal sustainability

Campuses

Institutions are responding to both COVID-19 impacts (reduced revenue, increased cost) as well as pre-COVID pressures on enrollment (broader demographic trends)

Campus Boards and leaders have the responsibility to both produce responsible budgets for FY21 and to serve the future by taking actions to minimize losses to preserve resiliency and ensure a sustainable future

Department of higher education

The next 90 days will bring more clarity on enrollment, state appropriations, and cost levers. Institutional responses will vary based on individual context and competitive position

DHE will engage closely and frequently over July, August, and September to support institutions in taking the actions needed for financial health not just in FY21 but beyond