CASH DEFINES SURVIVAL

CASH IS KING!

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Executive Summary

"Only when the tide goes out do you discover who's been swimming naked" is a famous quote of one of America's most astute investors, Warren Buffett. And over the past year the tide has turned against America's colleges and universities, with cash substituting for water. While demographic, technological and industry changes have been pressuring schools for a decade now, the pandemic has forced many schools into weakened financial positions, especially as it relates to cash available to support operations. Examining IPEDS data from a select group of private not-for-profit institutions between 2015 and 2019, we put forth three major arguments:

1. That the ability of many schools and colleges to cover both direct and indirect expenses through their main revenue source, tuition, has been substantively weakened by the COVID pandemic and the adverse decline in birth rates.
2. That traditional financial reporting and monitoring systems often do not provide enough of an optic into a school's cash position.
3. That CFOs, management teams and boards must improve their focus and understanding of the forces impacting cash flow and cash position.

While the financial impact of the pandemic might slowly subside, other industry changes and innovations will continue to present disruptive financial challenges. The next tide will certainly flow and the ebb that follows may not be as severe as today's, but it's time now to work on limiting our exposure, for the next tide will inevitably ebb once more.

Cash - de Minimus Financial Position

While some try to make it complex, college finance is a relatively simple proposition. You must have cash to operate. No cash, no college. There is never a time when there is enough cash, Mike Townsley showed in Weathering Turbulent Times.[1] A major mistake many make is to assume that revenue equals cash. Cash flow is simply the flow of cash in and out of the college as money is received then paid-out. The problem is that cash is not necessarily received when revenue is posted and when bills and paychecks have to be paid, because of the intricacy of accrual accounting.

The COVID pandemic has taught colleges a very hard lesson about cash reserves. When students were sent home, cash was quickly depleted for the least resilient colleges. Cash reserves were exhausted because: students received refunds when they had to leave early and that undermined debt payment on residence halls; cash from athletic events disappeared when stadiums and arenas were closed; and due to the sudden need to shift to remote learning many colleges were forced to make large unplanned investments in IT equipment, software, and online instruction. And that was the immediate impact. Now many schools are facing declining enrollment as the pandemic continues to rampage through the financial reserves of colleges and universities. For example, Inside Higher Ed reported on February 11, 2021 that FSFA applications for financial aid dropped 10% and "students from disadvantaged backgrounds seem disproportionately affected."[2]

In any one of these instances, the college often turns to short-term loans which can threaten the stability of a college if they grow and become the main source of cash for college operations. A college's survival is then in the hands of a third party that may dictate how it operates. Failure to meet their conditions could lead to the financial

[1] The concepts in this white paper come from Weathering Turbulent Times; National College and University Business Officers; Washington DC, 2002.

[2] Lederman, Doug (February 11 ,2021) "Aid Application Data Portend Dip in Low-Income, Minority Students.

institution calling the loan. If the college has a poor credit rating, it could discover that other financial institutions are reluctant or even refuse to make a short-term loan.

Cash Flow Description

Revenue is generated from a variety of sources such as student tuition and fees, governmental grants, student loans, donors gift pledges, sales from services such as the bookstore or athletic events or draws from endowment principal. However, not all revenue becomes cash. Some students do not pay their bills. Some pledges are not fulfilled, and some endowment gifts are not accessible for conversion to cash. Cash is spent as it is disbursed by way of salaries, taxes, benefits, or payments to vendors. Monthly disbursements are not necessarily matched to the monthly receipt of cash. For example, cash receipts shrink substantially in the summer compared to the fall or spring because fewer classes are offered. However, salaries, taxes, vendors, and building contractors still must be paid. Most colleges have sufficient cash reserves to cover demands on cash during the summer. The cash reserve acts as a buffer against known and unexpected demands. Nonetheless, the cash reserves are so low at some colleges that they resort to short-term cash loans to keep payroll and bills timely. Although this was a common occurrence even before the pandemic, it has now become more of a necessity as colleges try to survive the pandemic.

The amount of cash held in reserve depends on net income, investment performance, unexpected expenditures, or trade-offs between debt rates and investment rates of return. A good portion of net income may take the form of receivables (unpaid student bills, grants not received) or payables (unpaid bills or other current liabilities) rather than cash. Depreciation is treated as a non-cash expense.

When cash reserves are not sufficient to cover disbursements, the college must borrow money. This can happen under these conditions: cash flow is not carefully managed: tuition discounts expand to a point where only a small amount of tuition revenue is converted to cash; when student bills are left uncollected; when unbudgeted disbursements are made to hire new staff or to make major repairs; or when departments overspend their budgets. Probably the biggest operational threat to cash reserves is when

the average tuition discount exceeds 50%, reducing the cash received from the posted tuition charge. Discounts can take an insidious form when colleges make institutional loans to their students that cannot be collected due to high drop-out rates or graduates taking jobs with inadequate income to pay back the loan. Those colleges, who made unsecured loans to their students have probably created a large cash hole in their estimated student receivables.

Tracking Financial Flows That Govern Cash Balances

There are two ways to estimate if a college is generating sufficient income to pay for operations: *main revenue sources* and the *primary reserve ratio*. The *main revenue source*s include tuition, auxiliary, and endowment draws (assumed to be 4.5% of endowment principal) that form a pool that is allocated to direct student expenses, instruction, student services, and academic support. The *primary reserve ratio* is a ratio that estimates how many months of annual expenses could be covered if readily available assets are converted to cash or used as collateral for loans.[3] The ratio is defined as unrestricted net assets plus temporarily restricted net assets, less property, plant, and equipment net of depreciation, plus long-term debt equals (resulting in total expendable net assets), divided by total expenses. The benchmark for this ratio is 0.40, which indicates that converting the assets in the ratio should provide sufficient cash for five months of expenses (benchmark of 0.40 times 12 months).

Main Revenue Sources

The *main revenue sources* provide most colleges with the funds needed to support direct student expenses. Typically, tuition-dependent institutions garner most of their revenue from student revenue (net tuition and net auxiliaries), the endowment fund plays a minor role in funding those institutions.

[3] Source is: Lou Mezzina, Fred Praeger, Ron Salluzo, and Phil Tahey; (2010); Strategic Financial Analysis for Higher Education (seventh edition) (2010); Prager, Sealy & Co.; LLC. Pp. 111-113.

Table 1 lays out the main revenue sources and direct expenses for 1,134 private institutions included in the data set.[4] The last two columns of the table provide the '1 year change,' which is the marginal change between 2018 and 2019, while the 'compound rate' is the compounded rate of change for all five years. The '1 year change' for net tuition and auxiliary revenue indicates that the rate of change for these major income variables is lower than the compounded rate. In other words, performance was already deteriorating prior to 2020. Continuing lockdowns and off-campus/on-line learning in 2020 and 2021 due to COVID should have further depressed the flow of revenue, and by implication, the flow of cash for these institutions. Both Inside Higher Education and The Chronicle of Higher Education regularly report colleges merging, seeking emergency funds to survive, or closing.

Table 1
Performance Report for the Five Years from 2015 to 2019 of Main Revenue Sources and Direct Expenses for 1,134 Private Institutions

	2015	2016	2017	2018	2019	1 Year Change Note D	Compound Rate
Net Tuition	3,475.6	3,517.5	3,529.1	3,503.2	3,507.8	0.1%	0.2%
Net Auxiliary	103.4	116.0	137.6	151.5	139.0	-8.3%	6.9%
Endow Draw; *Note A*	1,245.2	1,295.5	1,369.5	1,369.5	1,472.2	7.5%	3.6%
Total Main Rev; *Note B*	4,824.2	4,929.0	5,036.3	5,024.2	5,119.0	1.9%	1.2%
Direct Exp; *Note C*	6,876.7	7,358.6	7,358.6	7,598.9	7,895.2	3.9%	3.0%
Main Rev less Dir Exp	**(2,052.5)**	**(2,429.6)**	**(2,322.3)**	**(2,574.7)**	**(2,776.2)**	7.8%	7.1%
Ratio: Main Rev/Dir Exp	70.2%	67.0%	68.4%	66.1%	64.8%		

***Note A*: Endowment Draw = 4.5% of the endowment principal.**
***Note B*: Total Main Rev = Main Revenue Flow: Sum of Student Revenue (Net Tuition & Net Auxiliaries) & Endowment Draw**
***Note C*: Direct Exp = Direct Expenses: Instruction, Student Services, and Academic Support**
***Note D*: 1Year Change between 2018 and 2019**

[4] The data set of 1,134 private institutions was drawn from a base set of 1,690 private institutions found in The Integrated Postsecondary Education Data. The following criteria was used to cull institutions from the base set: 1) institutions that did not have data for the variables in the study, 2) institutions with main offices outside the fifty states, 3) institutions identified as medical, law, or pure research institutions, 4) institutions that reported negative auxiliary revenue, and 5) institutions identified as seminaries.

Chart 1 compares data for the main revenue sources and direct expenses from Table 1. The first column (multi-colored column) for each year depicts the amount of dollars for each of the main revenue sources and the second column (red column) shows comparable direct expenses. The totals of the main revenue source columns remain relatively flat across the five years. The direct expense columns are well above the main revenue source columns for each year and are also growing for four of the five years (2015, 2016, 2018, and 2019)

Chart 1

Comparison of Net Student Revenue with Direct Expenses - 2015 through 2019

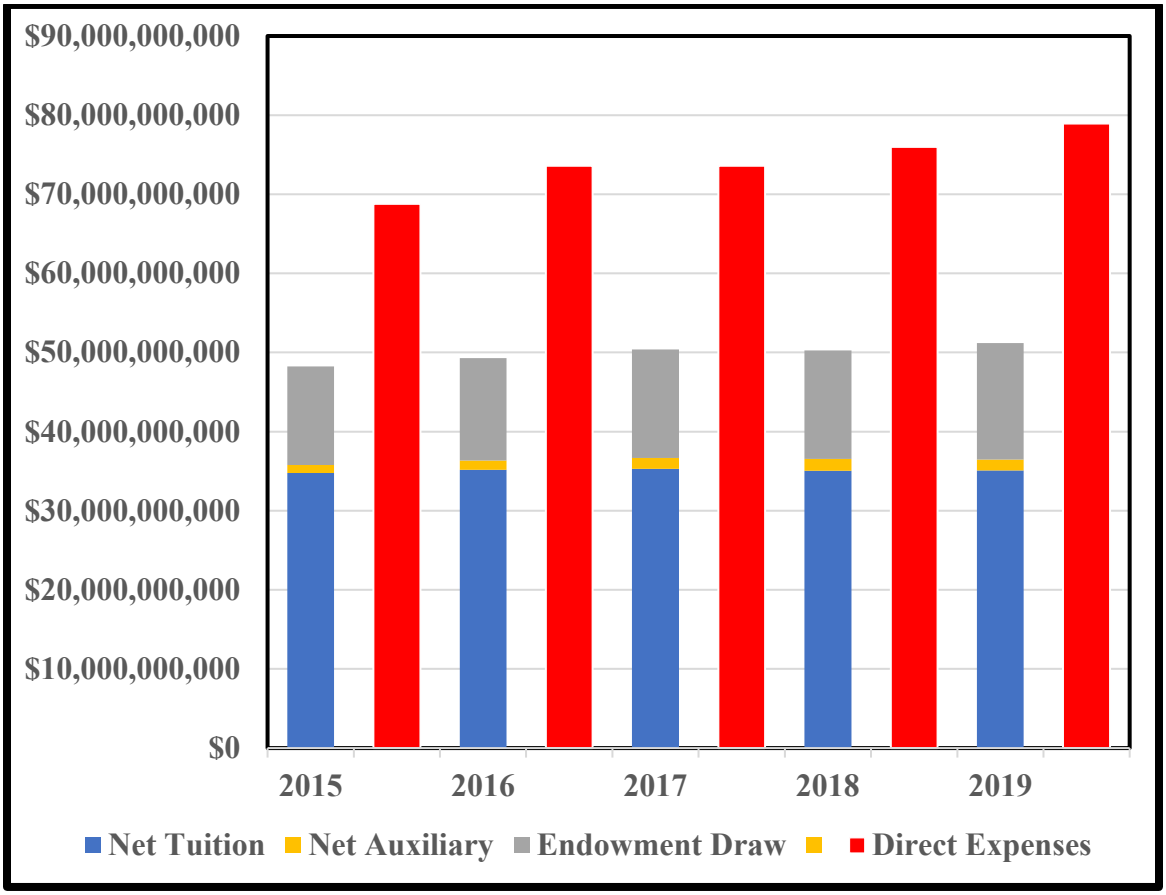
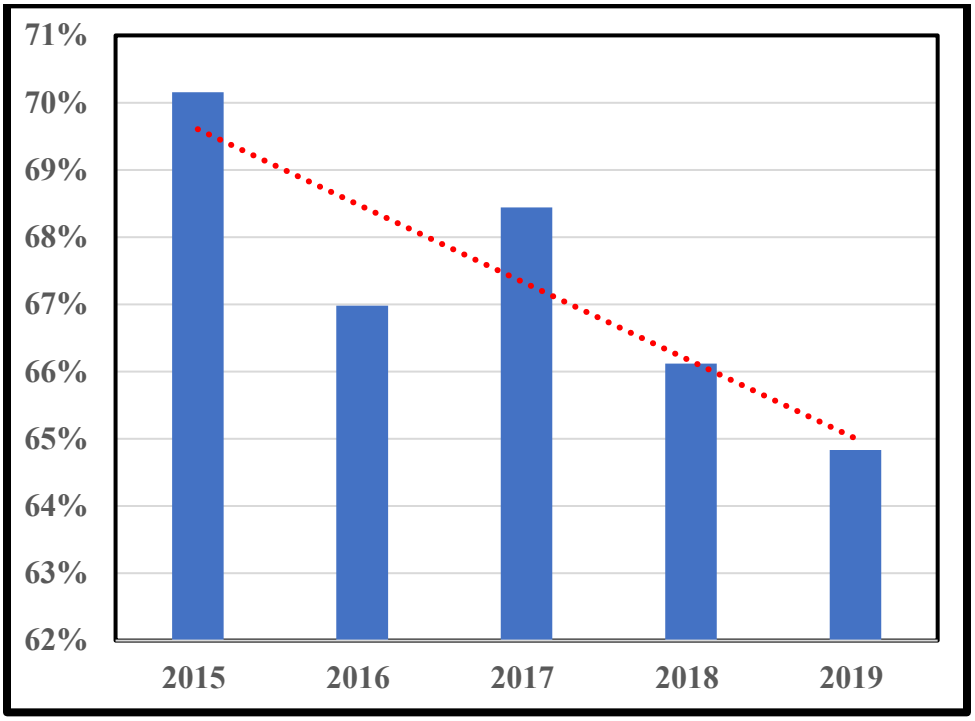


Chart 2, which follows, illustrates how the ratio of main revenue sources to direct expenses has changed over the 2015 to 2019 period. After 2015, the ratio steadily declined except for 2017. Any increase in direct expenses or reduction in main revenue sources would cause the decline in the ratio. The dotted-red linear trendline suggests

that, at some point. direct expenses will reach 50% of main revenue sources. As noted with Chart 1, these negative trends do not bode well for 2020 or 2021; when COVID has probably accelerated the negative trend. It will not be long--and is happening already in some regions of the country--that the demographic collapse of birth trends will only make conditions worse for private institutions that live at the brink of financial viability.

Chart 2

Ratio of the Main Revenue Sources to Direct Expenses (Instruction, Student Services, and Academic Support: 2015 through 2019



When the data are disaggregated into two enrollment bands (colleges with fewer than 3,000 FTE students and colleges with more than 3,000 FTE students), only institutions in the larger enrollment band show a positive rate of change for the ratio, and that rate of change is quite small, 0.7%. This suggests even some of the largest private institutions could be at risk. Regardless of the enrollment band, presidents and boards will need to continue to provide strong leadership as the COVID epidemic passes into the deep decline in the student pool.

Primary Reserve Ratio

As noted earlier, the *primary reserve ratio* estimates financial risk by determining how many months a college could use expendable assets to cover expendable[5] expenses in the event of an emergency. Chart 3 compares the primary reserve ratios to its benchmark (0.4 or five months) for institutions assigned to three full-time-equivalent enrollment bands, fewer than 2,000 students, 2,000 to 3,000 students, and more than 3,000 students for the years 2015 and 2019. Even though the primary reserve ratio for each enrollment band was greater than the benchmark, the ratio declined between 2015 and 2019.

Chart 3
Comparing Primary Reserve Ratios in 2015 and 2019 for Three Enrollment Bands to the Ratio Benchmark of 0.4

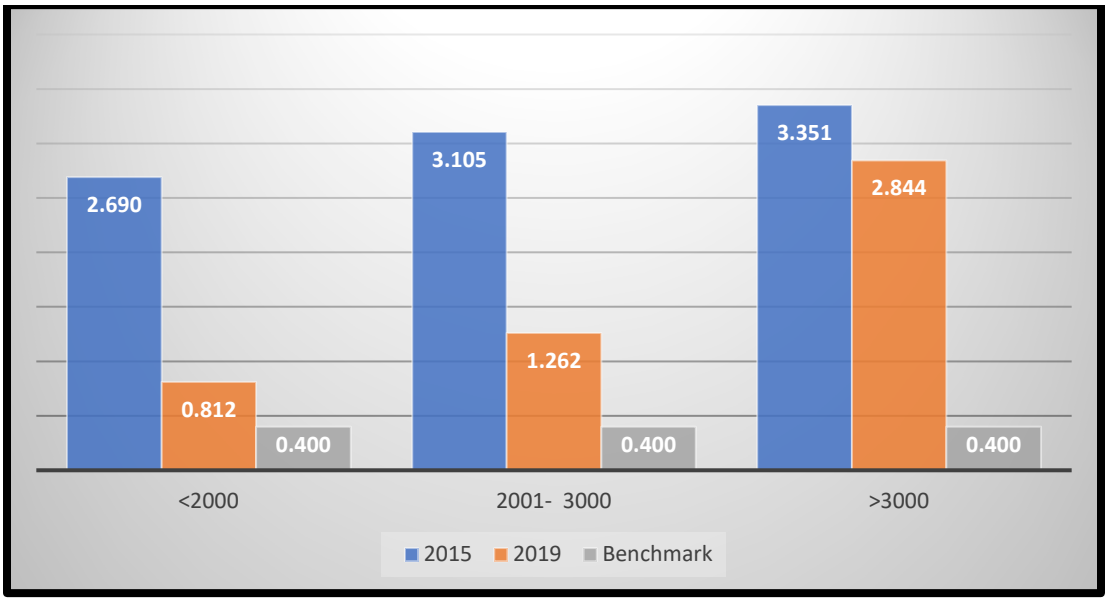
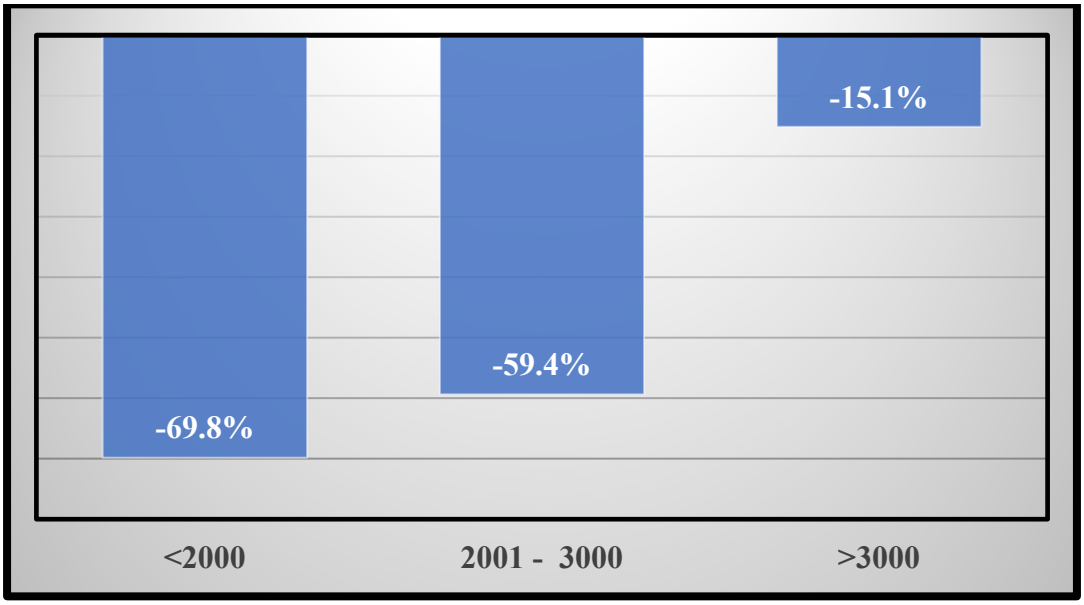


Chart 4 shows the scale of the decline in the primary reserve ratio between the years 2015 and 2019. The third enrollment band had the smallest change, while the other two bands declined substantially. The first enrollment band fell nearly 70%, while the second band's decline was not as large, but still substantial at 59%. The scores for colleges with fewer

[5] Expendable assets = Net Unrestricted Assets plus Net Temporarily Restricted Assets minus Property, Plant and Equipment Net of Depreciation plus Long-Term Debt (Lou Mezzina, Fred Praeger, Ron Salluzo, and Phil Tahey; (2010); Strategic Financial Analysis for Higher Education (seventh edition) (1999); Prager, Sealy & Co.; LLC.; p. 58.)

than 3,000 students presage the risk that they would face when the COVID pandemic suddenly struck in early 2020. These colleges would face even greater risk as the coming demographic crisis dramatically shrinks the prospective student pool. As the pandemic lingers on, many private colleges with fewer than 3,000 students seem to be barely treading water as they wait for governmental relief.

Chart 4
Percentage Change in Primary Reserve Ratios between 2015 and 2019 for Three Enrollment Bands



Those institutions in the first two enrollment bands with the smallest primary reserve ratios will need to closely manage the balance between their *main revenue sources*, especially net tuition because it makes up the largest proportion of revenue for these colleges, and *direct expenses*.

Competitive Impact on Cash

Price competition among colleges is likely to become more aggressive as they respond to shrinking markets from the COVID pandemic and shifting demographics. Private institutions have typically reduced prices with larger discounts. As noted in the previous section any pressure on net tuition will expand the imbalance between the funds flowing from net tuition and direct expenses. An expanding imbalance will force colleges to dig deeper into their cash reserves or take ever larger short-term cash loans to cover

operational costs. The weakest institutions, those with FTE enrollments with fewer than 2,000 students, will be placed at greatest risk of closing because they will not be able to meet operational cash requirements or their debt obligations.

Obviously, it is in a college's interest to understand how its operational and capital plans will affect its cash reserves. However, few colleges work through the problem of budgeting cash flows that are shaped by operational or capital budget decisions. Traditionally, most colleges develop an operations budget with their main worry being the production of some sort of net income from operation, even if it is $1. However, a net income goal is a very narrow focus because it ignores whether net income actually generates or depletes cash.

Cash Budgets

Cash budgets are rarely prepared because the general assumption by many business offices is that a combination of cash reserves, credit lines, or cash from other revenue sources will be sufficient for those periods when cash is short (usually during the summer). This assumption goes unchallenged until something unexpected and large scale occurs. For instance, in the fall of 2008, the real estate bubble burst. Many endowment funds like the Commonfund had large private investments in real estate ventures that became insolvent that year. Real estate insolvency and an accompanying credit market freeze saw colleges scrambling to find outside sources of cash. Since the Commonfund was not able to meet its cash commitments to their client colleges, even the very wealthiest endowed universities, such as Harvard University, faced a cash crunch. The recent pandemic is another example of this cash flow dilemma that depleted enrollments and exhausted the cash reserves of many colleges that had been surviving at the brink of financial survival.

In most cases, CFOs assume that cash reserves are restocked through the normal operational cycle of the institution's business processes. These processes include the collection of student receivables, the draw-down of federal financial aid funds, and the collection of outstanding pledges. Yet, when credit markets freeze and regular investments stop, the collection of student bills often falls by the wayside and federal

fund transfer takes too long to make up the lost funds. If colleges want to avoid being trapped by an unexpected negative event, they must have adequate cash reserves. Building cash reserves is not a short-term action, it could take years of balancing the flow of cash from main revenue sources and direct expenses.

Boards of Trustees and presidents often do not carefully monitor cash reserves. Since monthly and annual financial reviews are cursory, the top leaders do not recognize that shrinking cash reserves are placing the college at ever greater risk. Moreover, institutional leaders lose track of cash position as they try to resolve problems like a projected deficit. They immediately turn their attention to eliminating the deficit with the expense freezes. Yet, this single-minded approach leaves other important business principles ignored—such as eroding enrollment, escalating tuition discounts, and excessively expensive academic programs that do not align with the job market.

The most important budget planning document during persistent cash crises is the cash budget. The cash budget should mimic the cash flow statement in the audit, which sets out how cash is produced, applied and assigned to reserves. Cash budgeting should be an integral part of annual budgeting and also should be a part of monthly and annual financial performance reports.

When financial principles, especially those related to cash, are not embedded in budget, operational processes, reporting systems, and decision parameters, an institution tends to lurch from one cash crisis to the next.

Basic Cash Management Rules

Here are several basic principles a private college should consider if they want to survive the demographic crash, the COVID pandemic or other unexpected events.

1. Test the operational plan against a financial model using net cash flows, because cash is the sine qua non of survival; revenue is only a waystation to cash.
2. Do not overweight a portfolio with illiquid assets. For example, alternative investments often do not have a ready market to sell into. When there is a cash

crunch, an illiquid market could force a college to borrow in the open market when reasonable rates are hard to find.

3. Reconcile cash accounts: Here is another instance where delay means inaccurate records and inaccurate cash accounts can diminish the accuracy of cash flow and other financial reports. Cash accounts should be reconciled when cash statements are received. Many struggling colleges often fail to do this annually.
4. Cash on-hand and short-term investments should grow as fast as expenses.
5. Reconcile enrollment against revenue: Too many colleges ignore this basic step. They assume, without justification, that the financial records and the enrollment records are the same because enrollment in the registrar's system feeds receivables in the bursar's office. Experience indicates that this is a false assumption. The impact of this breakdown is incorrect billing, erroneous financial aid records, inaccurate financial reports, and lost cash.
6. Colleges should not unknowingly grant deep tuition discounts by not collecting outstanding tuition bills that graduates have accumulated. The school then writes-off the bad debt and the student has received a "bad debt scholarship" for their degree.
7. Maintain budget control of expenditures because slack controls can result in unauthorized expenditures, or in the worst-case, misappropriation of funds. The scale of money that comes into a college is so large that in some cases supposedly reliable people are tempted to take a little for themselves. The CFO with the support of the President must quickly deal with budget offenders.
8. Be sure cash reserves are equal to or greater than 16 percent of expenses.
9. Be sure uncollectible receivables are not growing faster than receivables.
10. Be sure inventory as a proportion of auxiliary sales is not increasing.
11. Be sure payables and accruals as a proportion of expenses are not increasing.
12. Be sure vendors, taxes, and benefits are paid on time.
13. Be sure short-term debt is not increasing.

14. Be sure the Composite Financial Index[6] score is not less than 1, which indicates that an institution is operating in a high-risk environment.
15. Be sure the Zemsky, et.al. Market Stress Score[7] is not less than 4, which suggests that an institution may not have the resources to survive.
16. Be sure athletic programs generate sufficient revenues that offset expenditures.
17. Be sure financial reports tie back to audited financial statements—activities, financial position, and cash flow. If they do not tie together, operating reports may either understate or overstate the financial condition of the institution.

Two Cash Ratios

These ratios indicate if cash reserves are falling below operational requirements.

1. *Operating Cash to Operating Expense Ratio*: If the ratio falls below 16%, there is probably insufficient cash to support operations.
2. *Primary Reserve Ratio*: (unrestricted net assets; plus, temporarily restricted net assets; less, property, plant, and equipment net of depreciation, plus long-term debt divided by total expenses) If the ratio falls below 0.4, the institution has fewer than five months of accessible cash reserves (40% times 12 months) for short-term cash needs[8].

If Cash Is King: The Bottom Line

When colleges face a cash crisis, they have two sources of relief: find rich donors to cover deficits, and borrow funds personally guaranteed by trustees. The challenge of the

[6] Lou Mezzina, Fred Praeger, Ron Salluzo, and Phil Tahey; (2010); Strategic Financial Analysis for Higher Education (seventh edition) (2010); Prager, Sealy & Co.; LLC; pp. 133 – 137.

[7] Zemsky, Robert, Susan Shaman, and Susan Campbell Baldridge (2020); The College Stress Test; Johns Hopkins University Press; Baltimore; pp. 39-56 and pp. 122-128.

[8] Source is: Lou Mezzina, Fred Praeger, Ron Salluzo, and Phil Tahey; (2010); Strategic Financial Analysis for Higher Education (seventh edition) (2010); Prager, Sealy & Co.; LLC.

first option and the extreme unlikelihood of the second is why most financially weak private colleges struggle to survive. If a college's survival is dependent on cash, then it needs to change their approach to financial management. Budget management needs to change from managing the bottom line through net income **to managing the bottom line through Operational Net Cash**.

Of course, moving budget management to a cash basis does not mean abandoning the traditional net income approach to financial management and reporting. The reality is that auditors, accreditors, and government agencies expect colleges to follow the traditional approach to financial reporting. Nevertheless, cash-based budget management is still a necessary condition if private colleges expect to survive and thrive in the future. Obviously, this will place a heavy burden on the business and finance offices, but it is imperative that these changes need to be made.

What will CFOs need to do to change budgeting from net income to cash management? First, they need to change budgets to a cash basis and expand the chart of accounts to include cash flow accounts within departments. Next, all reports should reflect the new cash flow approach. Implicitly, this will require additional training not only of business and financial staff but also the president, board of trustees, chief administrative officers and all budget managers.

None of these changes will reduce risks to the institution, unless the cash budget reports are reviewed at the end of each month, each academic period, and annually. Effective dashboard reporting should also include best practices in the following reports: Enrollment, Tuition Revenue, Net Tuition Revenue, New Hires, and other critical drivers of cash flows. After each reporting period, the leadership team should have a summary dashboard that identifies strengths, weaknesses, obstacles to achieving budget goals, and how these weaknesses will be overcome. This summary statement, in addition to standard budget and financial reports, should be presented to the board of trustees at every regular meeting.