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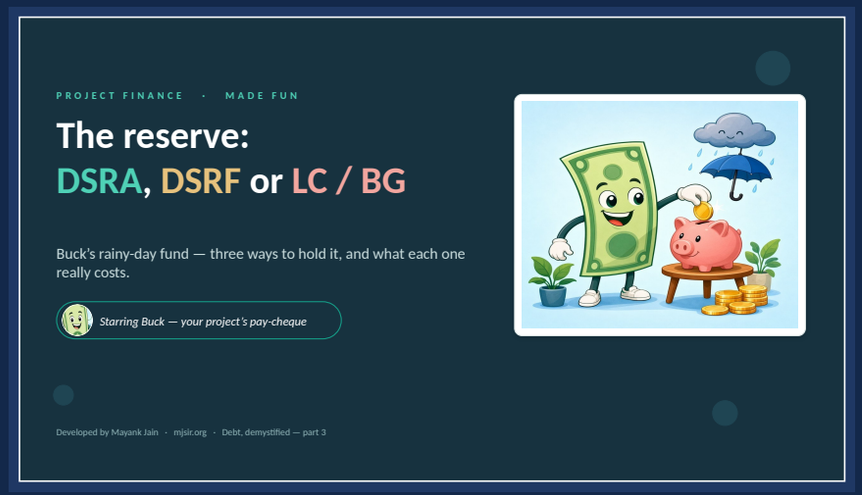
PRESENTATION · 17 PAGES

The reserve — DSRA, DSRF or LC / BG

Debt, demystified part 3, with Buck: cash, a standby facility or a bank's promise — how each works, what each costs the equity, and the fine print.



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PROJECT FINANCE · MADE FUN

The reserve: DSRA, DSRF or LC / BG

Buck’s rainy-day fund — three ways to hold it, and what each one really costs.



Starring Buck — your project’s pay-cheque



Developed by Mayank Jain · mjsir.org · Debt, demystified — part 3

THE ONE ANALOGY

Buck’s rainy-day fund

The bank wants six months of EMIs set aside. Buck can hold them three ways.

IN A PROJECT…	…IN BUCK’S LIFE
DSRA — cash	Savings in the bank: his own money, earning little
DSRF — a facility	An overdraft kept open: a small fee, interest only if used
LC / BG — a promise	A letter from a bank that it will pay: a yearly fee
The target	Six months of EMIs
A shortfall	A month the salary arrives short



Every option ends at a bank



Buck says — *Same protection for the lenders, three different bills for me. The trick is knowing which bill is smallest.*

Why lenders want a reserve

One bad quarter should not become a default. The reserve pays the debt service while the cash recovers.

CFADS *the cash the project makes*

1 · Senior debt service *interest and principal, first*

2 · Top up the reserve *back to its target*

3 · Other reserves *maintenance, then any others*

4 · Dividends *only if every step above is met*

HOW BIG, AND FOR HOW LONG

The next 6 months of debt service — sometimes 12.

On the guide's plant: half of year 1's 4.15 = USD 2.1 mn.

In place at COD; kept until the last repayment, which it helps to pay.

Dividends stop while it is below target.



Buck says — *The reserve sits below the lenders and above me. If it is short, my dividends wait.*

How a cash reserve moves

Three rules, applied every period after the debt service is paid.

1 **Deposit**

The smaller of (target − balance) and the cash left after debt service.

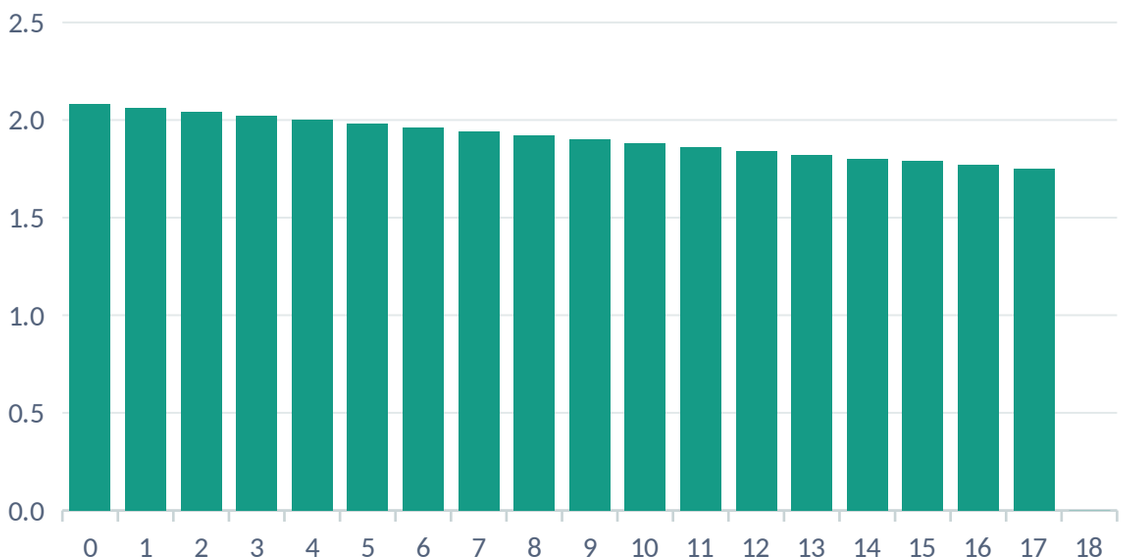
2 **Release**

Balance − target, when the target falls: the cash goes down the waterfall.

3 **Draw**

When CFADS is short of the debt service, the reserve pays the gap — then is refilled.

The plant's reserve by year (0 = COD): six months of the next year's debt service





Buck says — *Funded at COD, eased down as the debt service falls, and spent on the very last payment.*

Cash in the account — the DSRA

Real money, held by the lenders' account bank. The safest for them, the dearest for the equity.

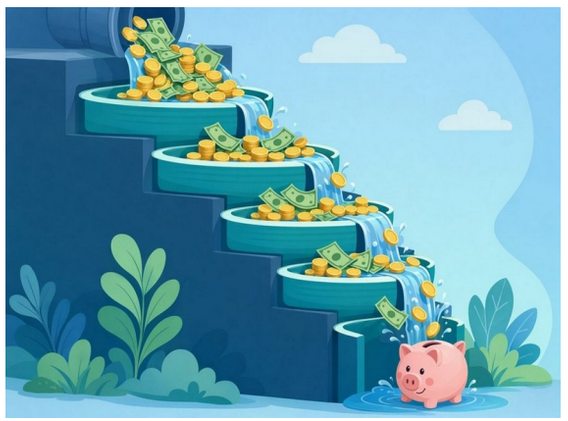
HOW IT WORKS

- Funded at COD by the sponsors or from the project cost — or built up from cash after COD
- Topped up before any dividend
- Released as the target falls; pays the last debt service

WHAT IT COSTS

The cash earns only the deposit rate, while the equity wants its full return: the gap is the cost (negative carry).

Balance sheet: restricted cash — an asset of the project.



Coins that sit still

Lenders love it. **Sponsors** pay for it.



Buck says — *Cash looks free. It is not: idle cash costs the equity its return for every year it sits there.*

A standby loan — the DSRF

A committed facility from a bank, drawn only if the cash falls short. Like a revolving credit line.

HOW IT WORKS

- A bank commits the reserve amount for the loan's life
- Drawn when CFADS is short of the debt service
- Repaid from surplus cash before dividends (a sweep)

WHAT IT COSTS

Arrangement fee once (1.25% here); a commitment fee on the undrawn part (35% of the margin); base + margin on anything drawn.

Balance sheet: nothing until drawn — then a loan, a liability.



An overdraft, kept open

Lenders accept it from a strong bank.
Sponsors like it.



Buck says — *A DSRF costs a small fee every year — and real interest only in the year I need it.*

A bank’s promise — the LC or BG

A bank undertakes to pay the lenders up to the reserve amount. A letter of credit and a bank guarantee do the same job here.

HOW IT WORKS

- A bank issues a standby LC or a guarantee to the lenders’ agent
- Called if a debt service payment is missed
- Must be from a bank above a rating floor, renewed before it expires — or replaced with cash

WHAT IT COSTS

A fee every year on the amount (1.5% here; often 1–2%). The bank uses a credit line — often the sponsor’s, sometimes against cash or a parent guarantee.

Balance sheet: off it — a contingent item — until called; then the project owes the bank.



Backed by a bank’s name

Lenders check the bank. **Sponsors** keep their cash.



Buck says — *An LC is a promise, not cash. If it is called, I owe the bank — and that debt usually ranks first.*

The three, side by side

The same protection for the lenders; different cash, costs and risks for the project.

	DSRA — cash	DSRF — a facility	LC / BG — a promise
Cash tied up	All of it, from COD to the end	None	None (unless the bank wants collateral)
Yearly cost	Negative carry: the equity's return − the deposit rate	Commitment fee on the undrawn part	The LC / BG fee on the amount
One-off cost	None	Arrangement fee	Issuing costs
If it is used	The project's own cash pays	A loan: interest, repaid by a sweep	The bank pays; the project owes it
What to check	The account bank	The facility bank's strength	Rating floor, expiry, renewal
Balance sheet	Restricted cash (asset)	A liability once drawn	Contingent until called
Who prefers it	Lenders	Sponsors	Sponsors



Buck says — *The table is the same for every deal. The yearly cost is what changes — so work it out.*

The price tag on a USD 2.1 mn reserve

The guide's plant. The equity wants 10%; the deposit earns 3%; base rate 3%.

0.15

a year — cash DSRA: (10% − 3%) × 2.1, and the cash comes back only at the end

0.02

a year — DSRF: 1.10% × 2.1 undrawn, plus 0.03 once

0.03

a year — LC / BG: 1.5% × 2.1

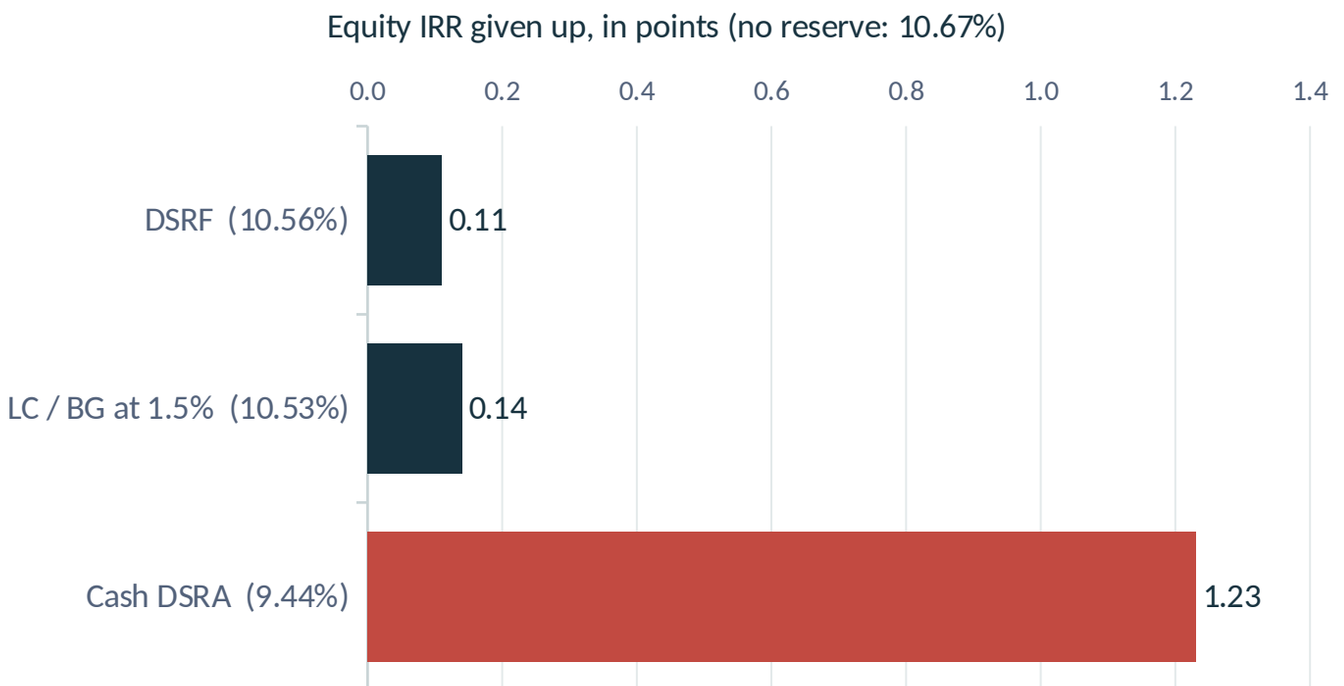
USD mn. If the DSRF is drawn, it charges 6.15% on what is drawn until it is repaid; an LC that is called becomes a debt to its bank at the terms of its reimbursement. In a year nothing goes wrong, the facility and the promise cost about a fifth of the cash.



Buck says — *The cash is the dearest by far — and it is also the one the lenders sleep best with.*

What the equity gives up

Project Finance Studio's solar preset: 75% debt over 18 years, a 6-month reserve of about USD 1.0 mn.



READ THE PICTURE

Cash DSRA: **−1.23 points**

LC / BG: **−0.14 points**

DSRF: **−0.11 points**

The sponsors fund the cash at COD and see it again only after the last repayment. Earning nothing, as here, is the top of the range; at 3% interest the cash gives up 0.74 points.



Buck says — *The reserve is a few per cent of the debt — but a big slice of the equity. That is why sponsors fight for an LC.*

Cash released is not cash returned

A common structure: cash in the reserve until COD, then an LC takes its place and the cash is released.

10.53%

LC / BG from COD

9.57%

Cash, then LC — the cash stays in

10.39%

Cash, then LC — the cash goes back



Round and round, stuck in the project

Why? Left in the project's account, the released cash waits for the dividend rules — the preset pays only out of profit, so until about year 15. Released, yes; returned, no.

The fix: write the way back into the structure — a capital reduction, a shareholder-loan repayment, or a release straight to the sponsors. The Studio returns it as share capital at COD.



Buck says — *Before I swap cash for an LC, I ask: how does the released cash get back to the shareholders?*

Six things to check in any model

The reserve is small; the mistakes around it are not.

1	**Refill first**	A drawn reserve locks the dividends until it is back at its target.
2	**The last payment**	The reserve pays the final debt service and ends with the loan — not after it.
3	**Interest earned**	Interest on a cash reserve is income: it is taxed, and it is not CFADS unless the agreement says so.
4	**The LLCR**	A cash DSRA may be added to its top line; an undrawn LC or DSRF is not cash.
5	**The bank**	Rating floor, expiry and renewal: an LC that cannot be renewed must be replaced with cash.
6	**Both at once**	Part cash, part LC or facility is common — model each piece and its own cost.



Buck says — *And the one modellers miss most: dividends paid while the reserve is still short.*

The reserve's cousins

Other cash the lenders ask the project to set aside — each with the same three choices of cash, facility or promise.

MAINTENANCE (MRA)

Saves ahead for the big repairs — inverters, gearboxes, overhauls — so they do not land on one year's CFADS.

LIQUIDITY / O&M

A few months of operating costs, for a slow-paying offtaker or a costly month.

DECOMMISSIONING

Builds up towards the end-of-life bill — the one that can push the PLCR down.

CASH SWEEP

Not a reserve: surplus cash that prepays the debt when a test fails or a tail is short.

In Project Finance Studio: Debt service reserve — None · Cash-funded DSRA · Letter of credit or bank guarantee · Reserve facility (DSRF) · Cash until COD, then an LC — with its months, its fees and who funds it, the interest the cash earns and where that sits, and where an LC's released cash goes; the maintenance reserve sits above debt service.



Buck says — *Every reserve is the same question: whose cash sits still, for how long, and at what price?*

QUIZ

Deposit, release or withdraw?

Four periods of a cash DSRA (USD mn). "Cash left" is after the senior debt service; negative means it fell short.

	Period 1	Period 2	Period 3	Period 4
Reserve target	2.0	1.6	2.0	2.0
Reserve at the start	1.5	2.0	2.0	1.0
Cash left after debt service	3.0	3.0	(0.6)	0.3
The move	??	??	??	??



Buck says — *Work each column left to right: debt service first, then the reserve, then whatever is left.*

How did you do?

The move, and the one-line reason.

	Period 1	Period 2	Period 3	Period 4
Reserve target	2.0	1.6	2.0	2.0
Reserve at the start	1.5	2.0	2.0	1.0
Cash left after debt service	3.0	3.0	(0.6)	0.3
The move	**Deposit 0.5**	**Release 0.4**	**Withdraw 0.6**	**Deposit 0.3**
Why	*Below target and the cash is there: top it up.*	*The target fell: 0.4 goes down the waterfall.*	*The cash is short of the debt service: the reserve pays it.*	*Only 0.3 is left: 0.7 still short — dividends stay locked.*



Buck says — *Period 4 is the trap: the reserve is still short after the deposit, so nothing goes to the shareholders.*

THE CHEAT-SHEET

The reserve, in one breath

1 **DSRA** — Cash in the account — the safest for the lenders, the dearest for the equity.

2 **DSRF** — A standby loan — a fee to keep it, interest only if drawn, repaid before dividends.

3 **LC / BG** — A bank's promise — a yearly fee, a strong bank, a plan for renewal.

4 **CHOOSE** — Set each yearly cost against the equity's return on the cash — within what the loan agreement allows.



That's a wrap!

Lenders: *"Show me the cash."* **Sponsors:** *"Show me a cheaper promise."*

Part 3 of Debt, demystified — with "Debt: Sized & Sculpted" and "LLCR & PLCR — the long view" at mjsir.org. Illustrative and educational — not financial advice.