Project Business Management [1,2]

Cashflow for Project Contractors

Oliver F. Lehmann, MSc, ACE, PMP

"Rule #82: Wrong decisions made early can be recovered from. Right decisions made late cannot correct them."
– From: 100 Rules for NASA Project Managers[3]

Summary

Contractor projects rarely fail on paper. They fail in cash. While profit is realized at the end, liquidity is required every day. In Project Business, payment structures and delays force contractors to finance their own work, often beyond safe limits. The critical question is not whether a project is profitable, but whether the organization can survive its maximum negative cash position. Projects that cannot be carried financially must be renegotiated, slowed down, or rejected. Cash flow is not a reporting metric – it is the boundary between success and failure.

[1] This is an article in a series by Oliver Lehmann, author of the book "Project Business Management" (ISBN 9781138197503), published by Auerbach / Taylor & Francis. See full author profile at the end of this article. A list of the other articles in PM World Journal can be found at https://pmworldlibrary.net/authors/oliver-f-lehmann.

[2] How to cite this article: Lehmann, O.F. (2026). *Cashflow for Project Contractors* PM World Journal, Vol. XV, Issue IV (April).

[3] (Madden & Stewart, n.a.)

Introduction

Project management literature traditionally revolves around scope, schedule, and cost. These dimensions define delivery performance, and for internal projects, they are often sufficient. In contractor environments, however, they leave out the decisive constraint under which projects are actually executed: liquidity.

For contractors, the central question is not only whether the work can be delivered, but whether the organization can sustain the financial burden of delivering it. This is where projects cease to be purely technical undertakings and become business operations.

Cash flow is therefore not a secondary accounting perspective. It is the condition that determines whether delivery efforts can be maintained over time.

It is entirely possible for a project to be profitable and still place the contractor under existential pressure. This is not an exception, but a direct consequence of how customer projects are typically structured. The underlying dynamics deserve closer examination.

The Structural Role of the Contractor

The contractor's role in Project Business is defined not only by delivery responsibility, but by financial exposure. Unlike internal projects, where funding is secured upfront, contractor projects are executed under conditions where cost is certain but payment is conditional and delayed. This places the contractor in a structurally exposed position that goes beyond operational responsibility.

This structural imbalance does not exist in isolation. It is part of a broader risk profile that distinguishes Project Business from most internal project environments.

In internal projects, funding is typically secured before execution begins. The organization decides to invest, allocates a budget, and carries the financial exposure within its own boundaries. Liquidity may still matter at the corporate level, but it is rarely a constraint at the level of an individual project.

Project Business works differently.

Here, projects are performed across corporate boundaries, under contract, and often under conditions of asymmetric information and diverging interests. The contractor commits resources and incurs cost based on contractual promises that are only partially under its control. Payment depends not only on performance, but also on customer behavior, administrative processes, and, ultimately, the customer's financial stability.

This creates a layered risk structure.

- First, there is performance risk: the risk of failing to deliver according to scope, schedule, and quality requirements.

- Second, there is commercial risk: the risk that contractual arrangements – pricing, payment terms, retention clauses, and change mechanisms – shift financial burden to the contractor.

- Third, and most critically in this context, there is liquidity risk: the risk that the timing mismatch between outflows and inflows exceeds the contractor's financial capacity.

These risks are not independent. They reinforce each other.

A delay in delivery can postpone invoicing. A dispute over scope can delay approval of payments. A customer under financial pressure may stretch payment terms or selectively delay settlements. Each of these events deepens the contractor's negative cash position and extends the period during which the project must be financed internally.

The contractor, in effect, provides unsecured credit to the customer. Unlike a bank, however, the contractor does not operate with diversified exposure or formal risk pricing mechanisms. The financing is implicit, often unrecognized, and concentrated in a limited number of projects. This makes the impact of adverse events disproportionate.

The result is a paradox that defines Project Business: the better the contractor performs operationally, the more financial exposure it may accumulate in the short term.

Work delivered ahead of schedule accelerates cash outflows. Value created ahead of invoicing increases the volume of unbilled work. Efficiency, in this context, can intensify liquidity pressure.

This is why cash flow must be treated as a central element of project risk, not as a downstream consequence. The financial exposure is built up continuously during execution, long before the final outcome of the project is known.

The diagrams that follow illustrate how strongly this exposure depends on the structure of payments – and how easily it can shift a project from manageable to critical. They compare three scenarios: an optimistic case, a scheduled baseline, and a pessimistic case with delays and adverse developments. What emerges is not a single forecast, but a range of outcomes within which the contractor must remain solvent.

On the Safe Side: Recurring Payments

To understand how strongly payment structures shape contractor risk, it is useful to compare different cash flow patterns at the outset of a project. The following two examples illustrate how the same operational work can lead to fundamentally different financial exposures, depending solely on how and when payments are arranged.

Figure 1: A project with an initial payment, then regular payments, and a final payment for success is in two scenarios consistently profitable for the contractor.[4]

Figure 1 shows a project with an advance payment, followed by recurring payments and a final settlement. This structure aligns inflows relatively closely with the contractor's outflows. While the cash position may still fluctuate, it remains consistently positive across scenarios.

This is not an accident. It is the direct result of a payment structure that recognizes the contractor's need for liquidity throughout execution. The financial burden is shared more evenly between customer and contractor, and the project remains on the safe side of solvency.

The contrast becomes clear when the payment logic changes.

High Risk: Weighted Milestone Payments

In many customer projects, payments are not made continuously, but are tied to predefined milestones. These milestones represent agreed points of progress – for example, design completion, delivery of components, system integration, or final acceptance.

In a neutral setup, milestone payments would roughly reflect the effort and cost incurred up to each point. In practice, however, milestones are often weighted. This means that a disproportionate share of the contract value is assigned to later milestones, while early milestones carry relatively small payments.

From the customer's perspective, this reduces financial exposure and creates leverage. From the contractor's perspective, it has the opposite effect.

The contractor must perform a significant portion of the work – and incur the associated cost – before receiving a correspondingly significant portion of the revenue. Early activities such as engineering, procurement, and mobilization are typically underpaid relative to their cost, while later milestones concentrate the financial reward.

[4] All diagrams are made with Cash Radar, a free tool provided by the Project Business Foundation (https://project-business.org/cash-radar).

This creates a structural gap between outflows and inflows. The contractor is required to finance the project not only temporarily, but often deeply and over an extended period.

The following figure illustrates how this imbalance translates into a markedly different cash profile.

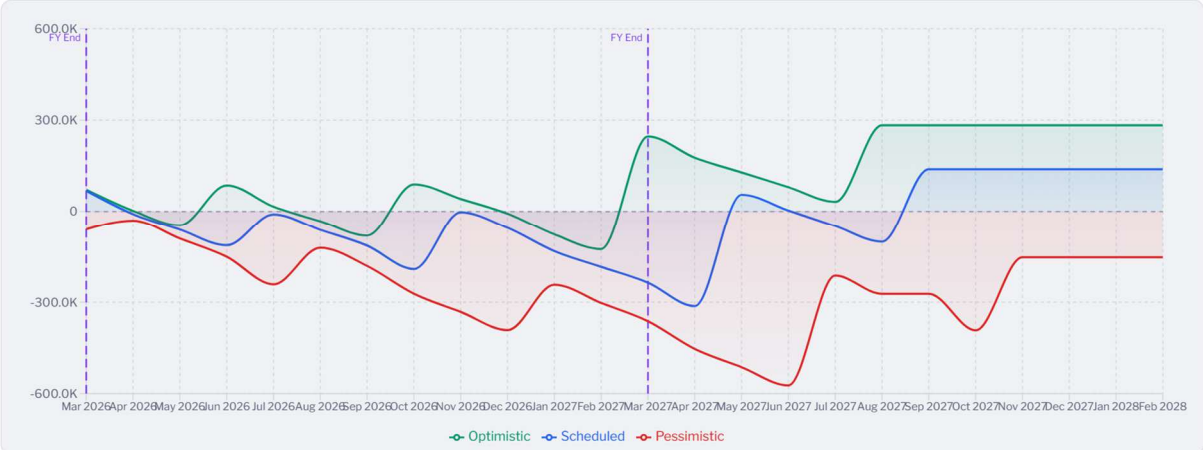

Figure 2: This project is paid by the customer using weighted milestone payments. The outlays by the contractor and with them the risk are much higher.

The effect is immediate. The cumulative cash curve drops deeply into negative territory before any substantial recovery occurs. The contractor must finance a considerable portion of the project over an extended period.

Nothing in the technical execution has changed. The scope, schedule, and cost structure may be identical to those in Figure 1. What has changed is the timing of cash inflows.

This shift alone transforms a financially stable project into a high-risk undertaking. The comparison highlights a central principle: Cash flow risk is designed into the project through its payment terms.

The financial consequences are not visible in the final result alone, but in the path toward it. This is why, in Project Business, profitability is a secondary metric. The primary question is whether the contractor can survive the path toward that profit.

A Project in Progress: Diverging Outcomes

To illustrate this dynamic, consider a project that is already underway. Work has been performed, the first invoices have been issued, and partial payments have been received. As seen above, from this point – the data date – three scenarios can be projected: an optimistic case, a scheduled case, and a pessimistic case.

The following scenario builds on the high-risk structure shown in Figure 2. It moves from abstract payment design to a real project situation, where part of the work has already been performed and the contractor is already financially exposed.

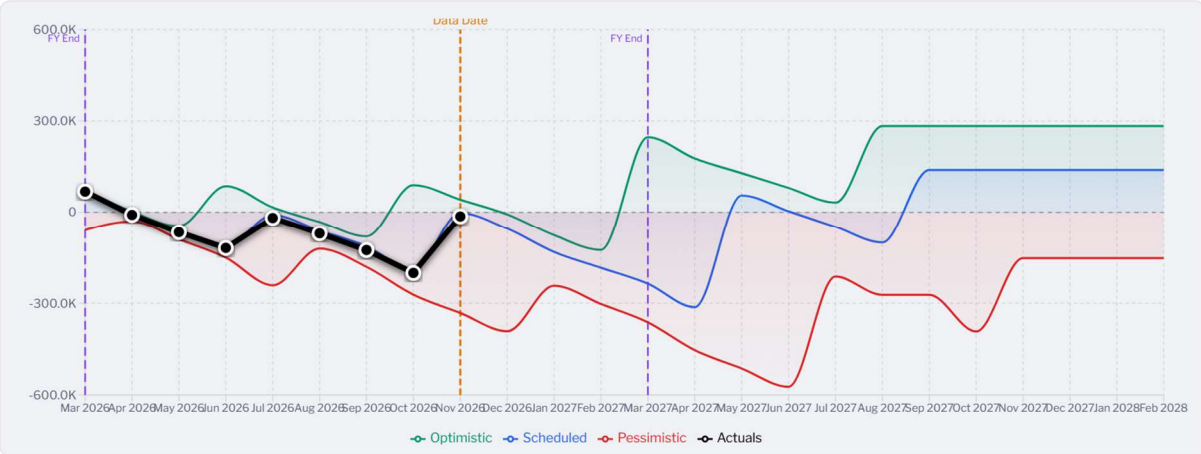

Figure 3: The milestone-paid project with actuals at the "data date".

Across all three scenarios, the structure remains consistent. The contractor experiences a negative cash position during execution before recovery occurs.

In the scheduled scenario, the cumulative cash position reaches approximately €300,000 below zero before improving. Under pessimistic assumptions, this deficit deepens significantly, approaching €600,000. Operationally, the project continues in both cases. Milestones are achieved, and delivery remains intact.

The difference lies not in the execution of work, but in the financial burden carried during execution.

This highlights a central point: the critical measure is not the final profit, but the maximum negative cash position. This value represents the peak financing requirement imposed on the contractor and, therefore, the level of exposure the organization must absorb.

The Primacy of Timing

Cash flow is often described in aggregate terms as the difference between inflows and outflows. While correct in principle, this perspective obscures the temporal dimension that determines risk in practice.

What matters is the sequence and timing of cash movements. A project with a favorable margin can nevertheless generate a liquidity crisis if the interim deficit exceeds the contractor's financial capacity or persists for an extended period.

Obligations such as salaries, supplier payments, and subcontractor invoices must be met according to their own schedules, independent of client payment behavior. Financing mechanisms can mitigate this mismatch, but only within defined limits and at additional cost.

Consequently, timing becomes the primary determinant of financial stability.

The maximum negative cash position is therefore not merely a descriptive statistic. It is a critical decision parameter.

This perspective changes the nature of project decisions. A project is not acceptable because it is profitable; it is acceptable only if the organization can carry its maximum negative cash position. Where this condition is not met, management must act early, not late. Typical intervention points include:

- Reject a project whose cash profile exceeds financial capacity
- Renegotiate payment terms to rebalance inflows and outflows
- Slow down execution to reduce immediate cash burn
- Escalate financially when payment behavior deviates from the contractual agreement

These are not delivery-level refinements. They are business decisions. Once the cash curve is out of control, execution excellence becomes irrelevant.

Scenario Shift: Customer Insolvency

The next scenario introduces a disruption that is external to project execution but internal to project business risk: customer insolvency.

Up to the point of insolvency, the project follows the expected trajectory. Outflows precede inflows, and the contractor carries a growing, but seemingly manageable, deficit. With the customer's failure, anticipated payments cease.

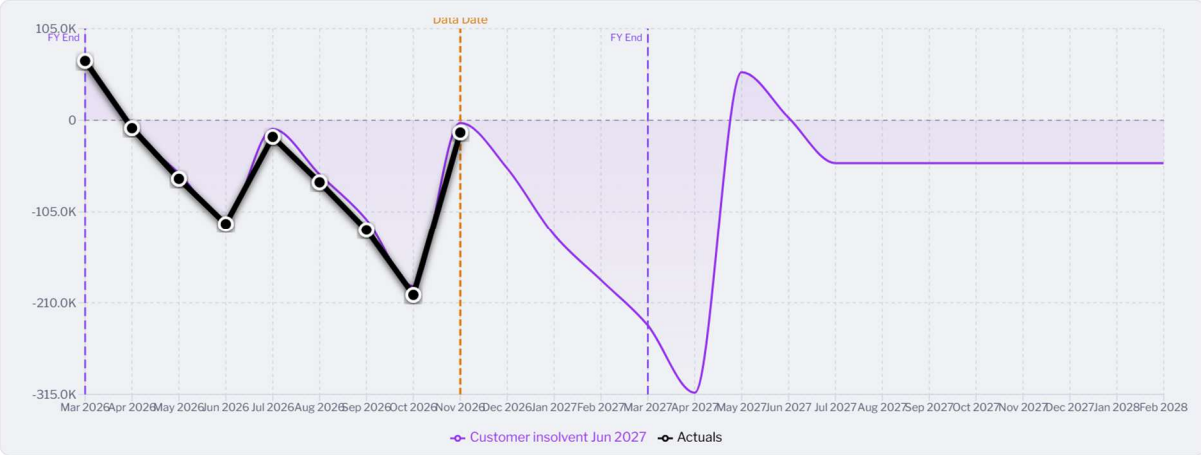

Figure 4: "What, if the customer goes bankrupt in 1/2 year?

The cumulative cash curve no longer recovers. Instead, it stabilizes at a negative level – in this case, approximately €300,000 below zero.

In practice, two effects often intensify the impact:

- Payments from a customer approaching insolvency tend to become irregular, delayed, or incomplete, as the customer balances its own liquidity against its obligations.

- The contractor's cost base does not stop. Subcontractors must still be paid, employees remain on payroll, and fixed costs continue to accrue. The financial exposure, therefore, not only remains – it deepens at the moment when recovery becomes impossible.

At this stage, the project's progress and status become secondary. The contractor has already incurred costs and delivered value. Without corresponding inflows, these outlays translate directly into a financial loss.

The situation demonstrates that contractor exposure is established long before project completion and remains contingent on factors beyond direct control.

Customer insolvency does not create the risk. It reveals the extent to which the contractor has been carrying it.

Determinants of the Cash Profile

The magnitude and duration of the negative cash position are shaped by a limited set of factors, each of which can be influenced, at least partially, during project setup and execution.

Payment terms determine the timing of inflows. Milestone structures tend to concentrate payments at discrete points, often later in the project lifecycle. Progress payments can provide a more continuous inflow but depend on efficient invoicing and approval processes.

Retention mechanisms delay a portion of earned revenue, extending exposure beyond completion.

On the cost side, expenditure patterns are less flexible. Procurement activities are frequently front-loaded, subcontractors require regular payment, and internal resources generate ongoing cost.

A particularly critical category is work performed but not yet invoiced or approved. This represents value delivered without corresponding cash inflow and, effectively, unsecured financing extended to the client.

Together, these elements define the financial trajectory of the project. The resulting cash curve is not incidental, but a direct expression of contractual and operational design choices.

Cash Flow as a Management Responsibility

In many organizations, cash flow is treated as a function of financial reporting, separate from project management. This distinction is sustainable in environments where projects consume budget but do not generate revenue.

In contractor settings, it is not.

Operational decisions continuously reshape the project's cash profile. Accelerating work increases outflows. Delays in invoicing postpone inflows. Acceptance of unfavorable payment behavior extends the financing burden.

These effects accumulate over time and can materially alter the financial viability of the project.

Managing a contractor project therefore requires explicit attention to its cash flow dynamics. This begins during contract negotiation, where payment structures and terms are defined, and continues throughout execution, where deviations from the plan must be monitored and addressed.

Cash flow forecasting is not merely a reporting activity. It is an instrument of management control.

From Visibility to Decision-Making

Effective management depends on the ability to anticipate rather than react.

A structured cash flow model makes future financial states visible. It identifies periods in which liquidity constraints may arise, quantifies their magnitude, and allows for the evaluation of alternative scenarios.

Tools such as Cash Radar support this process by focusing attention on the development of the cumulative cash position over time. Their purpose is not to prescribe actions, but to make financial exposure transparent.

This transparency enables informed decision-making. Payment terms can be negotiated with a clearer understanding of their implications. Execution strategies can be assessed not only in terms of efficiency, but also with regard to liquidity impact. Project acceptance decisions can incorporate financial feasibility alongside technical considerations.

In this sense, the project is treated not only as a delivery mechanism, but as a temporary business entity that must remain solvent throughout its lifecycle.

Conclusion: The Financial Boundary of Project Management

A fundamental distinction separates internal from customer projects. Internal projects consume budget. Customer projects must generate and sustain cash.

For contractors, success is therefore defined not only by delivery performance, but by the ability to maintain liquidity throughout execution. A project delivered on time and within cost, but financed beyond the organization's capacity, constitutes a failure from a business perspective.

The scenarios discussed illustrate this boundary. In one case, the project remains financially demanding but manageable. In the other, an external event transforms an ongoing project into a direct financial loss. The work does not change. The financial outcome does.

The difference lies in the cash flow profile.

Recognizing and managing this profile is what ultimately distinguishes project execution from project business – and survival from failure.

Appendix: What is Project Business?

Many of today's projects are no longer internal endeavors. In a world shaped by global supply chains, outsourcing, and cross-border collaboration, projects are increasingly delivered by networks of companies. These projects are not just technical undertakings – they are commercial ventures.[5]

Project Business arises when two or more companies team up to perform a project under contract. It operates at the boundaries between organizations and often involves diverse legal systems, cultures, and moral compasses. Some project networks are simple; others are complex and fragile ecosystems with dozens, sometimes hundreds of organizations involved.

Though long overlooked, Project Business contributes an estimated 20% to 30% of global GDP and employs more project managers than internal projects. It deserves far more attention – not only for its scale but for the unique challenges it poses.

Traditional project management handbooks (for example, Turner[6]) typically address internal projects within organizations. By contrast, project business takes place across corporate boundaries, introducing commercial, legal, and relational complexities that such works only partly cover. Project business (cross-corporate, customer-contractor) has different challenges and rules – success depends here not only on planning and execution, but on

[5] (Lehmann, 2018)
[6] (Turner, 2009)

commercial acumen, legal awareness, and a deeply cooperative mindset. Trust must be built among parties with differing interests and asymmetric power to enable collaboration toward shared success.

The risks in Project Business go beyond deadlines and deliverables – they include cash flow instability, legal exposure, reputational damage, and contractual disputes. Where information is asymmetrical and objectives diverge, the project manager must act as negotiator, strategist, and builder of partnerships.

Text, Images – Copyright Note

Text, images: Oliver F. Lehmann
Diagrams created with: Cash Radar, https://project-business.org/cash-radar
Hero image: Jp Valery - Unsplash

About the Author

Oliver F. Lehmann
Munich, Germany

Oliver F. Lehmann, MSc, ACE, PMP, is a project management educator, author, consultant, and speaker. In addition, he is the owner of the website Project Business Foundation, a non-profit think tank for professionals and organizations involved in cross-corporate project business.

He studied Linguistics, Literature, and History at the University of Stuttgart and Project Management at the University of Liverpool, UK, where he holds a Master of Science Degree (with Merit). Oliver has trained thousands of project managers in Europe, the USA, and Asia in methodological project management, focusing on certification preparation. In addition, he is a visiting lecturer at the Technical University of Munich.

He has been a member and volunteer at PMI, the Project Management Institute, since 1998 and served as the President of the PMI Southern Germany Chapter from 2013 to 2018. Between 2004 and 2006, he contributed to PMI's *PM Network* magazine, for which he provided a monthly editorial on page 1 called "Launch," analyzing troubled projects around the world.

Oliver believes in three driving forces for personal improvement in project management: formal learning, experience, and observations. He resides in Munich, Bavaria, Germany, and can be contacted at oliver@oliverlehmann.com.

Oliver Lehmann is the author of the books:

- "Situational Project Management: The Dynamics of Success and Failure" (ISBN 9781498722612), published by Auerbach / Taylor & Francis in 2016

- "Project Business Management" (ISBN 9781138197503), published by Auerbach / Taylor & Francis in 2018.

His previous articles and papers for PM World Journal can be found here:

- https://pmworldlibrary.net/authors/oliver-f-lehmann