



Unlocking Private Debt Financing: Evaluating the Creditworthiness of Transport Cooperatives

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Abstract. This study investigates the challenges and opportunities in unlocking private debt financing for transport cooperatives (TCs) in the Philippines, focusing on their role in the modernization of informal public transport (IPT). TCs, operating with fragmented ownership and limited creditworthiness, struggle to secure financing for fleet replacement under the 2017 Public Transport Modernization Program (PTMP) of the Philippine government. Using the 5C's of credit framework—Character, Capacity, Collateral, Capital, and Conditions—we evaluated the creditworthiness of ten TCs. While cooperatives meet criteria for “Character” and “Collateral”, they face challenges with “Capacity”, “Capital”, and “Conditions” due to fluctuating cash flows and unfavorable loan terms. Government interventions, including service contracting and equity subsidies, are proposed to enhance credit access. The findings highlight strategies to improve cooperatives' financial profiles, bridging funding gaps, and advancing IPT reform in the Global South.

Keywords: Transport Financing, Jeepney, Global South, Transport Cooperative

1 Introduction

1.1 Motivation

This paper explores the financing of informal public transport (IPT) reforms, a relatively under-examined area compared to funding for formal mass transit systems. In the Global South, including the Philippines, the geographical site of the study, IPT services are largely run by small-scale transport cooperatives (TCs) with limited cash flows and assets, resulting in low creditworthiness. These cooperatives struggle to secure debt financing for fleet replacement when assets reach the end of their lifecycle [1]. The study examines how private banks and financial institutions can provide financing to support IPT modernization, contributing to the sustainable transformation of the transport sector in developing regions.

1.2 Study context

Public transport in the Philippines includes formal and informal modes, with traditional jeepneys, adapted from WWII jeeps, being a popular but polluting option. Jeepneys operate on fixed routes with fragmented ownership and a “boundary system” business model, leading to poor maintenance and service quality [2]. The 2017 Public Transport Modernization Program (PTMP) aims to improve safety, emissions, and efficiency through route rationalization, operator consolidation, and fleet modernization. However, high modernization costs and limited financing hinder progress. When PMTP was introduced in 2017, funding primarily came from government banks through loans and the national government via subsidies. While private banks could help address the USD 7.3 billion funding gap, perceived risks and low creditworthiness of operators limit debt financing opportunities [3].

1.3 Research questions and objectives

This paper aims to explore ways to make private debt financing more accessible to TCs. It evaluates the creditworthiness of ten TCs in the Philippines through the 5C’s of credit framework. The research questions are: *What is the level of accessibility of private debt financing for TCs? Do these cooperatives meet the banks’ documentary requirements for loan applications? If they fulfill these requirements, are they capable of adhering to the loan terms?* Based on the findings, the study identifies strategies to improve the creditworthiness of TCs, supporting the reform of the informal public transport sector.

2 Literature review

2.1 Financing and Funding for Public Transport

Research on finance within the field of sustainable transitions is still in its early stages and remains relatively limited, with a few exceptions [4]. The lack of attention to financial aspects is somewhat unexpected, given that access to funding can facilitate and accelerate transitions, while its absence can pose a significant obstacle [5].

To understand the extent of the topic on financing in the literature, we accessed the Transport Research International Documentation (TRID) database to retrieve articles. By using the keywords "financ*" or "fund*" in the title and filtering for the “Public Transportation” subject area with publications from 2000 onward, we obtained 303 records as of November 2024. To ensure relevance, we reviewed the titles and abstracts, focusing on articles addressing project-level financing for acquisition, procurement, upgrade, modernization, or renewal. Based on these criteria, 70 articles were selected for detailed analysis. We coded the content of the articles using the categorization of [3]. Our initial analysis revealed that most transport financing literature focuses on funding for mass transit systems such as light rail transit (LRT), subways, and bus rapid transit (BRT). This prominence is visually evident in the word cloud shown in Figure 1a, where "mass transit" appears as a significantly large term. The literature also distinguishes between financing specific modes, such as metro rail (including subways,

trams, and streetcars), general rail systems like regional railways, and buses, including BRT systems. In contrast, the topic of financing for informal transport (and paratransit) remains largely underexplored.

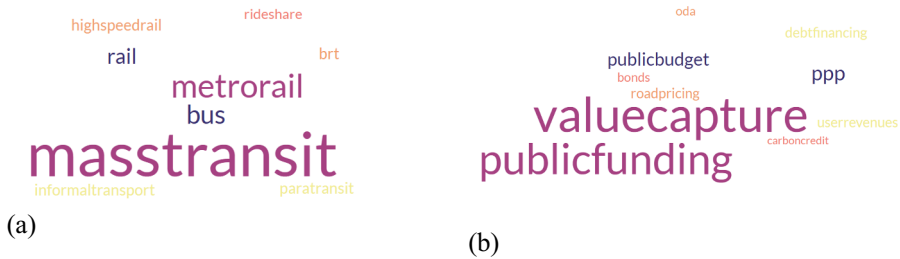


Figure 1. (a) Type of public transport in the transport financing literature. (b) Source and scheme of financing in the literature

In addition, our analysis indicates that public budgets serve as the predominant source of financing for transportation systems, particularly in the context of the United States, where federal, state, and local government budgets play a significant role. These public budgets are primarily funded through taxation and various levies imposed on individuals and businesses. Alongside public budgets, the concept of value capture also features prominently in the existing body of literature. Value capture refers to mechanisms that leverage the increase in land or property values resulting from transportation investments to generate additional funds [6]. This dual focus on public budgets and value capture as financing mechanisms is evident in the visual representation provided in Figure 1b, underscoring their importance in the discourse on transport financing.

Overall, existing research on transport financing predominantly focuses on mass transit, particularly rail, funded through public budget or value capture mechanisms. However, there remains a significant gap in understanding how financing and funding can be leveraged for informal public transport, including vehicle acquisition, operations, and maintenance.

2.2 Debt Financing from Private Banks and Borrower Creditworthiness

A possible source of funding is debt financing, which involves obtaining loans from third-party entities or financial institutions, with repayment over an agreed period, including interest [3]. Typically, financial institutions such as state-owned and private banks provide debt financing. In the Philippines, this type of financing is predominantly accessible for large-scale mass transit projects, such as railway and bus rapid transit systems, which are led by national government agencies or major conglomerates. In contrast, informal public transport (IPT) services, like jeepneys, have limited access to debt financing.

During the early implementation of PTMP, most loans for replacing aging jeepney fleets came from government banks, while private bank lending remained minimal [1].

Private financial institutions generally perceive lending to jeepney operators as high-risk due to factors such as small-scale operations, unstable cash flows, and insufficient collateral. As a result, private banks tend to view small public transport operators as having low creditworthiness. This restricted access to private debt financing highlights a gap in the literature regarding how commercial banks can be mobilized to support IPT reform.

When banks receive loan applications, they conduct a loan underwriting process to assess the applicant's creditworthiness and the risks associated with lending. Underwriting involves a detailed evaluation of financial stability, repayment capacity, and other relevant factors, allowing financial institutions to decide whether to approve or reject a loan. This process also determines loan terms, interest rates, and conditions to ensure a balanced and sustainable loan portfolio [1]. Various frameworks exist for credit analysis, one of the most common being the "Five Cs" approach [7].

3 Methods

3.1 Conceptual Framework: 5 C's of credit

The "Five Cs" framework—Character, Capacity, Collateral, Capital, and Conditions—offers a comprehensive method to evaluate borrower creditworthiness [7]. Character represents the borrower's reputation, reliability, and trustworthiness in repaying debts, evaluated through credit history, references, and past interactions with the lender. The support of a principal sponsor—an individual or organization offering financial backing, guarantees, or assistance—can further strengthen the borrower's credibility in the lender's eyes. Capacity pertains to the borrower's ability to repay the loan based on income or cash flow. Capital reflects the borrower's financial stake in the project or personal investment, with a higher equity contribution generally perceived as lowering risk for the lender. Collateral consists of assets pledged by the borrower to secure the loan, serving as a safeguard for the lender. In the event of default, the lender can claim the collateral to mitigate losses. Conditions encompass the loan terms and external factors that influence the borrower's repayment ability.

3.2 Description of sample

The current study is done in collaboration with the Department of Transportation or DoTr (a national government agency). DoTr shared with one of the authors a list of TCs (approximately 300 out of a total of 1500 TCs) with their contact details. On November 4, 2024, we sent out an email to the 300 TCs inviting them to participate in the study. The survey was open until November 21, 2024. Only 10 TCs agreed to participate and be interviewed (Table 1). In general, TCs are reluctant to take part in academic studies assessing their creditworthiness.

Table 1 provides information on the TCs and the number of modern or electric jeepney units they operate. Modern jeepneys refer to fuel-powered vehicles equipped with at least Euro IV engines, while electric jeepneys run on electricity. These modern and electric jeepneys differ from traditional jeepneys, which are older models. As

shown in Table 1, all ten TCs own and operate modern or electric jeepneys, indicating that they likely acquired these units through loans from financial institutions. In fact, each cooperative has applied for loans from government banks to finance their new jeepneys. However, only TC1 has successfully secured a loan from a private bank, while the others have either not yet applied or have pending applications.

Table 1. Ten transport cooperatives (TCs) participating in the study

Code	Number of units operated	Applied for a loan from a government bank to finance the acquisition of new units as part of the PTMP?	Ever applied for a loan from any private bank?	Result of application
TC1	Modern Jeepney Euro IV - 38 units; Modern Jeepney Electric - 49 units	Yes	Yes	Successful application with a cooperative bank
TC2	Modern Jeepney (Euro IV) - 105 units	Yes	Yes	Ongoing application
TC3	Modern Jeepney - 13 units	Yes	Not yet	Not applicable
TC4	Modern Jeepney - 16 units	Yes	Not yet	Not applicable
TC5	Modern Jeepney (Euro IV) - 55 units	Yes	Not yet	Not applicable
TC6	Modern Jeepney - 38 Units; Traditional Jeepney - 44 Units	Yes	Not yet	Not applicable
TC7	Modern Jeepney - 13 units	Yes	Yes	Ongoing application
TC8	Electric Jeepney - 15 units	Yes	Not yet	Not applicable
TC9	Modern Jeepney (Euro IV) - 37 units	Yes	Yes	Ongoing application
TC10	Modern Jeepney (at least Euro IV) - 41 units	Yes	Not yet	Not applicable

Regarding income sources, six out of ten TCs reported that fares were their primary or sole source of revenue, accounting for at least 90% of their monthly earnings. Two TCs indicated that fares contributed between 50% and 80% of their monthly income, while the remaining two stated that only about 10% of their income came from fares. When asked about additional revenue streams, some cooperatives identified other sources, such as gasoline stations, shuttle services, and rental income.

The low response rate understandably raises concerns about potential selection bias and the representativeness of the findings. However, expanding the sample is currently not feasible, as only ten TCs agreed to participate. To help address this limitation, we supplemented the data with qualitative insights from bank credit evaluation officers, thereby enhancing the robustness of our credit assessments. We interviewed three experienced professionals—each representing a universal bank, a thrift bank, and a rural bank—to ensure a diverse range of perspectives. These respondents each have at least seven years of full-time experience in credit evaluation and hold senior roles within their institutions (senior credit officer, chief risk officer, and president). Incorporating lender-side viewpoints also helped validate the cooperatives' self-assessments and bolstered the credibility of our findings.

3.3 Survey instrument and interview protocol

We initially distributed a survey to the 10 TCs, gathering fundamental details about their operations. The survey covered aspects such as sources of income, the proportion of monthly revenue derived from fare collection, the types of public transport services offered, and the number of units per mode. Additionally, it inquired about their experiences in applying for loans from privately-owned banks between 2017 and 2024 to finance the acquisition of modern or electric jeepneys under the PTMP. The survey also explored the loan application process, creditworthiness, loan outcomes, and future borrowing plans. When necessary, follow-up interviews were conducted to clarify responses. Relying solely on self-reported data from surveys and interviews may introduce a degree of subjectivity. While we made efforts to obtain audited financial statements from the 10 TCs to complement and validate their self-reports, they declined to share these documents.

4 Results and Discussion

4.1 Documentary requirements in loan application

When TCs apply for loans, private banks require them to submit various documents. Among these, two requirements pose the greatest challenge: in-house financial statements and proof of down payment sources (Figure 1). Although government regulatory bodies like the Cooperative Development Authority mandate the submission of audited financial statements as part of annual compliance, TCs also maintain separate in-house financial statements. However, these in-house records often do not align with the audited statements due to inaccuracies in bookkeeping. The discrepancies arise because in-house financial statements are usually prepared for internal management purposes rather than external scrutiny. These records may contain errors, omissions, or adjustments that differ from formal accounting standards. Additionally, TCs may use cash-based accounting for internal records, whereas audited statements follow accrual-based accounting, leading to inconsistencies. Limited bookkeeping expertise and resource constraints further contribute to inaccurate record-keeping. Another major challenge for TCs is securing the required down payment for new unit acquisitions, as

the cost of these units is significantly high, making it difficult to meet the financial requirement.

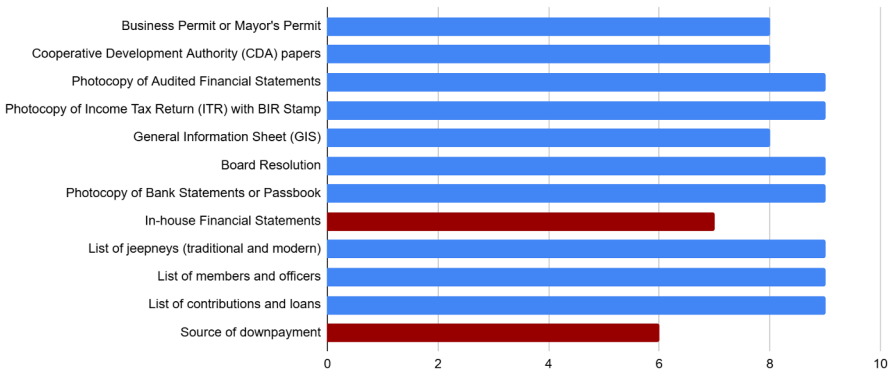


Figure 1. Documentary requirements in loan applications (red shading indicates relatively low compliance of TCs with bank requirements)

4.2 Creditworthiness evaluation

We assessed the creditworthiness of TCs using the 5 Cs of credit. Table 2 outlines the key dimensions—character, capacity, collateral, capital, and conditions—along with a list of criteria used to gauge how well the TC meets the bank’s requirements in each area, as well as the evaluation results. The TCs conducted a self-assessment using a 5-point scale:

- 1 - Cannot be met: The bank’s requirement is not met at all.
- 2 - Can be partially met: Some aspects are met, but significant gaps remain.
- 3 - Can be moderately met: The requirement is met to a reasonable degree, though some gaps exist.
- 4 - Can be mostly met: The requirement is largely met, with only minor gaps.
- 5 - Can be fully met: The requirement is completely met with no gaps.

Table 2. Creditworthiness of transport cooperatives based on 5 C’s.

Dimension	Items	Can a typical transport cooperative comply with the requirements?
	<p>“To what extent can this bank requirement be met by your transport cooperative/corporation?”</p> <p>Scale from 1 (“Cannot be met”) to 5 (“Can be fully met”)</p>	
Character	We need to demonstrate to the bank that we are trustworthy; we can show	Can be mostly met

	<p>the bank our history of meeting our financial obligations.</p> <p>We need to show to the bank the strong management skills of our top leadership team (board and officers) by highlighting their experience and proven track record in handling past financial responsibilities.</p> <p>Our board members and/or officers can be involved as co-borrowers of the loan, suggesting a shared responsibility for the loan on their part.</p>	
Capacity	<p>We have to prove to the bank that our organization has a stable and reliable revenue stream to support loan repayment.</p> <p>We have to establish that our current debt-to-income ratio aligns favorably with industry standards.</p>	Can be partially met
Collateral	<p>We need to provide the bank with valuable assets that can be used as collateral for the loan.</p> <p>The assets we can offer as collateral have been appraised and demonstrated a strong market value.</p> <p>We can show that our cooperative / corporation has sufficient reserves or savings to cover unforeseen expenses.</p>	Can be mostly met
Capital	<p>We can invest a significant contribution of our own capital relative to the total cost of the jeepney fleet acquisition.</p> <p>Our board members and/or officers can invest their personal capital in this loan.</p>	Can be partially met
Conditions	<p>We can show that given the loan terms set by the bank (down payment, equity,</p>	Can be moderately met

	interest rate, repayment period) we can service our debt obligations in a timely manner.	
	We can demonstrate our capacity to ensure loan repayment despite current economic challenges, including fuel price volatility and inflation.	

Transport cooperatives generally satisfy the lending criteria for “Character” and “Collateral”, demonstrating reliability in loan repayment history and possessing assets that can be pledged as guarantee. However, they face challenges in meeting the requirements for “Capacity”, “Capital”, and “Conditions”, which are critical to securing bank financing. This was likewise validated during our interviews with bank credit officers.

Capacity is a major hurdle due to the volatility of cash flows, which are directly influenced by fluctuating ridership levels. Cooperatives operating in areas with inconsistent passenger demand struggle to maintain stable revenue streams, making their profitability uncertain—particularly on low-demand routes. This unpredictability raises concerns for banks regarding their ability to meet loan obligations consistently.

Capital requirements also pose difficulties, as banks typically expect a funding structure of 80% debt and 20% equity, while TCs prefer a more debt-heavy arrangement of 95% debt and only 5% equity. The latter structure allows cooperatives to minimize their initial capital outlay but increases financial risk from excessive leverage, making banks hesitant to extend credit under such terms.

Conditions set by banks are often less favorable to cooperatives. Financial institutions commonly offer loans with 10-12% interest rates and a 5-year repayment term, which TCs find restrictive compared to their preferred terms of 6% interest over 7 years. The mismatch in expectations regarding loan terms further complicates their ability to secure funding, as banks prioritize risk mitigation, whereas cooperatives seek more flexible and affordable financing options. These challenges highlight the need for financial institutions and TCs to find common ground in structuring loans that balance risk management with the cooperatives' financial realities.

4.3 Government support and interventions

The government can support TCs in overcoming financial barriers through service contracting, business training, and equity subsidies. These interventions would address the key challenges that hinder cooperatives from securing bank financing and achieving long-term sustainability [8].

One crucial way the government can assist is through service contracting, which stabilizes cash flows by providing cooperatives with fixed payments for transport services, regardless of ridership levels. This approach reduces revenue volatility, ensuring a steady income stream that strengthens their ability to meet loan amortization

payments. By unlinking earnings from passenger demand, service contracting enhances the financial viability of cooperatives, making them more attractive to lenders [9].

Additionally, training in business planning and accounting can empower TCs to improve financial management and documentation. Many cooperatives struggle with maintaining proper records, which affects their eligibility for both government support programs and private sector loans. By equipping them with the necessary skills to manage finances effectively, prepare loan applications, and develop sustainable business plans, the government can increase their chances of qualifying for service contracting programs and accessing debt financing.

Furthermore, the government can help cooperatives meet capital requirements by offering equity subsidies. Many banks require borrowers to contribute at least 20% equity, a threshold that TCs often find difficult to meet. By providing direct financial support to cover part of this requirement, the government can ease the burden on cooperatives, reducing their reliance on excessive debt while improving their creditworthiness.

Through these targeted interventions, the government can play a vital role in strengthening TCs, enhancing their financial stability, and fostering a more resilient and efficient public transportation system.

5 Summary, Conclusions and Limitations

This study highlights the critical role of TCs in the modernization of informal public transport in the Philippines and the challenges they face in securing private debt financing. By applying the 5C's of credit framework, the assessment revealed that while cooperatives demonstrate reliability and asset-backed security, they struggle with financial stability, investment capacity, and loan conditions. Addressing these barriers requires targeted government interventions, such as service contracting and equity subsidies, to improve their creditworthiness and financial viability. Strengthening cooperatives' access to financing is essential for bridging funding gaps and driving sustainable transport reforms in the Global South.

In future work, we plan to investigate alternative financing options for TCs—such as crowdfunding and peer-to-peer lending—as complements to conventional bank loans. At present, our analysis is limited to assessing creditworthiness based on the 5Cs of credit. We also intend to expand our study to more comprehensively examine the influence of external economic factors, including inflation trends and interest rate fluctuations, on the financial viability of TCs.

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