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Contingent Convertible Lease or Debt?

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ABSTRACT

This paper focuses on examining the interaction between investment and financing strategies in a dynamic model with existing assets and a growth option where the investment cost can be financed either by contingent convertible lease-equity or by convertible debt-equity. It aims to study the impact of these two models as a financing instrument on conversion timing, conversion rate and the optimal value of the firm in different scenarios. The difference between CoColease and CoCodebt contracts from a modeling point of view is explored by examining the company's closed solutions using the real options approach and risk-free price theory. The results reveal that the convertible lease with low amortization value and sufficiently high conversion rate has less severe inefficiencies resulting from risk transfer and debt overhang than those caused by convertible debt. In particular, with a high landlord tax rate equal to $\tau_l = 0.3$, shareholders will experience a distortion of debt overhang and will have strong incentives to transfer risks. The conversion time may be delayed with conditional convertible lease financing instead of convertible debt. The research work concludes that financing through convertible leasing contracts with a low amortization value is more advantageous than that of CoCo debt, but if the lessor's tax rate is high, the opposite may be true.

Keywords: contingent convertible lease; contingent convertible debt; growth option; debt overhang; risk-shifting; capital structure

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ОРИГИНАЛЬНАЯ СТАТЬЯ

Условная конвертируемая аренда или долг?

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АННОТАЦИЯ

Данная статья посвящена изучению взаимодействия между инвестиционной и финансовой стратегиями в динамической модели с существующими активами и вариантом роста, при котором инвестиционные затраты могут финансироваться либо за счет условного конвертируемого арендного капитала, либо за счет конвертируемого заемного капитала. **Цель исследования** — изучить влияние этих двух моделей как инструмента финансирования на сроки конверсии, коэффициент конверсии и оптимальную стоимость фирмы в различных сценариях. Разница между контрактами CoColease и CoCodebt с точки зрения моделирования изучается путем анализа закрытых решений компании с использованием подхода реальных опционов и теории безрисковых цен. **Результаты** показывают, что конвертируемая аренда с низкой амортизационной стоимостью и достаточно высоким коэффициентом конверсии имеет менее серьезные недостатки, связанные с передачей рисков и чрезмерным долгом, чем конвертируемая задолженность. В частности, при высокой ставке арендодательского налога, равной $\tau_l = 0{,}3$, акционеры столкнутся с искажением долгового бремени, и они будут иметь серьезные стимулы для передачи рисков. При использовании условного конвертируемого лизингового финансирования вместо конвертируемого долга время конвертации может быть отложено. В ходе исследования был сделан **вывод** о том, что финансирование через конвертируемые лизинговые контракты с низкой амортизационной стоимостью более выгодно, чем через долговые обязательства CoCo, однако при высокой налоговой ставке арендодателя ситуация меняется в пользу заемных средств.

Ключевые слова: условная конвертируемая аренда; условный конвертируемый долг; возможности роста; долговая нагрузка; смещение рисков; структура капитала

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INTRODUCTION

Multiple businesses encountered financial difficulties over the 2007–2008 financial crises, and their capital structures prevented them from raising additional funds via the capital market. This made it necessary for financial institutions to take on massive, unprotected debts to meet their obligations in the event of failure to pay. Since regulatory bodies have determined that the current financing mechanisms are not powerful enough to withstand unexpected setbacks, financial engineers are driven to think of and create new financial instruments to increase the equity ratio.

This paper proposes contingent convertible bonds and contingent leasing contracts as two financing options designed to reduce the risks associated with financial crises and swiftly restore business stability.

Theoretically, it would be beneficial for all companies to issue CoCos in their capital structures, as suggested by [1, 2].

Contingent capital financing has always been the ideal instrument for any financial institution to hedge the position of investors against default. This is achieved by improving their reliability vis-à-vis creditors and regulators. Contingent convertible bonds stand for an actual interest in this area. Thanks to their mechanisms for automatically absorbing bankruptcy costs, they enable companies to balance their financial position during a financial crisis. In addition, they offer issuing companies the opportunity to create quasi-equity at a lower cost. CoCos tend to be issued by large corporations, banks, and insurance companies. Conversion of the CoCo takes place at the issuer's initiative, subject to predefined solvency conditions.

A contingent convertible bond (CoCo) is a type of long-term debt instrument with a predetermined maturity date (T) as well as predetermined periodic coupon payments. If the CoCo matures and the CoCo holder receives all coupon payments, CoCos convert to standard bonds, but the CoCo's coupon payments are higher than the coupon payments of a standard bond. In the other scenario, if the conversion time is achieved before the maturity date, the CoCo holder will receive a fixed number of shares.

Much scientific efforts have been oriented towards the role of leasing in business financing choices. This paper highlights the interaction between the investment and financing policies of a company with assets in place and a growth option in a dynamic model. The investment costs will be financed through either shares and a contingent convertible lease contract (CoCo lease- equity,[1] hereafter), or shares and a contingent convertible debt instrument (CoCo debt-equity, hereafter). Our central focus is primarily on clarifying the relationship between CoCo lease contracts and CoCo debt, and then on highlighting their differences from the point of view of modeling and analyzing their sensitivities. This paper compares comparison CoCo lease-equity financing model with the CoCo debt-equity financing model and verifies in what measure the hypothesis that confirms that the use of leasing as a financing tool is more advantageous than that of debt, particularly CoCo debt, when it remains reliable. It also aims to explore the influence of both models on the capital structure, the optimal value of the firm, conversion timing, conversion rate and the inefficiencies associated with debt overhang and substitution.

The management of credit risk refers to the main concern of this paper. In the event of a financial crisis, it focuses on risky financing instruments that enable absorbing the failure cost and maintaining stability. Based on the business's operations and how the leased asset will be used, a convertible contingency lease is suggested as a risk management tool to expand and enhance contingency lease agreements. This paper evaluates the role that contingent capital and contingent lease rentals play in terms of fusing corporate finance and risk management, and it contributes to recent advances in these fields.

Two specific scenarios form the basis for CoCo-lease modeling: In the first scenario, the lessor receives lease payments equal to the value of the lessee's use of the leased asset. The lessee pays an agreed-upon amount until achieving the lease's maturity and does not default during the term of the contract. Alternatively, if the conversion time falls before the lease's maturity, the CoCo-lease agreement will be converted, and the lessor will receive a predetermined number of shares for the remaining unpaid lease royalties. As a result, they will become shareholders in the company, owning a percentage of its capital and the leased asset will belong to this business.

The real options approach and the risk neutral pricing theory have been used to investigate analytical solutions for the company's assets in different scenarios. Following the approach of [3], we consider that the company is supposed to have a growth option to increase existing assets. For example, after investment expansion, earnings before interest

[1] CoCo lease-equity means that the investment cost is assumed to be financed by equity and a contingent convertible leasing contract.

and taxes (EBIT) will increase by a certain factor. We assume that the cost of investment can be increased either by issuing a contingent convertible lease or by contingent convertible bonds. We equally assume that the company's cash flow and the asset's service flow follow a stochastic Brownian motion process to capture its random evolution over time.

This paper relies upon integrating one of the two contingent convertible type contracts (debt or leasing) into the capital structure of the company as a means of managing credit risk and ensuring the financial stability of the company as well as recovering losses from the lessor (the CoCo debt holder) in the event of default. In the same vein, [4] invested option pricing theory to evaluate embedded options in leases. S.R Grenadier [5] examined a risk-free and a risky leasing contract, which determines a rental rate taking into account the tenant's probability of default and the uncertainty of service flows from the leased asset. Recently, the motivation of the default risk evaluation in lease agreements has been the subject of several research papers. B.W. Ambrose et al. [6] examined the capital structure problem for companies that can use debt and leases taking into account the counterparty risk. They applied the arguments from [5] to determine the equilibrium lease rate in case both the landlord and tenant have credit risk. E. Kouzmina and V. Okrepilov [7] handled the activities of specialized leasing companies and methods of risk management of leasing transactions based on basic risk management processes in project management. Within the same framework, [8] elaborated a model that can assist lessees in expanding their production scales, recovering money invested in leased assets and overcoming the problem of funding huge investment scales for businesses.

The modeling of the convertible leasing (or convertible debt) is based on the following two scenarios, if there is no conversion, the lessor will sell the use of the asset and the lessee will make specific rental payments (the CoCo debt holder will lend a loan and the shareholders will repay the coupon payments). Conversely, if the conversion takes place, the lessor (the CoCo debt holder) will receive a predetermined number of shares. The CoCo-lease and CoCo-debt contracts have been considered as a risk management tool, which extends contingent rent contracts according to the use of the leased asset (the borrowed debt). These types of contracts offer greater flexibility as well as collaboration between the lessee (the shareholder) and the lessor (the CoCo debt holders) thanks to their conversion mechanism, which enables the holder to automatically convert non-refundable rents (payments) into shares due to insufficient cash flow generated by the use of the leased equipment (the borrowed debt).

Leasing is often regarded as an alternative to borrowing. Lately, multiple papers have been interested in the benefits of using leasing as a financing instrument in the firm like debt; most of them are based on tax incentives to lease. V.S. Krishnan and R.C. Moyer [9] found that leasing reduces bankruptcy costs rather than borrowing. J.R. Graham et al. [10] revealed other non-tax factors that encourage the company to use leasing as a debt, such as financial distress, government regulation, and the size of the company. A. Yan [11] argued that a higher rental rate may reduce the level of debt financing. In other words, a company that uses leasing as a source of financing can reduce its debt capacity, creating a proxy relationship between debt and leases. S.C. Myers et al. [12] emphasized that leasing has an impact on the capital structure of the company.

Recent research analyzes the role of financial structure and risk allocation in shaping investment outcomes and firm value under uncertain economic conditions. O.M. Eskindarov and T.V. Maniakhin [13] examine the role of liquidity accumulation in the financial system and its macroeconomic effects, highlighting how financial instruments and policy measures influence investment allocation and capital market development. Their research underscores the importance of financing structures in shaping investment flows and incentives within firms in response to changing economic conditions, which is conceptually aligned with our interest in the impact of financing instruments on firm value and strategic choices.

D.A. Korobeynikov [14] analyzes credit mechanisms within an ecosystem-based framework, illustrating how the integration of financing instruments into broader economic structures influences investment efficiency and risk allocation. Although their study focuses on the agribusiness sector, it highlights the crucial role of finance design in coordinating investment decisions, a concept closely related to our comparison of alternative conditional convertible finance structures.

H. Srivastava et al. [15] provide insights into investment decision-making by emphasizing the influence of behavioral factors on investors' reactions to risk and uncertainty. Their findings reveal that financing and investment outcomes depend not only on contractual structures but also on agents' responses to incentives and perceived risks, thus complementing our analysis of risk transfer and conversion timing in different finance contracts.

V.V. Lopatenko and A.M. Karminsky [16] explore credit risk and bankruptcy within corporate groups, demonstrating how financial structure and consolidated reporting impact solvency and the probability of default. Their findings reinforce the importance of financial arrangements and risk allocation in defining the stability and value of firms, thus providing an empirical basis for our theoretical analysis of over-indebtedness and inefficiencies related to convertible finance.

This paper discusses recent developments in contingent leasing and contingent capital, and how they relate to corporate finance and risk management. The lessee uses the leased asset as an instrument of financial or operational performance. Contingent convertible leases (CoCo debt) are part of contingent capital developments settled between the lessor (the CoCo debt holder) and the lessee (the shareholder) that can finance corporate financial institutions. They provide for the unpaid portion of royalties to be converted into shares if certain conditions related to the company's operating activity and cash flows are met. Carrying out the conversion event of the leasing contract (CoCo debt) at the time of financial distress before the default event makes it possible to limit the influence of a possible drop in the value of the share. This can limit fluctuations of the volatility of assets, particularly in the event of an unfavorable change in the interest rate. For this reason, we suggest that the conversion time occurs before the default deadline if there is financial distress.

The modeling of both considered contracts is different. The conversion event of the convertible lease is performed using the service flow. However, the conversion of the CoCo debt is based specifically on the rents still to be paid. The convertible lease model takes into account market risk and the economic environment at the time of conversion, while the CoCo debt model takes into account the remaining unpaid payments originally stipulated in the CoCo debt contract. The aim of this research is to study a comparison between two models, the CoCo debt- and CoCo lease-equity. To examine this difference, we need to determine the pricing of the company's assets, the conversion threshold and the conversion rate, with each incorporating their specific parameters in both models for different scenarios.

Numerical analyzes revealed that the issuance of CoCo lease and CoCo debt to finance the investment project reduces conflicts of interest between the lessee (shareholders) and the lessor (CoCo debt holders). The inefficiencies resulting from asset substitution and the debt overhang under convertible lease financing with a low depreciation value and a low lessor tax rate are much lower than those resulting from financing through convertible debt. The depreciation value of the asset has a positive effect on the CoCo lease conversion rate. The lower the value is, the higher the conversion rates becomes (the fraction of equity distributed to the lessor during conversion) and the lower the inefficiencies linked to debt overhang become as well. However, contingent convertible lease financing with a large lessor tax rate and zero conversion rate would result in serious inefficiencies due to debt overhang and asset substitution. Furthermore, we find that contingent convertible lease financing leads to maximum firm value rather than convertible debt financing and delays the conversion event.

The default risk in convertible contingent leases is primarily entailed by exposure to the risk of non-refundable rental payments owing to insufficient cash flow from the use of leased equipment. A standard rental agreement states that in the event of a lessee's default, the lessor will pick up the rented equipment, rent it to another creditworthy lessee, or sell it on the open market. This leaves the business handling the fallout, which potentially could lead to a business shutdown.

Convertible leasing promotes flexibility and cooperation between the lessor and the lessee by providing the lessor the option to convert non-refundable rental payments into shares grounded on the service flows of the leased asset that they may generate during the remaining term of the lease. Consequently, the lessor provides the company with a chance to strengthen its finances and reduce the likelihood of bankruptcy. The structure of the leasing model includes a conversion mechanism that enables the lessor of the leased asset to both absorb the losses resulting from the tenant's default and manage its exposure to risks.

In this paper, we explore the relationship between investment and financing policy within the framework of a dynamic model for a company with assets in place and a growth option. The cost of the growth option can be funded by either a CoCo-equity debt or a convertible-equity lease contract. The aim of this analysis lies in highlighting the differences between these two financing models.

Convertible lease models consider the lessor's tax rate in the event of no conversion, the asset's depreciation, the equilibrium rental rate, and the market and economic conditions at the time of conversion. The CoCo debt model also considers the risk of not making rental payments in the event of a financial collapse as well as the value of the debt in the event that the business is solvent.

In summary, analytical solutions have been developed to analyze the interaction between investment and financing policies in a dynamic model of a company with assets in place and a growth option financed by shares and a CoCo-lease contract (or CoCo-debt) and to establish a reliable comparison between these two different financing models. A comparative analysis is carried out to explore the impact of both models on the capital structure, the value of the company, and the inefficiencies resulting from the problem of debt overhang and the substitution of assets.

The remainder of this paper is organized as follows. Section 2 represents the literature review. Section 3 introduces the theoretical framework and conceptual model. Section 4 determines the firm value, CoCo debt, risky debt and contingent convertible lease pricing. Section 5 presents the numerical results and analysis. Section 6 provides pertinent concluding remarks.

THEORETICAL FRAMEWORK AND CONCEPTUAL MODEL

We assume that a company having assets in place generates earnings x (cash-flow) before interest and taxes (EBIT) and follows a geometric Brownian motion:

$$dx_t = \alpha_x x_t dt + \sigma_x x_t dz_t\,, \qquad (1)$$

where x_t represents the company's cash flow (the tenant's status variable), α_x is the expected risk-adjusted return and σ_x is the volatility rate. The standard Brownian movement noted z_t is defined on a full probability space (Ω, G, P) consisting of a $\mathbb{F} \equiv \{\mathcal{F} : t \geq 0\}$ filtration that meets the usual conditions, where $\mathbb{F}$ corresponds to the information streams available to an investor. We assume that the company has the right to exercise a growth option to increase the size of its operations through paying a fixed and irreversible sunk cost note I, as suggested by [17, 1]. After the exercise of the growth option, cash flow (EBIT) increases instantly from x to $(1+\theta)x$, where $\theta > 0$ is a constant, which can also be referred to as the growth ratio. We also assume that the company manages its investment cost by issuing a contingent convertible lease contract and equity.

To begin with, we assume that the company has been capitalized on equity and risky debt. The risky debt has an infinite maturity and a continuous and constant coupon payment noted C_s, per unit of time until the company is bankrupt. The default occurs if the level of cash flow x is lower than the default threshold x_d. In this case, the indicated constant fraction w, of the value of the firm will be lost; where $0 \leq w \leq 1$, is called the default loss rate as it is defined in literature. The default threshold is determined endogenously by maximizing the value of the company's equity. Our model is considered in homogeneous-time, which implies that the default threshold x_d and conversion thresholds of CoCo lease x_c^l (or of CoCo debt x_c) must be independent of time. The company pays back the payments of the coupon to creditors, which are defined by the taxes deductible at a rate of corporation tax noted $\tau > 0$. We assume that the lessor's tax rate is denoted by $\tau_l > 0$. The contingent convertible lease (CoCo debt) has an infinite maturity and a continuous and constant coupon payment noted R, (C_c), per unit of time until the conversion occurs. This contract is considered as a standard and perpetual lease contract taking into account the risk of credit default. As the capital structure prior to the conversion contains the risky debt and the convertible lease contract, the conversion event occurs if the cash flow level is less than the sum of the risky debt coupons and the rental rates of the contract. The shareholders in this case become the owners of the leased asset and the lessor of the leased asset receives some predetermined shares according to the conversion rate noted β_l, where $0 \leq \beta_l \leq 1$. In addition, we note β_c the conversion rate of the CoCo debt if the company considers the CoCo debt-equity model as a means of financing the growth option, where $0 \leq \beta_c \leq 1$. Referring to [2], the conversion threshold of CoCo lease x_c^l (or of CoCo debt x_c) is given exogenously by the financial supervisory authority.

With reference to [4], the value of the underlying asset $A(s)$ is determined by the current value of its flows of future services $s(t)$, which follows by the following diffusion process:

$$ds_t = \alpha_s s_t dt + \sigma_s s_t dz_s, \qquad (2)$$

where α_s stands for the service flow return of the leased asset, σ_s indicates the volatility of the service flow and dz_s represents the standard Wiener process.

We note that the first terms in both equations (1) and (2) are determinist and represent the expected returns from the firm's cash flow and the leased asset service flow, respectively. The second terms denote the uncertainty surrounding them.

Proposition 1. According to [5], the expected value of the use of the asset at the end of the contract $Y(s_0, T)$, is expressed as follows:

$$Y(s_0, T) = E\left(\int_0^T e^{-rt} s_t\, dt\right) = \frac{s_0}{r-\alpha_s}\left[1 - e^{-(r-\alpha_s)T}\right], \qquad (3)$$

where $Y(s_0, T)$ is the explicit solution of equation (2). Note that the asset's service flow can appreciate or depreciate over time because the sign of the expected rate of return on the asset's service flow α_s, is not restrictive. Since the value of the asset is equal to the value of the service flow of the asset at equilibrium, then the value of the underlying asset $A(s)$, is equal to the perpetual value of $s(t)$, which is expressed by $A(s)=\lim_{T\to\infty} Y(s_0, T)$.

If T tends to infinity, the value of the use of the asset will be as follows:

$$Y(s_0,+\infty)=\frac{s_0}{r-\alpha_s}. \quad (4)$$

Proposition 2. The value of the risk-free lease corresponds to the rental time value, which can be determined by:

$$L_T=\frac{R(1-\tau_l)+\tau_l D_p}{r}. \quad (5)$$

Proposition 3. In equilibrium, the rental value at maturity L_T, is equal to the use value of the asset at the maturity of the contract, $Y(s_0, T)$. Thus, using equations (4) and (5), the rental payment, R, at equilibrium is expressed as follows:

$$R=\frac{rs_0-\tau_l D_p(r-\alpha_s)}{(r-\alpha_s)(1-\tau_l)}. \quad (6)$$

Lemma 1. We consider a contingent claim as a derivative on an underlying cash flow of the firm and its price, noted $F(x)$, corresponding to the current cash-flow level x. Since our model is homogeneous, $F(x)$ is independent of time. Therefore, using Ito's formula, the $F(.)$ function must satisfy the following ordinary differential equation (*ODE*):

$$\frac{1}{2}\sigma_x^2 x^2\frac{\partial^2 F(x)}{\partial x^2}+\alpha_x x\frac{\partial F(x)}{\partial x}+ +(ax+b)-rF(x)=0 \quad x\in D, \quad (7)$$

where a and b are constants to be determined.

Equation (7) solves the Black-Scholes-Merton (1973) option pricing model, which is used to determine the value of a contingent asset. The first and second terms stand for the sensitivities of contingent claim $F(x)$ in relation to the cash flow of company x. The third term is a linear function of cash flow x up to a stopping time $T_D=inf\{t\geq 0 : x_t\notin D\}$. The last term corresponds to the risk-neutral contingent claim return.

Thus, the general solution of the equation stated above is determined by:

$$F(x)=\frac{ax}{r-\alpha_x}+\frac{b}{r}+B_1x^{\gamma-}+B_2x^{\gamma+} \quad x\in D, \quad (8)$$

where B_1 and B_2 are constants to be resolved by the boundary conditions determined again by the payoff of the contingent claim and $\gamma^{\pm}=\frac{-(\alpha_x-\frac{1}{2}\sigma_x^2)\pm\sqrt{(\alpha_x-\frac{1}{2}\sigma_x^2)^2+2\sigma_x^2 r}}{\sigma_x^2}$ is the positive and negative roots of the following quadratic equation, $\frac{1}{2}\sigma_x^2\gamma^2+(\alpha_x-\frac{1}{2}\sigma_x^2)\gamma-r=0$.

FIRM VALUE, RISKY DEBT, COCO DEBT AND CONTINGENT CONVERTIBLE LEASE PRICING

In this section, the prices of the company's securities are determined by first applying the risk-neutral pricing theory to set the prices of the company's securities. In fact, the backward induction method is used.

Proposition 4. In finance, the valuation of standard assets is always related to a company's total cash flow. We assume that the value of the unlevered firm stands simply for the expected present value of cash flow (the value of cash flows discount in the future) after the investment. Therefore, by applying the price equilibrium theory, the value of unlevered firm is expressed in terms of:

$$V(x)=E\left[\int_t^{\infty}\exp(-r(u-t))(1-\tau)x_u(1+\theta)du \mid x_t=x\right]= =\frac{(1-\tau)(1+\theta)x}{r-\alpha_x}, \quad (9)$$

where $r\geq 0$ is the risk-free interest rate that meets the following condition, $r>\alpha_x$.

Before the conversion of the convertible lease, the company's capital structure owns the following three securities, equity, risky debt, and the contingent convertible lease contract (or CoCo debt).

Based on the previous lemma, we examine equilibrium pricing in different following scenarios because each closed-form solution is in fact a special case specified in the lemma only for a domain D and different parameters a and b. Hence, for a given capital structure, we determine the following propositions.

Proposition 5. If the company chooses to finance its investment project through CoCo-lease, then the value of the CoCo-lease is specified as follows:

$$CL(x)=\left(\frac{R(1-\tau_l)+\tau_l D_p}{r}\right)\left[1-\left(\frac{x}{x_c^l}\right)^{\gamma-}\right]+ +\beta_l E^c(x_c^l)\left(\frac{x}{x_c^l}\right)^{\gamma-}. \quad (10)$$

However, if the growth option is exercised using the convertible debt, then the value of the CoCo debt is indicated as follows:

$$D_c(x)=\frac{C_c}{r}\left[1-\left(\frac{x}{x_c}\right)^{\gamma-}\right]+\beta E^c(x_c)\left(\frac{x}{x_c}\right)^{\gamma-}. \quad (11)$$

Equations (10) and (11) show that the value of the contingent convertible lease contract (or CoCo debt) is determined by the value of the rental payments (coupon payments) before the conversion plus the lessor's payoff if the conversion triggers.

Proposition 6. The conversion time of convertible lease contract and CoCo debt is defined as:

$$T_c^l=\inf\left\{t\geq 0:\varphi V\left(x_c^l\right)\leq\frac{R+C_s}{r}\right\}, \quad (12)$$

$$T_c=\inf\left\{t\geq 0:\varphi V\left(x_c\right)\leq\frac{C_c+C_s}{r}\right\}, \quad (13)$$

where φ refers to the firm's capital adequacy ratio. Equation (13) indicates that the conversion of contingent convertible lease agreements (or CoCo debt) into equity occurs when a fraction, denoted by φ, of the asset value, is as low as the sum of the par values of the outstanding debt and convertible lease contract (or CoCo debt).

Proposition 7. Proceeding in the same way as [18], the conversion thresholds of convertible lease and CoCo debt are specified as follows:

$$x_c^l=\frac{r-\alpha_x}{r}\frac{(R+C_s)}{1-\tau}\frac{1}{(1+\theta)\varphi},\ \varphi\in(0,1) \quad (14)$$

$$x_c=\frac{r-\alpha_x}{r}\frac{(C_c+C_0)}{1-\tau}\frac{1}{(1+\theta)\varphi}, \qquad \varphi\in(0,1) \quad (15)$$

The term x_c^l (or x_c) refers to the value of the firm which proves to be greater than that of the existing debt and rental payments (CoCo debt).

Proposition 8. We assume that the conversion of the lease contract will be converted based on the flow of services that can be generated from the leased asset over the remaining period of the contract. Hence, the conversion rate of convertible lease contract is determined by:

$$\beta_l=\min\left(\frac{\frac{s_0}{(r-\alpha_s)(1-\tau_l)}-\frac{\tau_l D_p}{r(1-\tau_l)}}{E^c\left(x_c^l\right)},1\right). \quad (16)$$

According to [18], the conversion rate for CoCo debt is identified as follows:

$$\beta_c=\min\left(\frac{\frac{C_c}{r}}{E^c(x_c)},1\right). \quad (17)$$

Proposition 9. The value of the original equity must be equal to the value of the cash flows minus the value of the lease payments (or the CoCo debt coupons) and the value of the risky debt coupons before the conversion takes place, plus the residual equity value that original shareholders obtain at the conversion time.

Thus, the value of equity, if the company considers the convertible lease to finance its growth option, is indicated as follows:

$$E_2^l(x)=(1-\tau)\left[\left(\frac{(1+\theta)x}{r-\alpha_x}-\frac{\left(R(1-\tau_l)+\tau_l D_p+C_s\right)}{r}\right)-\left(\frac{(1+\theta)x_c^l}{r-\alpha_x}-\frac{\left(R(1-\tau_l)+\tau_l D_p+C_s\right)}{r}\right)\left(\frac{x}{x_c^l}\right)^{\gamma^-}\right]+$$
$$+(1-\beta_l)E^c\left(x_c^l\right)\left(\frac{x}{x_c^l}\right)^{\gamma^-}. \quad (18)$$

However, if the company finances its growth option with CoCo debt, the equity value will be determined as follows:

$$E_2(x)=(1-\tau)\left[\left(\frac{(1+\theta)x}{r-\alpha_x}-\frac{(C_s+C_c)}{r}\right)-\left(\frac{(1+\theta)x_c}{r-\alpha_x}-\frac{(C_s+C_c)}{r}\right)\left(\frac{x}{x_c}\right)^{\gamma^-}\right]+$$
$$+(1-\beta)E^c(x_c)\left(\frac{x}{x_c}\right)^{\gamma^-}. \quad (19)$$

The first term of equation (18) (or (19) corresponds to the value of cash flow x, after the exercise of the growth option minus the rental payments R (or the CoCo coupon payements) and risky debt payments C_s. The second term stands for the value of equity if the level of cash flow x achieves the conversion threshold x_c^l (or x_c) plus the value of equity after the conversion. We note that $\left(\frac{x}{x_c^l}\right)^{\gamma^-}$ (or $\left(\frac{x}{x_c}\right)^{\gamma^-}$) is defined by the current value of contingent claim that pays a 1$ if the cash flow level x reaches the conversion threshold x_c^l (or x_c) for the first time.

Remark 1. Note that the equation $E^c(.)$ in (18) has the same form with $E^c(.)$ in (19). In fact, both indicate the value of the equity at the time of conversion of the convertible lease or CoCo debt. Equation $E^c(.)$ is determined below in proposition 10 (please refer back to equation (23)).

Proposition 10. Before default, the debt holders receive coupon payments periodically C_s, whereas after bankruptcy, they are entitled to receive a share of the business values as a deduction from the cost of bankruptcy. The value of risky debt is expressed by the following formula:

$$D_s(x)=\frac{C_s}{r}\left[1-\left(\frac{x}{x_d}\right)^{\gamma^-}\right]+(1-w)V(x_d)\left(\frac{x}{x_d}\right)^{\gamma^-}. \quad (20)$$

The first term of Equation (20) designates the perpetual value of the debt in the absence of default while the second term measures the risk of default which is determined by the product of $(1-w)\ V(x_d)$, which indicates the loss of default for the creditors and $\left(\frac{x}{x_d}\right)^{\gamma^-}$ denotes the current value of the contingent capital per unit of gain which pays $1\$$ when the level of cash flows reaches the default threshold x_d for the first time.

Proposition 11. If the growth option is exercised, the total value of the firm before the conversion is identified in terms of the sum of the value of the risky debt (20), the value of the contingent convertible lease contract (10), and the value of the company's equity (18):

$$V_l^T(x)=\frac{(1-\tau)(1+\theta)x}{r-\alpha_x}+$$
$$+\tau\left(\frac{R(1-\tau_l)+\tau_l D_p}{r}\right)\left[1-\left(\frac{x}{x_c^l}\right)^{\gamma^-}\right]+$$
$$+\tau\frac{C_s}{r}\left[1-\left(\frac{x}{x_d}\right)^{\gamma^-}\right]-wV(x_d)\left(\frac{x}{x_d}\right)^{\gamma^-}. \quad (21)$$

The total value of the firm before the conversion in the case where the company exercises the growth option through the CoCo instead of the convertible lease is determined by:

$$V_c^T(x)=\frac{(1-\tau)(1+\theta)x}{r-\alpha_x}+$$
$$+\tau\frac{C_c}{r}\left[1-\left(\frac{x}{x_c}\right)^{\gamma^-}\right]+\tau\frac{C_s}{r}\left[1-\left(\frac{x}{x_d}\right)^{\gamma^-}\right]-$$
$$-wV(x_d)\left(\frac{x}{x_d}\right)^{\gamma^-}. \quad (22)$$

Equation (21) (or (22)) represents the unlevered firm value plus the tax effects of the risky debt as well as the contingent convertible lease (or CoCo debt) minus the bankruptcy costs in the event of default.

Proposition 12. If the contingent convertible lease is converted into equity, then the capital structure of the company has only equity and risky debt.

Thus, the value of equity after the conversion is expressed in terms of:

$$E^c(x)=(1-\tau)\left[\begin{array}{c}\left(\frac{(1+\theta)x}{r-\alpha_x}-\frac{C_s}{r}\right)-\\ -\left(\frac{(1+\theta)x_d}{r-\alpha_x}-\frac{C_s}{r}\right)\left(\frac{x}{x_d}\right)^{\gamma^-}\end{array}\right]. \quad (23)$$

The value of equity $E^c(x)$ is determined by the present value of assets in place after tax minus the present value of the perpetual debt plus the value of the default option.

In fact, the optimal default threshold x_d is denoted by:

$$x_d=\frac{\gamma^-}{\gamma^--1}\frac{r-\alpha_x}{r}\frac{C_s}{1+\theta}. \quad (24)$$

In this case the value of a company is determined by the sum of the value of risky debt $D_s(x)$ and the value of equity $E^c(x)$ indicated by:

$$V_T(x)=V(x)+\frac{\tau C_s}{r}-$$
$$-\left[wV(x_d)+\frac{\tau C_s}{r}\right]\left(\frac{x}{x_d}\right)^{\gamma^-}. \quad (25)$$

The first term of equation (25) expresses the value of the unlevered firm, the second term denotes the perpetual value of the debt coupon payment after tax in the event of no default and the third term determines the liquidation costs in the event of default.

NUMERICAL RESULTS AND ANALYSIS

Resting on the theoretical interpretation that we have previously developed, we enact in this section a reliable comparison between two models (the convertible lease and the CoCo debt) in terms of their influences on inefficiencies related to debt overhang and asset substitution of a firm with growth option and assets in place. In this context, [2] investigated two reference models to examine the impact of CoCo issuance (CoCo debt-equity financing) on corporate investment and financing decisions. In this respect, one model used pure equity to finance investment cost I, while the other model used subordinated debt and equity. Resting upon the fundamental specifications of [17], a comparative static analysis of these three financing models is presented. D. Hackbarth and D. C. Mauer [17] chose their basic settings in such a way that the NPV of the immediate exercise of the growth option is positive and increasing in x.

Note that whatever the model considered, the initial capital structure remains the same, i.e. it includes equity and standard debt but excludes CoCo-debt.

In this perspective, we establish a reliable comparison based on the parameters from [2–17], which are selected as follows. The current value of the cash flow is $x_0 = 20$, the risk-free interest rate is $r = 0.06$, the cost of bankruptcy is $w = 0.25$, the rate of return is $\alpha_x = 0.01$, the volatility is $\sigma_x = 0.25$, the effective tax rate is $\tau = 0.15$, the cost of investment is $I = 200$ and the cash flow growth rate is $\theta = 1$. The capital adequacy ratio $1-\varphi = 0.05$ adopted from [18]. We assume that the coupon rates of risky debt and CoCo debt are specified by $C_s = 6$, and $C_c = 3$, respectively.

Regarding the parameters of the lessor of the property, it is assumed that the service flow of the property is $s_0 = 5$, the income tax rate of the lessor is $\tau_l = 0.15$, the return on the service flow is $\alpha_s = 0.01$, the volatility of the service flow is $\sigma_s = 0.25$ and the depreciation of the asset per unit of time is $D_p = 20$. The discount rate r, can be considered as the risk-free interest rate if the cash flows generated by the convertible leasing contract are guaranteed and if the final value of the asset is known with certainty.

The CoCo debt conversion rate β_c is determined by equation (17) and the CoCo lease conversion rate β_l is specified by equation (16).

Proposition 13. As the conversion threshold is assumed exogenous, the optimal coupon payment of CoCo debt C_c seems to be the solution to the problem of maximizing the value of the firm $V_c^T(x)$:

$$C_c^* = \underset{\{C_c\}}{argmax}\left\{V_c^T(x)\right\}. \qquad (26)$$

To settle the optimal solution of the coupon rate C_s of the initial debt, it is enough to solve the problem of maximizing the value of the companies, $V(x)$, as follows:

$$C_s^* = \underset{\{C_s\}}{argmax}\left\{V_T(x)\right\}. \qquad (27)$$

Grounded on previous discussions, it is easy to obtain a digital solution for all the problems of optimal investment and optimal capital structure.

It is worth noting that the company has assets in place that were financed by equity and risky debt, as well as a growth option that was funded by a convertible lease contract (or CoCo debt) and equity. In fact, the assets in place generate cash flow x while the exercise of the option increases the cash flow of the company from x to $(1+\theta)x$. We consider in this section a comparative analysis of both models of different optimal capital structures. The first corresponds to the case where the investment cost I is financed by the CoCo lease-equity financing and the second corresponds to the CoCo debt-equity finance model.

DEBT OVERHANG AND RISK-SHIFTING INCENTIVE

To further explore the problem of debt-overhang, we follow [19] and we calculate the net increase of the equity value when the value of the asset (the unlevered firm value) adds a unit, $(\partial E/\partial A - 1)$, whose negative value indicates that the final raised amount of shareholders is less than the one which they initially invest. This implies that there is a distortion of debt overhang. Naturally, the inefficiencies related to debt-overhang decrease with the level of cash flows. The higher the value is, the lower the debt-overhang is. Note that it can even be eliminated if the cash flow level is high enough.

Furthermore, we focus on inefficiencies related to the asset substitution of a company issuing a convertible leasing contract to exercise the growth option. For this purpose, we assume that shareholders have a unique opportunity to increase the volatility (risk) of the company's assets as advocated by [20]. To measure the risk-shifting incentive, we follow [19] as well as [2]'s method to calculate the equity value derivative based on the volatility rate, i.e., $\partial E/\partial\sigma$. Obviously, the higher the value is, the greater the incentive becomes.

Equations (18), (19) and (23) are used to investigate the sensitivity of equity to asset value A in *Figs. 1.a* and *2.a,* and to explore the sensitivity of equity to asset volatility, as depicted in *Figs. 1.b* and *2.b.*

Based on the basic parameters of the model and the equations determined in the previous section, we determine the conversion rates of the CoCo debt β_c and of the lease contract β_l, the two conversion thresholds (x_c) and (x_c^l), the rental payment R and the default threshold (x_d), as illustrated in the *Tables 1* and *2*.

DEBT OVERHANG AND RISK-SHIFTING INCENTIVE FOR DIFFERENT ASSET DEPRECIATION VALUES

Figure 1.a reveals that there is no problem of debt overhang whatever the financing policy chosen by

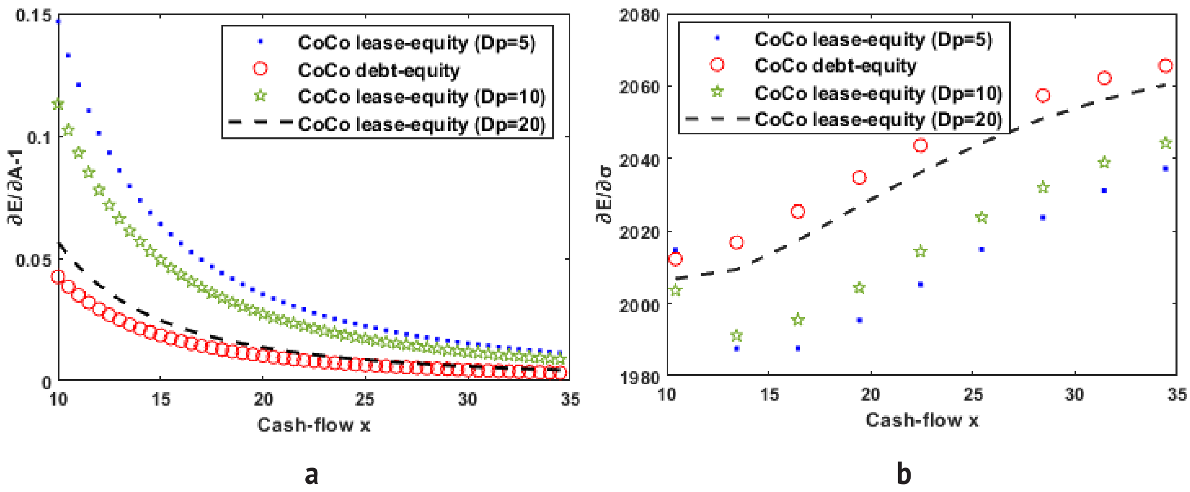

Fig. 1. **Debt Overhang (1.a) and Risk-Shifting Incentive (1.b) for Different Scenarios and Different Asset Depreciation Value**

Source: Compiled by the authors.

the company (CoCo debt- or CoCo lease-equity). However, the level of sensitivity $(\partial E/\partial A-1)$ as a function of cash flow differs from one financing model to another. Indeed, the effect of sensitivity $(\partial E/\partial A-1)$ in the CoCo-debt financing framework is greater than that in the CoCo lease financing framework for different depreciation values of the asset. *Figure 1.a* suggests that the lower the depreciation value of the asset is, the greater the level of sensitivity $(\partial E/\partial A-1)$ as a function of cash flow. Also, *Fig. 1.a* highlights that for a $D_p = 20$, the level of sensitivity $(\partial E/\partial A-1)$ if the company's choice to finance its growth option by CoCo lease-equity is very close to the case where the company chooses CoCo debt-equity to finance an investment project and above all for a high level of cash flow.

Figure 1.b foreground that the incentive of shareholders to transfer the risk after the exercise of the growth option decreases then increases as a function to the level of cash flows whatever the financing policy considered: CoCo debt and leasing convertible contingent with ($D_p = 10$ and $D_p = 20$). However, under convertible lease financing with sufficiently low D_p ($D_p = 5$), the incentive for risk shifting has been eliminated.

This implies that if the depreciation of the asset is low over time (say $D_p = 5$), then the considered leased asset generates more service flows and the asset remains functioning for a long period. In this case, it is preferable for the company to choose the CoCo lease as a means of financing and investment than the CoCo debt because as shown in *Fig. 1.a*, there is a very significant gap between the level of sensitivity with the financing by (CoCo lease with a $D_p = 5$) and that with CoCo debt financing.

In the same vein, *Table 1* reveals that the lower the level of depreciation of the asset is, the higher its conversion rate becomes. *Table 1* and *Fig. 1.a* clarify that the conversion rate of the convertible lease contract β, significantly affects the magnitude of debt overhang and substitution before conversion. For example, the value of $(\partial E/\partial A-1)$ in the context of financing by convertible leasing (where $Dp = 5$ and $\beta = 0.8872$) is much higher than that in the framework of financing by CoCo-debt (where $\beta = 0.7253$). Thus, the more the conversion rate tends towards 1, the more shareholders are motivated to add capital to avoid conversion because it is very costly for them. Obviously, the higher the leverage ratio is, the more shareholders are forced to inject their own funds to ensure liquidity and cover their positions against any financial deterioration of the company.

Furthermore, the incentive for risk transfer in the context of CoCo leasing financing with a low level of amortization (say $D_p = 5$) and a high conversion rate ($\beta = 0.8872$) is less higher than that under CoCo-debt financing. This phenomenon can be interpreted by the fact that the tenant no longer has other growth options and that, for a high conversion rate, the tenant's gain on unreimbursed rent is lower than the loss on dilution of equity if the conversion event occurs.

The conversion rate has a significant effect on asset substitution inefficiencies. The higher the conversion rate β is, the lower the incentive for asset substitution becomes. In fact, before the conversion, the likelihood of shareholders losing a significant amount of equity increases if the conversion rate β is high enough. The value of the growth option increases significantly with the commercial risk and a higher conversion ratio. This

Table 1

Effect of Asset Depreciation Value on Different Lessor Parameters

D_p	β_l	x_c^l	R	β_C	x_c	x_d
5	0.8872	5.6704	6.1765	0.7253	4.1912	1.3020
10	0.8587	5.2595	5.2941	0.7253	4.1912	1.3020
20	0.7677	4.4377	3.5294	0.7253	4.1912	1.3020

Source: Compiled by the authors.

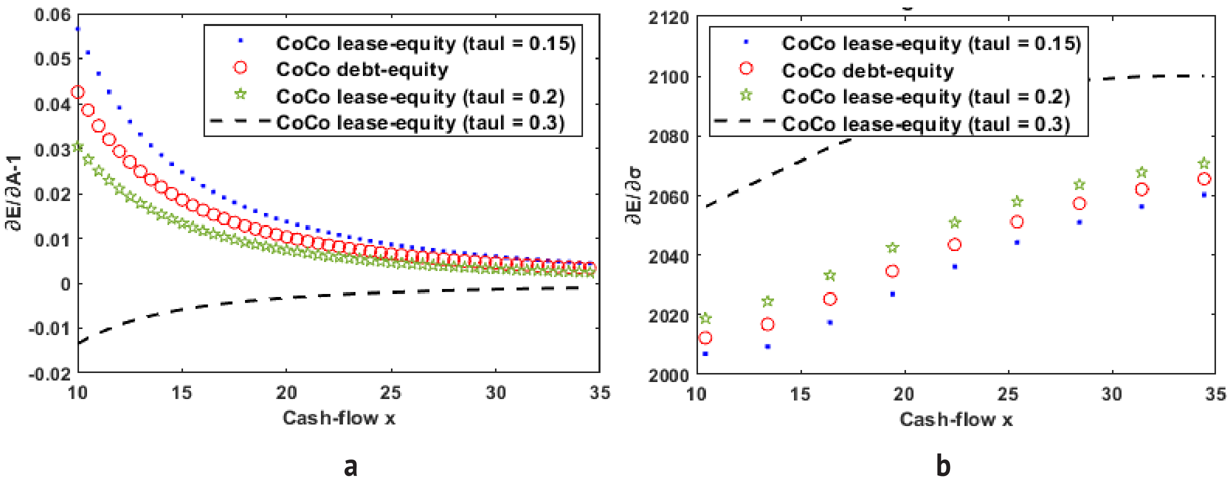

Fig. 2. **Debt Overhang (2.a) and Risk-Shifting Incentive (2.b) for Different Scenarios Aand Different Tax Rates**
Source: Compiled by the authors.

pertains to the case when the dilution effect of equity dominates the effect of leasing once the conversion occurs. As a result, shareholders benefit from issuing new equity to avoid conversion. This result goes in good consistency with the one recorded by [2–3].

Furthermore, *Table 1* illustrates that CoCo lease-equity financing allows the company to delay the conversion. Indeed, the conversion threshold of the CoCo lease for different depreciation values of the asset is higher than the conversion threshold of the CoCo debt. It can be inferred that financing through a convertible lease contract is often more advantageous than through a CoCo debt. This result can be accounted for in terms of the hypothesis that has been confirmed by several researchers. In fact, for any company, leasing is more relevant than debt. See for example [21, 22].

DEBT OVERHANG AND RISK-SHIFTING INCENTIVE FOR DIFFERENT LESSOR TAX RATES

Figures 2.a and *2.b* show that the lessor's tax rate has a negative effect on the sensitivity ratio $(\partial E / \partial A - 1)$ and risk-shifting incentive as a function of cash flow. The higher the lessor's tax rate is, the greater the debt ratio and the incentive to transfer risks becomes. As plotted in *Figs. 2.a* and *2.b*, the problem of debt overhang and the risk-shifting incentive appear immediately in the context of CoCo lease-equity financing for $(\tau_l = 0.3)$.

This result is reasonable because the greater the tax effect of the lessor is, the more the performance of the company decreases. In fact, the depreciation value of the asset is greater than the usage value of the asset, as foregrounded by the CoCo-lease conversion rate equation $(\tau_l = 0.3)$. In this case, exercising the growth option with a convertible leasing contract with a very high tax rate is not efficient for the company and the investment project in this case is not profitable.

Within the same framework, *Table 2* illustrates that the tax rate negatively affects the conversion rate and the conversion threshold, (for example, for $\tau_l = 0.3$, the $\beta_l = 0$ and the $x_c^l = 2.7941$). In these circumstances, financing by CoCo debt-equity will be more advantageous for the company than that by CoCo lease-equity with a significant taul. Particularly, for a $\tau_l = 0.15$, the opposite is true.

To achieve a high conversion rate, it is important to consider the effect of dilution. Thus, when

Table 2

Effect of the Lessor's Tax Rate on Different Lessor Parameters

τ_l	β_l	x_c^l	R	β_C	x_c	x_d
0.15	0.7677	4.4377	3.5294	0.7253	4.1912	1.3020
0.2	0.6748	3.9583	2.5	0.7253	4.1912	1.3020
0.3	0	2.7941	0	0.7253	4.1912	1.3020

Source: Compiled by the authors.

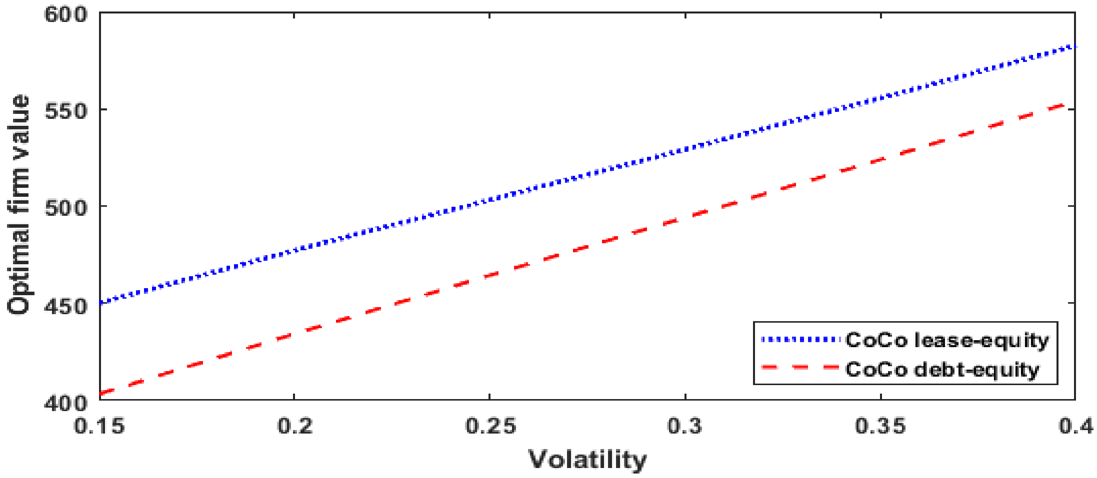

Fig. 3. **Optimal Firm Value Vs Volatility Under Different Financing Policies**
Source: Compiled by the authors.

the conversion rate is high enough (close to 1), the dilution effect of the stock may dominate the leasing effect and therefore shareholders can benefit from capital injections to minimize the likelihood of conversion, mainly as the completion of the conversion is more costly for existing shareholders. However, the opposite is true, if the conversion rate is low enough.

THE EFFECT OF ASSET VOLATILITY ON THE FIRM VALUE

Resting on equations (21) and (22), *Fig. 3* depicts that the value of the firm increases with the volatility of assets regardless of the financing policy. This is assigned to the fact that their conversion mechanism has the capacity to absorb the costs of bankruptcy. In fact, if the conversion event occurs, the non-refundable rental payments are automatically converted into shares. This finding is attributed by [2] to the existence of the growth option in the dynamic model. A different conclusion was reached in the static model, where the probability of default increases with the business risk, the tax benefits decrease, and the default costs increase. This implies that the value of the company always decreases with the volatility of assets, [22]. From a static point of view, the company is unaware of the uncertainty since it can address more than a growth option in its investment path.

Figure 3 unveils that the value of the firm under the contingent convertible lease financing is higher than that by CoCo debt. This is due to the fact that when the depreciated value of a leased asset is low, the asset can generate service flows for a longer period, and so in this case it will be better for the company to finance its investment project with a leasing contract than with debt.

CONCLUSION

This paper focuses on the modeling and pricing of contingent convertible leasing and convertible debt for a company with a growth options and existing assets. We examined the interaction between the company's investment and financing strategies in a dynamic model whose investment cost can be either through CoCo leasing or through CoCo debt. In fact, we tried to compare these two models based on their effects on the inefficiencies resulting from debt overhang and risk transfer and on optimal firm value. The results reveal that the depreciation rate of the leased asset has a significant impact on the inefficiencies of debt overhang and asset substitution. If the depreciation rate is low, inefficiencies decrease and can even be eliminated depending on cash flow. Moreover, the lower the depreciation value is, the higher the conversion rate is, the stronger the dilution effect of the shares is and the more the tenant is encouraged to inject new capital to avoid any conversion. The higher the conversion rate is, the lower the policyholder's incentive to transfer risk becomes. However, the lessor's tax rate can have a negative effect on the CoCo lease conversion rate and the inefficiencies linked to debt overhang and asset substitution if the growth option is funded through the CoCo-equity lease financing model.

Although the convertible lease contract market is still relatively new, this type of instrument could be successful for managers, given its outstanding properties in terms of flexibility in making financial and investment choices and its contributively interaction between the lessor and the lessee. The idea is original, and it might find success in the near future, given the merits of flexibility and protection offered by standard leasing contracts.

REFERENCES

1. Sundaresan S., Wang N., Yang J. Dynamic investment, capital structure, and debt overhang. *The Review of Corporate Finance Studies*. 2015;4(1):1-42. DOI: 10.1093/rcfs/cfu013
2. Tan Y., Yang Z. Contingent capital, capital structure and investment. *The North American Journal of Economics and Finance*. 2016;35:56-73. DOI: 10.1016/j.najef.2015.10.016
3. Hilscher J., Raviv A. Bank stability and market discipline: The effect of contingent capital on risk taking and default probability. *Journal of Corporate Finance*. 2014;29:542-560. DOI: 10.1016/j.jcorpfin.2014.03.009
4. McConnell J.J., Schallheim J.S. Valuation of asset leasing contracts. *Journal of Financial Economics*. 1983;12(2):237-261. DOI: 10.1016/0304-405X(83)90037-5
5. Grenadier S.R. Leasing and credit risk. *Journal of Financial Economics*. 1996;42(3):333-364. DOI: 10.1016/0304-405x(96)00882-3
6. Ambrose B.W., Emmerling T., Huang H.H., Yildirim Y. Capital structure and the substitutability versus complementarity nature of leases and debt. *Review of Finance*. 2019;23(3):659-695. DOI: 10.1093/rof/rfy004
7. Kouzmina E., Okrepilov V. Risk management of leasing companies. *E 3S Web of Conferences*. 2019;110:02034. DOI: 10.1051/e3sconf/201911002034
8. Qu J., Liu H., Zhu H., Gao H. An asset value evaluation for docking finance lease problems in the peer-to-peer platform. *Journal of Business Economics and Management*. 2021;22(1):236-256. DOI: 10.3846/jbem.2020.13380
9. Krishnan V.S., Moyer R.C. Bankruptcy costs and the financial leasing decision. *Financial Management*. 1994;23(2):31. DOI: 10.2307/3665737
10. Graham J.R., Lemmon M.L., Schallheim J.S. Debt, leases, taxes, and the endogeneity of corporate tax status. *The Journal of Finance*. 1998;53(1):131-162. DOI: 10.1111/0022-1082.55404
11. Yan A. Leasing and debt financing: Substitutes or complements? *The Journal of Financial and Quantitative Analysis*. 2006;41(3):709-731. DOI: 10.1017/S 0022109000002593
12. Myers S.C., Dill D.A., Bautista A.J. Valuation of financial lease contracts. *The Journal of Finance*. 1976;31(3):799-819. DOI: 10.1111/j.1540-6261.1976.tb01924.x
13. Eskindarov O.M., Maniakhin T.V. Liquidity maneuver in the Russian financial system in the context of inflation issues and stock market development. *Finance: Theory and Practice*. 2025;29(5):47-63. DOI: 10.26794/2587-5671-2025-29-5-47-63
14. Korobeynikov D.A. Credit in the model of the infrastructure industry ecosystem of the agro-industrial complex. *Finance: Theory and Practice.* 2025;29(5):77-89. DOI: 10.26794/2587-5671-2025-29-5-77-89
15. Srivastava H., Moid S., Rushdi N.J. Impact of anchoring, herding and loss-aversion on working women's investment decision-making. *Finance: Theory and Practice*. 2025;29(5):90-99. DOI: 10.26794/2587-5671-2025-29-5-1456-01
16. Lopatenko V.V., Karminsky A.M. Simulation of the bankruptcy event of companies associated with a business group. *Finance: Theory and Practice.* 2024;28(3):94-108. DOI: 10.26794/2587-5671-2024-28-3-94-108
17. Hackbarth D., Mauer D.C. Optimal priority structure, capital structure, and investment. *The Review of Financial Studies*. 2012;25(3):747-796. DOI: 10.1093/rfs/hhr129
18. Glasserman P., Nouri B. Contingent capital with a capital-ratio trigger. *Management Science*. 2012;58(10):1816-1833. DOI: 10.1287/mnsc.1120.1520

19. Pennacchi G., Vermaelen T., Wolff C.C.P. Contingent capital: The case of COERCs. *The Journal of Financial and Quantitative Analysis*. 2014;49(3):541-574. DOI: 10.1017/s002210901 4000398
20. Tan Y., Yang Z. Growth option, contingent capital and agency conflicts. *International Review of Economics & Finance*. 2017;51:354-369. DOI: 10.1016/j.iref.2017.06.006
21. Huang H.-M., Yildirim H. Lease financing, credit risk, and optimal capital structure. 2006. URL: https://www.researchgate.net/publication/228425072
22. Leland H.E. Corporate debt value, bond covenants, and optimal capital structure. *The Journal of Finance*. 1994;49(4):1213-1252. DOI: 10.1111/j.1540-6261.1994.tb02452.x

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