Debt Capacity Assessment

Transfer pricing Guide

Part I

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List of Abbreviations

The following abbreviations and symbols are used in this guide:

ac.finance.DCA	Excel/java based tool developed as part of this guide for purpose of debt capacity analysis
AT1	Additional tier 1
CET1	Common equity tier 1
CFO	Cash flows from operations
C&W	Cushman and Wakefield
C&W Report	Cushman and Wakefield "Capital Market Update" report
D&A	Depreciation & amortization
DCA	Debt capacity assessment
DSCR	Debt service coverage ratio
EBIT	Earnings before interest and taxes
EBITDA	Earnings before interest, taxes, and depreciation & amortization
EDSF	Equity, Debt & Structured Finance
EV	Enterprise value
FDIC	Federal Deposit Insurance Corporation
HQLA	High-quality liquid assets
IRR	Internal rate of return
ISCR	Interest service coverage ratio
LCR	Liquidity coverage ratio
LTV	Loan-to-value
MNE	Multi-national enterprise
NAV	Net asset book value
NSFR	Net stable funding ratio
OECD Guidelines	"BEPS Actions 8 – 10, Financial Transactions", a draft published in July – September 2018 for the purposes of public discussion
PPA	Power purchase agreement
REIT	Real estate investment trust
RWA	Risk-weighted assets
TPBM	EY proprietary transfer pricing benchmarking tool for searches of comparable companies
VaR	Value-at-Risk
WC	Working capital

Section 1   Introduction

Debt capacity analysis (**DCA**) is an integral part of an intercompany loan transfer pricing analysis. With the release of new OECD guidelines [==date==], DCA is included as part of a standard scope of loan analysis and in some cases is performed retroactively for the intercompany loans issued prior to the release of new OECD guidelines.

With the inclusion of the DCA component into the loan analysis, the analysis effectively addresses the following two questions:

1. What is the capital structure that would be selected in an arm's length arrangement in the case when a financing structure is put in place (for the purpose of acquiring a new company, investment in a new project, restructuring, etc.). Effectively, the DCA analysis answers the question which part of the total financing will be issued through debt and which will be issued as equity;

2. What is the arm's length cost of debt financing issued as part of total financing provided to the subsidiary.

Note that cost of equity is outside of transfer pricing analysis since the dividend payments (unlike interest expense) are not subject to corporate income tax deductions.

1.1   DCA and transfer pricing regulations

The draft of the new OECD Guidelines for the financial transactions includes a specific section on the "accurate delineation of the actual transaction". The section provides the guidelines, which should be followed when performing the DCA analysis. The purpose of the analysis is to estimate the debt and equity amounts in the financing structure, which are supportable from the transfer pricing perspective.

There is also an extensive academic literature on how the firms choose their financing structure.

To summarize:

► DCA assessment is often required to be performed as a part of financing transaction pricing analysis. The DCA assessment must be performed consistently with the OECD guidelines.

► There is no single mainstream theory on how the firms select the optimal capital structure. There are also economic arguments, which state that under certain conditions the firms are indifferent with respect to any specific capital structure.

► In practice it is difficult to produce a robust procedure, which would be based on the academic literature and which would specify the factors and the thresholds used in different industries to identify the borrowing limits of the companies. The actual observed borrowed amounts may not be representative of the borrowing thresholds.[1]

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[1] Note that it is not clear whether the purpose of the DCA analysis is (i) to estimate the **maximum** supportable debt amount (which would be consistent with the debt capacity terminology), or (ii) to estimate **average** debt leverage observed in the industry in which the tested borrowing entity operates.

Exhibit 1.1   DCA framework diagram
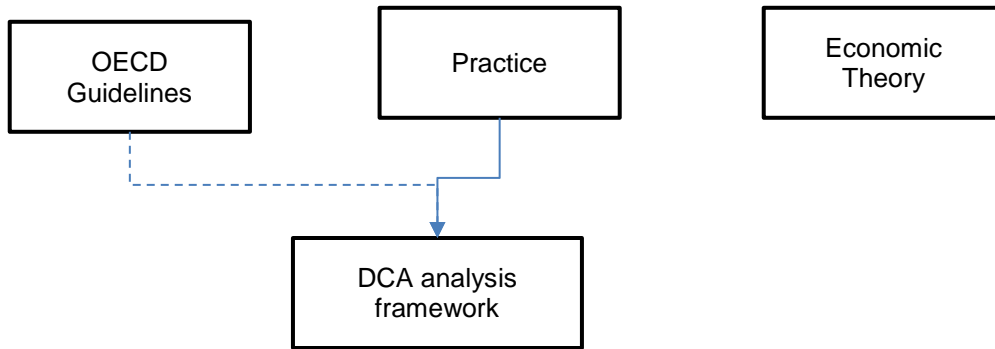
► OECD provides only general guidelines for DCA analysis;

► The actual DCA framework will be effectively based on the practice but needs to be overall consistent with the OECD guidelines;

► Economic theory is generally not helpful to provide a support for the DCA framework but explains the challenges to produce a robust framework.

1.2   Illustrative examples

The DCA analysis (as part of transfer pricing loan analysis) can be illustrated by the following examples.

Example A. Suppose that the parent group (**Parent**) acquires a new company and forms a new holding entity (**Borrower**) which is capitalized for the purpose of target company (**Target**) acquisition. Suppose that the acquisition price of the Target is $100 million; projected average annual EBITDA is $10 million (under scenario A) and $15 million (under scenario B); and the interest rate applicable to the debt issued by the Target (and respectively the Borrower) was estimated at 5% (based on interest rate benchmarking (**IRB**) analysis performed as part of the DCA analysis).

Suppose that two acquisition structures are considered: (i) $60 million of debt and $40 million of equity; and (ii) $80 million of debt and $20 million of equity. Traditional debt capacity is assessed based on the following set of ratios:

1. Interest coverage ratios: EBIT / Interest and EBITDA / Interest

2. Debt coverage ratio: Debt / EBITDA

3. Financial leverage ratio: Debt / Equity

The ratios under two scenarios are presented in the exhibit below.

Ratio	Scenario A.1: debt / equity = 60/40	Scenario A.2: debt / equity = 80/20		
EBITDA / Interest	10:3	10:4		
Debt / EBITDA	6:1	8:1		

Ratio	Scenario A.1: debt / equity = 60/40	Scenario A.2: debt / equity = 80/20		
Debt / Equity	3:2	4:1		

To support a specific capital structure, the estimated ratios should be consistent with the leverage ratios observed in the industry sector of the Borrower (Target). In practice, scenario 2 can be supported by market ratios only in industry sectors with high leverage (which can be observed in financial industry sectors). Scenario is more realistic relative to the leverage levels observed in the markets but even this scenario may not be easy to support in each specific case.

Example B. Consider the previous example but assume that Parent is a real estate company which buys a new residential building for the price of $100 million and expects EBITDA to be $7 million. The interest rate is still assumed to be at 5%.

Ratio	Scenario 1: $60mln debt and $40mln equity	Scenario 2: $70mln debt and $30mln equity	Scenario 3: $80mln debt and $20mln equity
EBITDA / Interest			
Debt / EBITDA			
Debt / Equity			
DSCR			
Debt / Assets			
LTV			

Section 2   Economic Theories of Capital Structure

An overview of traditional capital structure theories studies in the model is described below.

2.1   Modigliani-Miller capital structure neutrality theorem

2.2   Trade-off theory

2.3   Signalling theory and asymmetric information

A firm with higher earnings will borrow higher debt quantum to increase its tax deductions (low bankruptcy distress cost and high tax shield gain). A "rational firms raise debt levels (and the concomitant interest payments) when profits are expected to increase" ([1]). Investors view increase in debt as a signal of expected higher earnings. The price of equity is increased in the expectation of the company decision to repurchase its stock.

In the model with asymmetric information, the firm managers may try to fool investors by raising debt above the optimal levels. However, as the market learns that the increase in debt is not supported by higher earnings, the price fall below the optimal market price since the debt / equity ratio has deviated from its optimal level.

The signalling theory can be tested by reviewing the impact of exchange offer on the company value. The exchange offers are the transactions in which companies either (i) exchange stock to debt (by increasing leverage); and (ii) exchange debt to stock (by decreasing leverage). The impact of the exchange offer on the company stock return is shown in the exhibit below ([1]).

Exchange offers change the debt–equity ratios of firms. The graph shows that stock prices increase for firms whose exchange offers increase leverage. Conversely, stock prices decrease for firms whose offers decrease leverage.
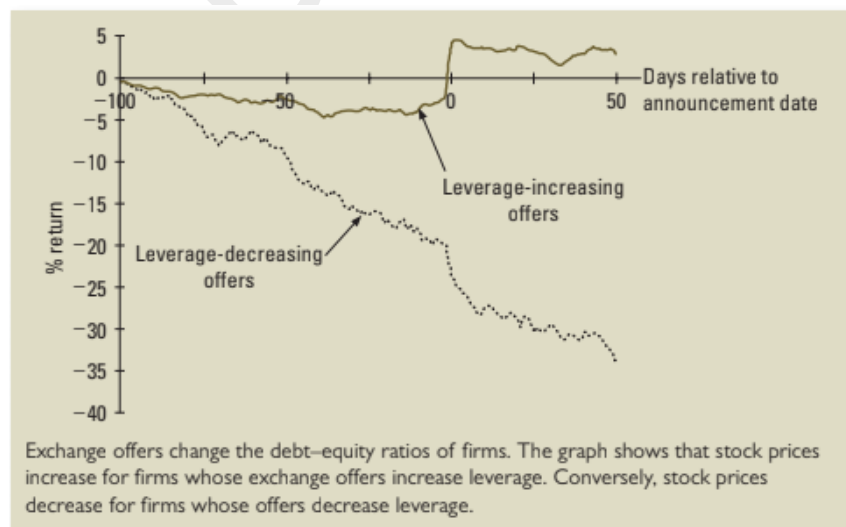
SOURCE: Kshitij Shah, "The Nature of Information Conveyed by Pure Capital Structure Changes," *Journal of Financial Economics* 36 (August 1994).

The exhibit above is consistent with the hypothesis that increase in leverage is correlated positively with the increase in the return on the company stock price.

2.4 Free cash flow hypothesis and agency costs of equity

Agency cost of equity refers to the economic evidence that incentives of managers and firm shareholders are generally not aligned, and managers have incentives for the behavior which is wasteful from the firm prospective. Specifically, managers have incentive to be engaged in wasteful spending or take projects with negative NPVs as it increases the firm size and as a result increases the managers' salary. The economic observation is supported by empirical evidence that firms with large free cash flows are more likely to make inefficient acquisitions. The incentive for the firms with large free cash flows to exhibit wasteful behavior by the firm's managers is known as the '*free cash flow hypothesis*' ([1]).

From the capital structure perspective, increase in debt is viewed as reducing agency costs and therefore increasing the firm value. Increase in debt results in an increase in the principal balance and interest expense outflow and as a result a lower free cash flow available to managers for wasteful corporate spending. Similarly, increase in dividends also reduces the free cash flow and therefore reduces potentially the agency costs. However, since dividend payments are not mandatory, higher leverage is expected to have a strong impact on the agency cost reduction.

2.5 Pecking order theory

2.6 Market timing theory

2.7 Credit rating – capital structure hypothesis

From the transfer pricing guidelines, a firm selects a specific debt/equity financing mix based on the following considerations:

(i) A firm is targeting a specific debt-equity ratio.

(ii) A firm is targeting a specific credit rating.

Based on the TP guidelines, "In some instances, although an entity may have the capacity to borrow and service an additional amount of debt, it may choose not to do so to avoid placing negative pressure on its credit rating and increasing its cost of capital, and jeopardising its access to capital markets and its market reputation" ([3]).

Section 3   Critique of Traditional DCA Methodology

The section describes the traditional approach to perform the DCA analysis and discusses three problems with the traditional approach:

► **Theoretical foundations**. There is no robust theoretical economic support for the DCA methodologies;

► **Comparability**. Multiple factor can impact the capital structure of a company. In addition to the industry sector, other factors must be considered such as business purpose of the debt (e.g. acquisition or general corporate purposes), credit profile of the borrowing entity, or other. As a result, good comparables are typically never available for the tested entity and the search strategy must be limited to specific factors;

► **Data availability**. Transfer pricing documentation must be based on publicly available and verifiable data. Capital structures observed in private deals will rarely be identified through searches on Bloomberg and other databases. Therefore, the results of the analysis may significantly differ from client's expectations. For example, if the client views the tested transaction as a high-risk mezzanine debt and the debt in the sample of comparable companies is represented by secured loans from the banks with restrictive borrowing covenants, then the client can argue that the sample is not comparable to the tested entity and respective financing structure that is put in place. However, data on mezzanine financing on Bloomberg is very limited and it may not be feasible to design a search strategy that will produce a robust support for mezzanine financing structures.

► **Estimation of debt capacity metrics**. One of the key metrics in DCA analysis is EBITDA, which is used in both interest coverage (EBITDA / Interest) and debt coverage (Debt / EBITDA) ratios. However, EBITDA does not fall under generally accepted accounting principles (GAAP) as a measure of financial performance. As a result, its measurement can vary across companies and in most cases it is not reported in the 10k financial statements. Loans' financial covenants typically include their own definition for EBITDA calculations (and EBITDA is typically referred to as Consolidated EBITDA). The definition includes a detailed list of items which describe the adjustments performed to estimate the Consolidated EBITDA metrics. Public databases such as Bloomberg report alternative EBITDA measures such as GAAP EBITDA and adjusted EBITDA. The difference between the two alternative metrics can be very material, which will result in completely different conclusions of the DCA analysis.

► **Capacity measurement**. By definition, borrowing capacity is the maximum amount of debt that the borrower can raise to finance a transaction. The actual debt level of a company will rarely represent the borrowing capacity. In most cases the actual debt level will be below the capacity (since companies rarely have the needs to borrow up to the maximum capacity). In some cases, the actual debt may exceed the capacity (when the company is in a technical default on its debt based on the debt financial covenants). As a result, the DCA analysis does not assess the borrowing capacity of the tested entity.

► **Financial statements for DCA assessment**. Often it is not clear which financials statements should be used in the DCA analysis. Consider for example two different transactions. In transaction A, an investor acquires 90% share in a blocker entity which owns a renewable energy project underneath it (we refer to the transaction as investment transaction). In transaction, a company acquires a new target as a joint venture in which it owns 90% of the target (we refer to the transaction as acquisition transaction). In the case of the investment transaction, current practice is to pro rate at 90% the debt capacity metrics (such as EBITDA, debt, etc.) of the renewable energy project and consolidated the pro-rated metrics with the investing company (tested borrowing entity) to estimate the DCA ratios. In the case of the acquisition transaction, current practice is to consolidate the target financial statements with the borrowing entity at 100% and estimate the DCA

metrics on consolidated basis (the target will be viewed as investment only if the borrower's share in the target is below 50%). The difference in the estimation of consolidated financial statements may have a material impact on the results of DCA analysis.

The first two problems are conceptual in nature. As a result, the DCA analysis is based primarily on the existing practice and involves a substantial element of subjective judgement. These notes are focused primarily on a more accurate definition of the borrowing capacity concept and on modifications of the existing traditional approach so that the identified capital structures represent better the borrowing capacity of the entity.

3.1 Description of the traditional DCA approach

Traditional DCA analysis can be summarized as follows:

► Review the functions performed by the tested entity and identify the industry sector that matches closely the operations of the entity. For example, for different projects and entities the identified sector can be Commercial REITs, Healthcare Facilities, Agricultural Producers> Fruits and Tree Nuts, etc.

► Search for the (leveraged) companies operating in the same industry sector in Global Fusion database. The search criteria typically include the (i) identified industry sector code, (ii) region, (iii) availability of financial statements, (iv) financial metrics such as non-zero debt, total assets, etc., (v) key words which match the operations of the tested entity, and other.

► Review the descriptions of the companies identified in the GF search. Remove the companies with significantly different business description.

► Apply additional screening criteria based on the financial metrics and qualitative factors of the companies retained in the sample.

► Select debt capacity ratios for the purpose of the DCA analysis and estimate them for the companies in the final sample. Traditional DCA ratios include the following interest coverage, debt coverage, and financial leverage ratios:

► EBIT / Interest Expense;

► EBITDA / interest Expense;

► Debt / EBITDA;

► Debt / Equity

► Construct DCA ratio ranges based on the constructed sample of comparable companies.[2]

3.2 Critique of the methodology

In this section we discuss and provide examples to illustrate that the above DCA methodology (i) does not generally measure the borrowing capacity of the tested entity; (ii) generally fails to identify good

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[2] The ratio range estimation includes the review of different technical aspects such as (i) whether to use simple or weighted average to estimate average ratios for each entity in the sample; (ii) how to align the financial data of each entity in the case when some metrics (such as for example EBIT) are available for all periods and other metrics (such as for example interest expense) are either unavailable or are equal to zero in certain periods; (iii) which quartile calculation methods to apply (note that in small samples applying different quartile calculation methods may result in materially different interquartile range estimates); and other.

comparables; and (iii) even in the case when perfect comparables are identified, the conclusions of the analysis cannot be supported by the economic theory.

3.2.1 Failure to produce a capacity measurement

A more detailed discussion of what is borrowing capacity and how to assess it is provided in the following sections. The key point is that the borrowing capacity is generally not observable directly. The borrowing capacity of the entity can only be inferred when the entity needs financing for a specific business purpose and undergoes an assessment from a bank or other third-party when the decision on the financing is made. But even in this case the actual observed financing structure that is put in place depends on both the borrowing capacity of the entity and other considerations such as the assessment by the entity of the optimal financing structure. Therefore, the actual financing structure may in some cases represent the borrowing capacity of the entity and in other cases represent the financing structure that is not constraint by the borrowing capacity and was selected for other business reasons.

Under the traditional DCA approach, there is no guarantee that the entities included in the final sample have undergone a debt capacity assessment by a third-party. To illustrate the point we provide several examples below from the recent projects that involved the DCA analysis.

Example A.

Example B.

3.2.2 Non-availability of good comparables

3.2.3 Lack of economic support

3.3 What is borrowing capacity and how to estimate it

Section 4   Review DCA Methodologies

The section summarizes alternative approaches to the DCA analysis.

4.1   Description of the DCA process

4.2   Information requirements

► Ask client for the list of comparable companies (to identify a narrow sample of closely comparable companies);

► Search for negative financial covenants used in the industry sector

4.3   Estimation of the DCA ratios for the borrower

4.4   Estimation of market DCA ratios

4.4.1   Alternative market DCA approaches

List of potential approaches to DCA analysis is summarized below.

► **A1. Traditional**. Industry-specific search based on traditional DCA ratios. Traditional DCA ratios include interest coverage ratios: EBIT/Interest and EBITDA/Interest; debt coverage ratio: Debt/EBITDA; and financial leverage ratio: Debt/Equity. Note that interest and debt coverage ratios are used in financial covenants for a broad range of industries. This is currently the default approach to the DCA analysis.

► **A2. Financial covenants**. Industry-specific search based on the DCA ratios used in industry-specific financial covenants. Under the approach, both the actual DCA ratios and the financial covenants are applied to estimate the maximum borrowing capacity of the tested entity.

► **A3. Ranking structure**. Search based on tested transaction ranking structure. The industry-specific search may produce the result in which the subordinated unsecured financing structure of the tested entity is compared against senior secured financing structure of the comparable companies. The maximum borrowing limit is effectively constrained in this case by the financial covenants applied to senior secured financing. In this case, it may be reasonable to expand the search criteria so that the companies with unsecured financing were also included in the sample.

► **A4. Business purpose**. Search based on the business purpose of the tested transaction. The financing structure, which is put in place for acquisition purposes may be significantly different from the financing structure, which is put in place for the working capital purposes.

► **A5. Cash flows**. DCA based on the cash flow analysis. The purpose of the analysis is to validate that the borrowing entity generates sufficient earnings to pay the interest and repay the debt when due. The analysis is performed by constructing the projected financial statements of the borrowing

entity for the period including the debt issue and the debt maturity dates. The analysis is sometimes performed as complimentary to traditional DCA analysis.

► **A6. Credit rating**. DCA based on the credit rating target. The borrowing entity may argue that the borrowed debt amount is estimated based on the borrower's credit rating assessment. For example, the borrower may select the debt amount so that the halo adjusted credit rating remains at investment grade. Note that this approach is consistent with both the academic literature and OECD guidelines.[3] Under the approach, the DCA analysis is performed as an integral part of the CRA analysis and it does not require to perform searches of comparable companies. Currently we have not observed that the approach has been used in practice.

4.4.2 Comparability criteria

The list of comparability criteria, which shall be reviewed in the DCA analysis is summarized below. The key criteria are presented in the diagram below.

Exhibit 4.1   Major categories of comparability criteria

A more detailed list of comparability criteria is provided below.

► Industry sector. Search for the companies operating in the same industry sector. The preliminary list can either be requested from the client or obtained from the reports, which document general transfer pricing analysis of the tested entity. The industry sector is specified using NAICS or SIC code in Global Fusion database or Bloomberg industry specification when using Bloomberg database.

► Transaction ranking structure. Under very strict industry-specific criteria, the companies in the identified sample may have the debt ranking structure (e.g. all companies have senior secured debt only), which is not comparable to the debt ranking structure of the tested entity (subordinated, unsecured, and non-guaranteed loan). In this case, a less restrictive criteria can be applied for the industry sector to identify companies with both secured and unsecured debt transactions.

► Transaction business purpose. The business purpose of the tested transaction shall match the business purpose of the debt issued by comparable companies. Debt transaction issued for acquisition purposes is generally not comparable to the debt transactions issued for the refinancing or working capital purposes.

► Transaction credit rating.

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[3] "In this regard, the MNE group's policies may inform the accurate delineation of the actual transaction through the consideration of, for instance, how the group prioritises the funding needs among different projects; the strategic significance of a particular MNE within the MNE group; whether the MNE group is targeting a specific credit rating or debt/equity ratio".

► Valuation date. The sample of comparable companies shall include the companies, which have recently issued new debt transactions. The criterion ensures that the debt capacity of the comparable companies was also under review within a reasonably short period prior to the valuation date. The review of the debt capacity of the companies in the sample ensures that the debt amount is within the financial covenants or other debt capacity criteria applied by third-party investors.

4.4.3 Market DCA based on industry-specific search

The DCA analysis based on the industry-specific searches is summarized as follows:

► Search for a sample of companies operating in the same industrial sector;

► Review the debt structures of the companies in the final sample (secured loans, unsecured loans, unsecured bonds/notes, mezzanine debt);

► Review the financial covenants included in the loans' agreements. Specifically, review the ratios used in the financial covenants and consistency of the thresholds used in the financial covenants;

► Review consistency of sample ratios against the financial covenant thresholds. Apply the thresholds as the lower limit for the maximum supportable debt amount.

Rational for the approach

► Robustness of the results. The financial covenant thresholds are typically much more consistent across different loan agreements than the actual borrowed amounts. The thresholds can be viewed as the industry-specific thin-cap rules applied by the banks. Therefore, the results of the DCA analysis are much more robust and consistent and do not depend on the idiosyncrasies of specific debt structures in the samples of identified comparable companies.

► Consistency with client's expectations. Generally, the client has certain expectations about the financial covenants and respectively about the maximum borrowing limits. If the results based on the traditional ratios are inconsistent with the client's expectations, the client may be negatively surprised that the estimated borrowing limits based on transfer pricing assessment are below the borrowing limits that are expected from the financing received from banks.

► Larger borrowing capacity. If companies in the sample are restricted by the financial covenants, the observed borrowed amounts will be below the actual borrowing limits. Therefore, using the potential limits instead of the actual borrowed amounts results in higher borrowing limits for the tested entity.

4.4.4 Market DCA based on transaction ranking structure

Borrowing pecking order:

Exhibit 4.2   Cost of borrowed funds diagram
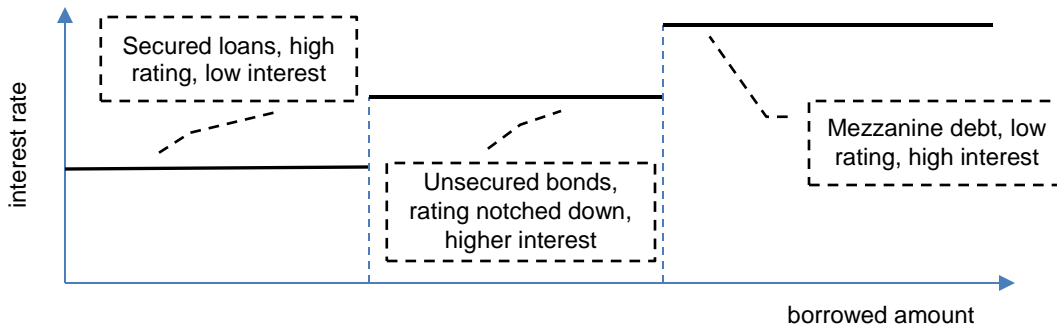
The DCA analysis based on the transaction ranking structure searches is summarized as follows:

► Search for a sample of companies operating in the same industrial sector as the tested entity (as defined by Bloomberg), which issued loans or bonds/notes transactions within a short period (1-3 years) prior to the valuation date of the DCA analysis;

► Group the sample of identified companies into the following subsets: companies which issued (i) secured loans; (ii) unsecured loans; (iii) unsecured bonds/notes; and (iv) mezzanine loans.

► Review financial covenants for the secured/unsecured loans;

► Review how the debt capacity ratios depend on the debt structure.

4.4.5   Market DCA based on transaction business purpose

There are four standard broad types of tax structures, within which financial transactions are analyzed.

► Acquisition;

► Refinancing;

► Leveraged Distribution;

► Loss Utilization.

Each structure is described in more detail in the Appendix.

Section 5   DCA Search Strategies

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5.1   Industry-Specific search strategy

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5.1.1   Market DCA analysis based on historical data

5.1.1.1 Description of the approach

5.1.1.2 Strength and weakness of the approach

1. Strength
   - ► Using historical data is a standard approach to the market DCA analysis.
   - ► The approach is relatively easy to automate (assuming that financial data with DCA metrics is readily available through databases) and, therefore, it can be efficiently implemented.
2. Weakness
   - ►

5.1.2   Market DCA analysis based on projected data

The approach was designed to address the weakness of using historical data in the DCA analysis. The weakness shows itself very strongly in certain industries such as for example cannabis industry, which is at the growth stage and historical data shows consistent negative historical earnings for most of the companies. For the industries or companies that are at their early development stage, the valuation (including debt capacity assessment) should be performed primarily based on the growth projections and respective projections in the DCA metrics.

5.1.2.1 Description of the approach

The key element of the approach is to obtain 3rd party projections of the industry growth including the growth projections for the individual companies. Such projections are available for example through the D&B Hoovers database which allows searching analyst reports prepared by banks and other financial institutions for different industries and companies. The search is available through the D&B Hoovers 'Analyze Markets' menu field.

The search tool allows to specify the following search parameters: 'Report Type' (we searched the files using 'analyst report' option); 'Date Range'; 'Company Name'; and 'Search Term'. In the 'Search Term'

menu the industry or company name is specified. Alternatively, analyst report can be searched via the 'Company Name' field.

Company valuation analysis (including estimation of company financial projections) is typically reported in 'equity research' studies prepared by banks' financial groups. The valuation reports with financial projections are most often available from CIBC Capital Markets, Canaccord Genuity and Craig-Hallum Capital Group LLC financial institutions. Projections normally provide estimates for 2 years but in some reports may be extended to 5 years. Standard valuation metrics reported in the valuation studies include EV/EBITDA, P/CF, and P/NAV, where

$$\text{Enterprise Value (EV) = Debt + Equity (market value) - Cash}$$

is the company enterprise value,

$$CF = CFO - \Delta WC$$

is the cash flow from operations prior to changes in working capital, P is the company market price, and

$$NAV = \text{total assets} - \text{total liabilities}$$

is the company net asset book value (or equivalently company equity book value). The EV/EBITDA is the most typical valuation metrics, which can be interpreted as the theoretical takeover price is a company were to be bought.[4] The valuation metrics omits certain important factors, such as for example capex or changes in working capital.[5] Under certain assumptions on the projected capital structure, the EV/EBITDA ratio van be used to estimate the debt/EBITDA and debt/equity ratios. Approach implementation can be summarized as follows.

1. Identify a list of comparables for the tested company.
2. Search for the analyst reports for the sample of identified comparable companies. Certain reports may include valuation metrics not only for the assessed company but also for other peers in the industry.
3. Summarize projections for the identified sample of companies.
4. Obtain historical data for the companies, including the most recent financial information provided in the company interim financial statements.
5. Construct historical and projected DCA ratios for the sample of identified companies.

The application of the approach is illustrated in the Appendix **Error! Reference source not found.**.

5.1.2.2 Strength and weakness of the approach

The strength and weakness of the approach can be summarized as follows.

1. Strength

   ► .

2. Weakness

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[4] https://www.investopedia.com/terms/e/enterprisevalue.asp

[5] Free cash flow is often applied as alternative metrics as a company earnings estimate.

► .

5.2 Search strategy based on the debt ranking / business purpose

5.3 Search for leveraged distribution structures

5.4 Acquisition financing search strategy

5.5 Financial covenant search

Section 6   Cash Flow Analysis

The objective of the cash flow analysis is to assess whether the cash flows generated by the borrowing entity are sufficient to repay borrower's debt obligations as they become due. The cash flow analysis takes into consideration not only the average leverage of the borrower, but also the **timing** of the borrower's cash flows and debt maturity terms.[6] Cash flow analysis is a standard part of the debt capacity assessment for the US borrowers.[7]

For loan transactions, which are issued as part of new acquisitions, cash flow analysis is similar to the target valuation analysis (assuming that the borrower is a new holding entity formed as part of the target acquisition). Therefore, the cash flow analysis is effectively a validation of the valuation analysis even in the case if 100% of the target price is financed via debt (assuming that the target internal rate of return (**IRR**) estimated in the valuation analysis exceeds the interest rate on the loan). The failure of the cash flow analysis to support the borrower's capacity in acquisition financing transactions may be due to two reasons: (i) cash flow analysis is inconsistent with the valuation analysis (in this case the cash flow model should be further reviewed); or (ii) the term of the tested loan issued to finance the acquisition is to short to be repaid when due. (Note that IRR is estimated assuming infinite horizon). The term of the loan should be extended in this case to be consistent with the loan business purpose and the cash flows generated by the borrower.

For some acquisitions made for the investment purposes, the IRR is estimated based on the investment exit assumption that the target is sold at market or enterprise value after certain period of time. Applying EV in the debt capacity analysis may be questionable from the transfer pricing perspective (see comment on applying equity market value in Appendix B.1.1). It may be necessary to review the exit strategy assumption in the cash flow analysis. Similarly, valuation models related to financing new investments often assume that a leveraged distribution is made to investors after a certain period of time. Leveraged distributions can be viewed as partial exit strategies and should also be reviewed and potentially modified in both debt capacity cash flow and ratio analysis.

In other financing structures, such as for example loan refinancing or loss utilization[8] (see "Financing Structures: guide for a more detailed discussion), cash flow analysis has more substance than being simply a validation of the valuation model. Cash flow analysis performed for loan refinancing transactions effectively assesses whether the borrower still has capacity to service its debt obligations or its capital structure should be revised to reduce or potentially increase the leverage.

6.1   Modelling assumptions

Under the cash flow modelling approach, the operating, investing, and financing cash flows of the borrowing entity are estimated for the purpose of assessing whether the cash balances of the borrower are positive

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[6] If the borrower is highly leveraged but most of the debt is long-term, cash flow analysis may provide a stronger support for the borrower's capacity to serve its debt obligations.

[7] For the US borrowers it is normally recommended to include both the cash flow and ratio analysis as part of the debt capacity assessment.

[8] Loss utilization transactions are performed for Canada-to-Canada loans and typically do not include cash flow as part of the debt capacity assessment. The capacity assessment is performed based on ratio analysis only and capacity is assessed based on full ranges. In practice, given significant debt quantum applied in loss utilization transactions, cash flow analysis is unlikely to support the borrowing entity debt capacity.

in each period (or additional financing is required to sustain current structure). The modelling horizon is normally selected to match the maturity term of the tested transaction.

The financial projections are typically provided by client. However, in many cases client has 'growth scenario' projections, in which the cash flows, including operating and financing cash flows, are used to finance the growth investment required to attract new customers and increase business capacity. Since the purpose of the cash flow analysis is to assess whether the borrower has sufficient capacity to repay existing debt (instead of refinancing it), the projections provided by client cannot be applied directly and need to be modified to perform the cash flow analysis. The following modelling assumptions are usually applied to the client's 'growth scenario' projections to perform the cash flow analysis.

1. The earnings (measured by EBITDA) are assumed to be flat over the projected period.

2. The Capex expenditures is limited to the 'maintenance capex' required to run smoothly current operations. As a default option, 'maintenance' capex can be set equal to the projected D&A expense.

3. The financing cash flows are modelled based on the maturity dates of the outstanding debt. Certain debt transactions, such as for example revolving loan facilities, may be assumed to be refinanced. However, the intercompany loans and current portion of long-term debt is generally assumed to be repaid at maturity.

4. Based on specific facts of each individual analysis, other assumptions may be considered such as for example assumptions on the changes in working capital, certain non-operating costs, changes in certain assets or liabilities (other than debt), etc.

The cash flow modelling assumptions should be reviewed for consistency with the clients projections (wherever possible).

6.2   Modelling output

The output from the cash flow modelling analysis can be presented in both short and detailed forms. In the short form, only aggregate numbers (summed over the modelling horizon) are presented for the key accounts, such as net income, interest expense, new debt issuance, debt repayment, and other. An example of a short summary, illustrated below, shows the cash inflow and cash outflow to assess the borrower's capacity to service its debt-repayment related cash outflows.

Exhibit 6.1   Summary of the cash flow model analysis

Metric	Value (US$'000)
Initial cash balance	20,000
Cash inflow	
➢ Net income	100,000
➢ New 3rd-party debt issuance	50,000
Cash outflow	
➢ Repayment of 3rd-party debt	-80,000
➢ Repayment of intercompany debt	-80,000

Metric	Value (US$'000)
Final cash balance	10,000

The detailed summary of the cash flow analysis includes a fully-estimated cash flow model. Example of the full cash flow model output is illustrated in the exhibits below.

Exhibit 6.2   Detailed output of the cash flow model analysis

Metric	2021	2022	2023	2024	2025
Cash balances, beginning of year	20,000	40,000	60,000	60,000	70,000
Cash balances, end of year	40,000	60,000	60,000	70,000	10,000
Operating cash flows					
➤ Net income	20,000	20,000	20,000	20,000	20,000
➤ D&A	10,000	10,000	10,000	10,000	10,000
Investment cash flows					
➤ Maintenance capex	-10,000	-10,000	-10,000	-10,000	-10,000
➤ Growth capex	0	0	0	0	0
➤ Dividends	0	0	0	0	0
Financing cash flows					
➤ Issuance of new 3rd-party debt	50,000				
➤ Repayment of 3rd-party debt current portion	-30,000		-20,000	-10,000	
➤ Change in the outstanding balances of 3rd-party revolving facilities	-20,000				
➤ Repayment of intercompany loans					-80,000
Change in cash balances	20,000	20,000	0	10,000	-60,000

In the example, the borrower has sufficient capacity to fully repay the US$80mln of intercompany loans in a 5-year period. Note that the cash flow analysis depends significantly on the **timing** of debt repayment. If the overall leverage of the borrower is high (e.g. Debt / EBITDA > 8) but most of the 3rd-party debt is long-term (has over 10 year maturity term), then the generated net income is still sufficient to fully repay the intercompany loans which mature in 5-year period. The debt coverage ratios, which can be supported in the cash flow analysis, are related closely to the debt maturity terms.

Section 7   A Theoretical Model of Capital Structure

In this section, we present a model in which the debt capacity ratios are derived from a list of factors, which characterize typical debt financing structures and credit risk. The expected ranges of ratios are illustrated for specific industries in **Error! Reference source not found.** and tested against the actual ranges observed in the industries.

7.1   Overview

The model considers the following key factors, which determine the average debt capacity ratios in an industry sector: (i) debt maturity term, (ii) interest rate on the debt transactions, and (iii) fixed charge ratio. The debt structure and the importance of the factors is interpreted as follows:

(i)   A company would target a capital structure with the lowest cost. Debt financing has an advantage of providing additional tax shield (tax deductions) to a company. Within a debt financing structure, a company would first issue the lower cost secured financing, and then, when the secured financing is not feasible, unsecured financing.

(ii)   The term of the raised debt depends on both the business purpose and security provisions. For example, property-level loans in REITs industry will typically be long-term (20-30 years) since the value of the underlying properties, which is used as debt security, is unlikely to drop significantly over the debt term and properties can be sold in the market in the event of the borrower's default.

(iii)   Cost of debt is a factor, which reflects the creditworthiness of the borrower. The higher is the borrower's credit profile, the more likely it will get longer-term financing at lower cost.

(iv)   Fixed charge ratio, which effectively measures the stability of the cash flows. Fixed charge ratio measures whether the earnings generated by the borrower are sufficient to interest expense and amortized debt balances. Assuming that debt is amortized to zero over the debt term, fixed charge ratio exceeding one essentially implies that the borrower has sufficient capacity to pay interest and repay debt as it becomes due. Therefore, including fixed charge ratio as part of debt capacity ratio analysis is similar to performing cash flow analysis.

The industry characteristics, which are measured by the selected factors, are (i) availability of marketable assets that can be used as security, (ii) credit risk related to providing debt financing to the industry, and (iii) cash flow stability. The above characteristics are qualitative and cannot be measured directly. Assessment of the debt financing structure characteristics is the approach applied in this section to differentiate between different industries and respectively between expected debt capacity ratio ranges.

7.2   Model

The following notation is applied in the model.

1. Debt principal balance: P
2. Debt maturity term: T
3. Debt fixed interest rate: i
4. Debt amortization in period t: A_t
5. Fixed charge: F

The model assumes that the debt principal amount P is amortized until its maturity T so that a fixed charge F is paid in each period. The fixed charge is estimated based on the following system of equations:

(7.1)
$$\begin{cases} F &=& i \times P_{t-1} + A_t \\ P_t &=& P_{t-1} - A_t \\ P_T &=& 0 \end{cases}$$

The fixed charge F is derived from the above system and is described using the following equation[9]

(7.2)
$$F = i \times P \times \frac{(1+i)^T}{(1+i)^T - 1}$$

Based on the fixed charge equation (7.2), the fixed charge ratio is described as follows:

(7.3)
$$\frac{EBIT}{F} = \frac{EBIT}{i \times P \times \frac{(1+i)^T}{(1+i)^T - 1}} = \alpha_F$$

The interest and debt coverage are estimated based on the above equation as follows:

Interest coverage

(7.4)
$$\frac{EBIT}{Interest} = \frac{EBIT}{i \times P} = \alpha_F \times \frac{(1+i)^T}{(1+i)^T - 1}$$

Debt coverage

(7.5)
$$\frac{Debt}{EBIT} = \frac{P}{EBIT} = \frac{(1+i)^T - 1}{(1+i)^T} \times \frac{1}{i \times \alpha_F}$$

Note that financial leverage (Debt / Equity) ratio is not derived from the above factors, which describe debt structure, as it also depends on equity (which is not part of the debt structure).

7.3   Comparative statics

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[9] The fixed charge formula for F is derived as follows: amortization A_t is calculated as $A_t = F - i \times P_{t-1}$ and substituted into the iterative equation for P_t as $P_t = P_{t-1} - A_t = P_{t-1} \times (1+i) - F$ with the boundary condition $P_T = 0$. The equation can be equivalently represented as follows: $P_T = P_{T-2} \times (1+i)^2 - F \times \big(1 + (1+i)\big) = \cdots = P_0 \times (1+i)^T - F \times (1 + (1+i) + \cdots + (1+i)^{T-1}) = 0$. The fixed charge F is estimated from the equation as $F = P_0 \times \frac{(1+i)^T}{1+(1+i)+\cdots+(1+i)^{T-1}} = i \times P_0 \times \frac{(1+i)^T}{(1+i)^T - 1}$.

Appendix A OECD Guidelines

The section provides review of the OECD guidelines on debt capacity assessment.

A.1   Excerpts from the OECD Guidelines

Capital structure is discussed in Section B.1 of the OECD first discussion draft release on transfer pricing aspects of financial transactions.[10] Based on the new guidelines, capital structure is part of the transfer pricing assessment of a financial transaction within the MNE[11] group.[12]

"Commentary to Article 9 of the OECD MTC notes[13] at paragraph 3(b) that Article 9 is relevant "*not only in determining whether the rate of interest provided for in a loan contract is an arm's length rate, but also whether a prima facie loan can be regarded as a loan or should be regarded as some other kind of payment, in particular a contribution to equity capital*."

Consideration of multiple factors: "Although this guidance reflects an approach of accurate delineation of the actual transaction in accordance with Chapter I of these Guidelines to determine the amount of debt to be priced, it is acknowledged that other approaches may be taken to address the issue of the capital structure under domestic legislation before pricing the interest on the debt so determined. These approaches may include a multi-factor analysis of the characteristics of the instrument".

Purpose is to provide guidelines but is not mandatory: "Accordingly, this guidance is not intended to prevent countries from implementing approaches to address capital structure and interest deductibility under domestic legislation, *nor does it seek to mandate accurate delineation* under Chapter I as the only approach for determining whether purported debt should be respected as debt".

DCA analysis precedes IRB analysis: "Particular labels or descriptions assigned to financial transactions do not constrain the transfer pricing analysis. Each situation must be examined on its own merits, and subject to the prefatory language in paragraph 10, accurate delineation of the actual transaction under Chapter I will precede any pricing attempt".

Industry-specific search: "As with any controlled transaction, the accurate delineation of financial transactions requires an analysis of the factors affecting the performance of businesses in the industry sector in which the MNE group operates. Because differences exist among industry sectors, factors such as the particular point of an industry in its life cycle, the effect of government regulations, or the availability of financial resources in a given industry are relevant features that have to be considered to accurately delineate the controlled transaction. This examination will take account of the fact that MNE groups operating in different sectors may require, for example, different amounts and types of financing due to different capital intensity levels between industries, or may require different level of short-term cash balance due to different commercial needs between industries".

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[10] Base Erosion and Profit Shifting (BEPS), Public Discussion Draft, BEPS Actions 8-10, Financial Transactions, 3 July – 7 September 2018.

[11] Multi-national enterprise.

[12] Assessment of the capital structure is referred to as "accurate delineation of the actual transaction".

[13] As discussed in the Committee on Fiscal Affairs' Report on "Thin Capitalisation" adopted by the Council of the OECD on 26 November 1986 and reproduced in Volume II of the full version of the OECD Model Tax Convention at page R (4)-1.

Financing strategy: "As described in Chapter I, the process of accurate delineation of the actual transaction also requires an understanding of how the particular MNE group responds to those identified factors. In this regard, the MNE group's policies may inform the accurate delineation of the actual transaction through the consideration of, for instance, how the group prioritises the funding needs among different projects; the strategic significance of a particular MNE within the MNE group; whether the MNE group is targeting a specific credit rating or debt/equity ratio; or whether the MNE group is adopting a different funding strategy than the one observed in its industry sector. (See Section B.2.5 on business strategies)".

Characterization of a fund advance transaction as debt: "For instance, in accurately delineating an advance of funds, the following economically relevant characteristics may be useful indicators, depending on the facts and circumstances: the presence or absence of a fixed repayment date; the obligation to pay interests; the right to enforce payment of principal and interest; the status of the funder in comparison to regular corporate creditors; the existence of financial covenants and security; the source of interest payments; the ability of the recipient of the funds to obtain loans from unrelated lending institutions; the extent to which the advance is used to acquire capital assets, and the failure of the purported debtor to repay on the due date or to seek a postponement".

Debt repayment condition: "For example, consider a situation in which Company B, a member of an MNE group, needs additional funding for its business activities. In this scenario, Company B receives an advance of funds from related Company C which is denominated as a loan with a term of 10 years. Assume that, in light of all good-faith financial projections of Company B for the next 10 years, it is clear that Company B would be unable to service a loan of such an amount. Based on these facts and circumstances, it can be concluded that an unrelated party would not be willing to provide such a loan to Company B. Accordingly, the accurately delineated amount of Company C's loan to Company B for transfer pricing purposes would be a function of the maximum amount that an unrelated lender would have been prepared to advance to Company B; and the maximum amount that an unrelated borrower in comparable circumstances would have been willing to borrow from Company C. (See Section C.1.1 The lender's and borrower's perspectives). Consequently, the remainder of Company C's advance to Company B would not be recognised as a loan for the purposes of determining the amount of interest which Company B would have paid at arm's length".

Business purpose: "Independent enterprises, when considering whether to enter into a particular financial transaction, will consider all other options realistically available to them, and will only enter into the transaction if they see no alternative that offers a clearly more attractive opportunity to meet their commercial objectives. In considering the options realistically available, the perspective of each of the parties to the transaction must be considered. For instance, in the case of an entity that advances funds, other investment opportunities may be contemplated. From the borrower's perspective, the options realistically available will include broader considerations than the entity's ability to service its debt, for example, the funds it actually needs to meet its operational requirements; in some instances, although a company may have the capacity to borrow and service an additional amount of debt, it may choose not to do so to avoid placing negative pressure on their credit rating and increasing its cost of capital, and jeopardising its access to capital markets and its market reputation. (See Section C.1.1 The lender's and borrower's perspectives".

Comparability conditions: "In an ideal scenario, a comparability analysis would enable the identification of financial transactions between independent parties which match the tested transaction in all respects. With the many variables involved, it is more likely that potential comparables will differ from the tested transaction. Where differences exist between the tested transaction and any proposed comparable, it will be necessary to consider whether such differences will have a material impact on the price. If so, it may be

possible, where appropriate, to make comparability adjustments to improve the reliability of a comparable. This is more likely to be achievable where the adjustment is based on a quantitative factor and there is good quality data easily available (for example, on currency differences) than, for instance, in trying to compare loans to borrowers with qualitative differences or where data is not so readily available (for example, borrowers with different business strategies)".

Business strategy: "For example, independent lenders may be prepared to lend on terms and conditions to an enterprise undertaking a merger or acquisition which might otherwise not be acceptable to the lender for the same business if it were in a steady state. In this kind of scenario, the lender may take a view over the term of the loan and consider the borrower's business plans and forecasts, effectively acknowledging that there will be temporary changes in the financial metrics of the business for a period as it undergoes changes. Section D.1.5 of Chapter I gives other examples of business strategies that must be examined in accurately delineating the actual transaction and determining comparability".

A.2   Comments

DCA analysis precedes IRB analysis: From the technical perspective, the results of the DCA and IRB analysis are interdependent and transaction pricing is performed simultaneously with the accurate delineation of the transaction. The maximum borrowing limit estimated under the DCA analysis is one of the key factor that determines the credit rating of the debt transaction, which in its turn affects the interest rate applicable to the debt transaction. The applicable interest rate estimated under the IRB analysis determines interest coverage ratios, which are traditional ratios used in the DCA analysis. As a result, we have a circular dependence between the results of the DCA, CRA, and IRB analysis, which need to be consistent with each other.

Consideration of multiple factors: The factors such as business purpose of the transaction or subordination structure of the transaction may be used as alternative factors to design a search strategy (within a broader industry sector).

Industry-specific search: we view a requirement of industry specific search as a formal requirement. Note that in practice we do not perform interviews similar to function interviews in general transfer pricing analysis to identify borrowing risks specific to the tested entity and respectively apply the identified risks as a basis for the search of comparable companies. The search is traditionally based on using matching NAICS or SIC codes and manual review of the identified companies. The elimination criteria in the manual screening typically include region of operations, description of business operations, size, and other.

Business strategy: in the case when the financial transaction is a part of broader acquisition transaction, the search based on the business purpose of the transaction may be used as a base for the search of comparable companies.

Debt repayment condition: an alternative or complimentary approach to the DCA analysis is to perform the cash flow analysis to assess whether the borrower generates sufficient earnings to pay the interest and repay the debt when it is due. The approach however often requires long-term projections which may not be reliable.

Appendix B   Terminology and Definitions

Terminology used in the guide is summarized below.

B.1   Definitions of financial metrics

This section provides a list of definitions which are often used in the DCA analysis.

B.1.1   Eikon definitions of the metrics

The list below presents the DCA metrics as defined in Eikon database.

Equity.

Equity metric is estimated using entity's **book** equity value. While entity's market equity value or alternatively entity's enterprise value (**EV**) may be a more intuitive option, it is generally not applied in the US analysis for the following reason: estimation of the tested entity equity market value can be highly subjective and is beyond a typical transfer pricing analysis scope. To provide support for market debt / equity ratio based on market equity values, capital markets tax and valuation teams need to be involved in the analysis, an in-depth review of comparables need to be performed. (A ballpark cost of the full analysis could be 100k+).

Eikon: "*Represents the sum of Total Equity and Equity Non-Controlling Interests*"

The value can be retrieved using `TR.TotalEquityAndMinorityInterest` field through Eikon Excel API. For consistency with TPBM, we also include redeemable minority interest into equity (obtained via `TR.MinorityInterestRedeemable` Eikon API field). The field is defined on Eikon as "*Non-controlling interests that have redemption features and are reported as Non Equity Non-Controlling Interests*".

Debt

Eikon: "*Represents total debt outstanding, which includes: Notes Payable/Short-Term Debt, Current Portion of Long-Term Debt/Capital Leases and Total Long-Term Debt.*"

The value can be retrieved using `TR.TotalDebtOutstanding` field through Eikon Excel API.

Total long-term debt in Eikon includes also long-term capital leases. Therefore, capital leases should also be added in the total debt estimate of the tested entity for comparability.

Interest expense

Eikon: "*For Banks the item represents the sum of 'Federal Funds Purchased Securities Sold under Repurchase Agreement', 'Interest on Other Borrowings', and 'Interest on Deposit' for the fiscal year. For Industrial, Utility, and Insurance companies it represents the sum of Operating and Non-operating Interest Expense Net of Capitalized Interest for the fiscal year*".

The value can be retrieved using `TR.InterestExpense` field through Eikon Excel API.

Fixed charge coverage ratio

Eikon: "*Represents the Company level Fixed Charge Coverage Ratio, as reported by the company. Category: REITs and Real Estate*".

The value can be retrieved using `TR.FixedChargeCoverageRatioTotal` field through Eikon Excel API.

EBIT

Eikon: "*EBIT is computed as the 'Total Revenues' for the fiscal year minus 'Total Operating Expenses' plus 'Operating Interest Expense', 'Unusual Expense/Income', 'Non-Recurring Items', 'Supplemental Total' for the same period. This definition excludes non-operating income and expenses*".

The value can be retrieved using `TR.EBIT` field through Eikon Excel API.

EBITDA

Eikon: "*EBITDA is EBIT for the fiscal year plus the same period's 'Depreciation', 'Amortization of Acquisition Costs', and 'Amortization of Intangibles'*".

The value can be retrieved using `TR.EBITDA` field through Eikon Excel API.

B.1.2 Definitions of the metrics in loan agreements

Below is the list of definitions typically observed in loan agreements. Note that in practice, the definitions may vary across different loans. The list below is provided as indicative of how the metrics can be described in loans.

"**Consolidated Leverage Ratio**" means, as of any date of determination, the quotient (expressed as a percentage) of (a) Consolidated Total Debt, divided by (b) Total Asset Value.

"**Total Leverage Ratio**" means with respect to any Reference Period, the ratio of (i) (x) Consolidated Total Indebtedness as of the last day of such Reference Period plus (y) Consolidated Rental Expense for such period multiplied by 6 to (ii) Consolidated EBITDAR for such Reference Period; provided that, Cornerstone shall be disregarded for purposes of determining the Total Leverage Ratio. The foregoing calculation shall be made on a Pro Forma Basis.[14]

"**Consolidated Total Indebtedness**" means, as of any date of determination, the aggregate amount of Indebtedness of the Borrower and its Consolidated Subsidiaries outstanding on such date, determined on a consolidated basis in accordance with GAAP (but excluding the effects of any discounting of Indebtedness resulting from the application of acquisition method accounting in connection with the Third Amendment and Restatement Effective Date Transactions or any Acquisition permitted hereunder (or other Investment permitted hereunder)) consisting only of Indebtedness for borrowed money, unreimbursed obligations under letters of credit, obligations in respect of Capital Leases and debt obligations evidenced by promissory notes or similar instruments less the cash and cash equivalents (in each case, free and clear of Liens other than Liens created pursuant to the Collateral Documents and Permitted Encumbrances that are non-consensual Liens) of the Borrower and its Consolidated Subsidiaries in an amount not to exceed

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[14] 2016 Credit Agreement, Kindred Healthcare Inc.

$100,000,000 as of such date that would be required to be reflected on a consolidated balance sheet in accordance with GAAP.[15]

"**Fixed Charge Ratio**" means, as of any date of determination, the quotient (expressed as a percentage) of (a) Consolidated EBITDA, divided by (b) Consolidated Fixed Charges.

"**Consolidated Fixed Charges**" means, on a consolidated basis, for any Person for any period, the sum (without duplication) of (a) Consolidated Interest Expense, (b) provision for cash income taxes made by such Person on a consolidated basis in respect of such period, (c) scheduled principal amortization payments due during such period on account of Indebtedness of such Person (excluding Balloon Payments), and (d) Restricted Payments paid in cash with respect to preferred Equity Interests of such Person during such period (other than any repayments of principal with respect to preferred Equity Interests).

 "**Balloon Payments**" shall mean with respect to any loan constituting Indebtedness, any required principal payment of such loan which is payable at the maturity of such Indebtedness, provided, however, that the final payment of a fully amortized loan shall not constitute a Balloon Payment.

A balloon payment is a large payment due at the end of a balloon loan, such as a mortgage, commercial loan or other amortized loan. A balloon loan typically features a relatively short term, and only a portion of the loan's principal balance is amortized over the term. At the end of the term, the remaining balance is due as a final repayment. The word balloon refers to the fact that the final payment is large and has ballooned in comparison to the other payments. Balloon payments tend to be at least double the amount of the loan's previous payments, but can be as high as hundreds of thousands of dollars. Balloon loans are more common in commercial than consumer lending. (Balloon Payment | Investopedia).

The above definitions are summarized in the following table

Exhibit B.1   Definition summary

Metric	Abbreviation	Calculation
Consolidated Total Indebtedness		
Consolidated Net Indebtness		
Consolidated Fixed Charges		
Net Worth		

B.2   Loan financial covenants[16]

A loan covenant is a condition in a commercial loan or bond issue that requires the borrower to fulfill certain conditions or which forbids the borrower from undertaking certain actions, or which possibly restricts certain activities to circumstances when other conditions are met.

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[15] *Ibid.*

[16] https://en.wikipedia.org/wiki/Loan_covenant

Typically, violation of a covenant may result in a default on the loan being declared, penalties being applied, or the loan being called. The legal provision in the loan agreement providing for the loan to be "called" is the "Acceleration Clause": once the buyer defaults, all future payments due under the loan are "accelerated" and deemed to be due and payable immediately.[17]

Covenants may also be waived, either temporarily or permanently, usually at the sole discretion of the lender.

Covenants can be financial, information, ownership, affirmative, negative or positive covenants. Often, the breach of any covenant gives the lender the right to call the loan or collect interest at a higher rate.

Typical covenants for real estate related loans are the Loan to Value Ratio (LTV), the debt service coverage ratio (DSCR) and Interest Service Coverage Ratio (ISCR).

B.2.1 Standard covenants

Within a loan agreement, the covenants can be searched suing the following keywords:

1. "Financial covenants"
2. "Limitation on debt"
3. "Indebtness covenant"

The covenants can typically be grouped into (i) interest coverage covenants; (ii) debt coverage covenants; and (iii) financial leverage covenants. A list of ratio-based[18] covenants observed in loan agreements is summarized in the exhibit below.

Exhibit B.2   List of standard financial covenants

Industry	Financial Covenant	Definition[19]	Abbreviation
Interest coverage	Interest coverage ratio		ICR
	Debt service coverage ratio		DSCR
	Fixed charge ratio		
Debt coverage	Leverage ratio		
	Net leverage ratio		
Financial leverage	Debt to net worth ratio		
	Asset coverage ratio		
	Loan to value		LTV

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[17] Cornell Law School Legal Definition: Acceleration Clause (https://www.law.cornell.edu/wex/acceleration_clause).

[18] In addition to ratio-based covenants, agreements often include limitations on minimum amounts for specific accounts, such as cash, net worth, or other.

[19] The actual definition of the ratios may be specific to each individual loan agreement.

B.2.2 Summary of industry-specific financial covenant

Summary of typical negative financial covenants for different industries are summarized in the exhibit below.

Exhibit B.3   Industry-specific negative financial covenants

Industry	Financial Covenant	Name	Observed Values[20]
REITs	Total Debt / Total Assets	Maximum Consolidated Leverage Ratio	0.7
	Total Debt / Properties Value	Loan to Value (LTV) Ratio	
	EBITDA / Fixed charge	Minimum Fixed Charge Ratio or Debt Service Coverage Ratio (DSCR)	1.5
Renewable Energy			
	EBITDA / Fixed charge	DSCR	
Healthcare Facilities	Debt / EBITDA	Maximum Consolidated Leverage Ratio	2.25 – 6.0
	EBITDA / Fixed charge	Minimum Fixed Charge Ratio	1.5
		Minimum Tangible Net Worth	
Manufacturing	Debt / EBITDA	Total (Consolidated) Leverage Ratio	3.0 – 6.5
	Net Debt / EBITDA	Total Net Leverage Ratio	
	EBITDA / Interest	Minimum Interest Coverage Ratio	3.0 – 4.0

The definitions of the financial metrics are provided above in the Appendix.

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[20] The numbers can be interpreted as thin cap rules.

Appendix C Borrowing Capacity Equations

The section presents the modelling assumptions and equations applied for borrowing capacity calculations. The equations use the following notation.

C.1   Modelling assumptions

C.2   Notation

The following notation is applied in the equations below.

$EBIT_0$ is the projected EBIT values

$EBIT_{new}$ is the projected additional EBIT after implementing the structure related to the tested transaction. The $EBIT_{new} = r \times (D_{new} + E_{new})$, where $D_{new} + E_{new}$ is the additional financing that is put in place, and r is the rate of return on the new financing.[21]

$EBITDA_0$ is the projected EBITDA values

$EBITDA_{new}$ is the projected additional EBITDA after implementing the structure related to the tested transaction. The $EBITDA_{new} = r \times (D_{new} + E_{new})$,

I_0 is the interest expense on the existing debt

D_0 is existing debt

D_{new} is the new debt which limit is being estimated

E_0 is existing equity

i is the interest rate on the new debt

τ is the corporate income tax rate

T is a cumulative period between the effective date of the new debt and the projected date when the borrowing capacity is being assessed

The market debt capacity ratios are labelled respectively as follows

1. Interest coverage: $\lambda_{EBIT/I}$ and $\lambda_{EBITDA/I}$
2. Debt coverage: $\lambda_{D/EBITDA}$
3. Financial leverage: $\lambda_{D/E}$

The equations for the borrowing limit are presented below. For simplicity, we assume that $E_{new} = 0$.

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[21] The simplified modelling is applied when the exact business purpose of the new financing is not known and is assumed to generate a generic return rate r.

C.3 Interest coverage (EBIT / Interest and EBITDA / Interest)

The equations below describe borrowing capacity limits based on the EBIT / Interest and EBITDA / Interest ratios.

EBIT / Interest

The borrowing limit based on interest coverage ratios is derived from the following equation

$$\frac{EBIT_0 + r \times D_{new}}{I_0 + i \times D_{new}} = \lambda_{EBIT/I}$$

The D_{new} is calculated using the following equation

(C.1)
$$D_{new} = \frac{EBIT_0 - \lambda_{EBIT/I} \times I_0}{\lambda_{EBIT/I} \times i - r}$$

EBITDA / Interest

Similarly, for EBITDA-based interest coverage ratio, the borrowing capacity is estimated using the following equation

(C.2)
$$D_{new} = \frac{EBITDA_0 - \lambda_{EBITDA/I} \times I_0}{\lambda_{EBITDA/I} \times i - r}$$

C.4 Debt coverage (Debt / EBITDA)

The equations below describe borrowing capacity limits based on the Debt / EBITDA ratio.

Debt / EBITDA

The borrowing limit based on debt coverage ratios is derived from the following equation

$$\frac{D_0 + D_{new}}{EBITDA_0 + r \times D_{new}} = \lambda_{D/EBITDA}$$

The D_{new} is calculated using the following equation

(C.3)
$$D_{new} = \frac{\lambda_{D/EBITDA} \times EBITDA_0 - D_0}{1 - \lambda_{D/EBITDA} \times r}$$

C.5 Financial leverage (Debt / Equity and Debt / Assets)

The equations below describe borrowing capacity limits based on the Debt / Equity and Debt / Assets ratios.

Debt / Equity

Assuming that increase in debt is offset by the equal decrease in equity (Scenario A), the D_{new} is calculated using the following equation

$$\frac{D_0 + D_{new}}{(E_0 - D_{new}) + (r - i) \times (1 - \tau) \times T \times D_{new}} = \lambda_{D/E}$$

where the term $(r - i) \times (1 - \tau) \times T \times D_{new}$ represents cumulative change in equity from the issuance of new debt over the period T. The D_{new} is calculated using the following equation

Scenario A: increase in debt is offset by decrease in equity

(C.4)
$$D_{new} = \frac{\lambda_{D/E} \times E_0 - D_0}{1 + \lambda_{D/E} + \lambda_{D/E} \times (i - r) \times (1 - \tau) \times T}$$

For the borrowing capacity estimated using period-average metrics, the cumulative period T must also be set equal to average value $\bar{T}$ (assuming that interest rate i and rate of return r are constant).

Scenario B: increase in debt with no change in equity

Assuming that increase in debt is not offset by the equal decrease in equity (Scenario B), the D_{new} is calculated using the following equation

$$\frac{D_0 + D_{new}}{E_0 + (r - i) \times (1 - \tau) \times T \times D_{new}} = \lambda_{D/E}$$

The D_{new} is calculated using the following equation

(C.5)
$$D_{new} = \frac{\lambda_{D/E} \times E_0 - D_0}{1 + \lambda_{D/E} \times (i - r) \times (1 - \tau) \times T}$$

Debt / Assets

Assuming that increase in debt is offset by the equal decrease in equity (Scenario A), the D_{new} is calculated using the following equation

$$\frac{D_0 + D_{new}}{A_0 + (r - i) \times (1 - \tau) \times T \times D_{new}} = \lambda_{D/A}$$

where A_0 is the asset balance prior to the issue of new debt D_{new} and $\lambda_{D/A}$ is the binding debt / assets ratio. The D_{new} is calculated using the following equation. The equation is derived assuming that increase in debt is offset by decrease in equity and the impact on total assets is via the impact on the projected earnings of the entity.

(C.6)
$$D_{new} = \frac{\lambda_{D/A} \times A_0 - D_0}{1 + \lambda_{D/A} \times (i - r) \times (1 - \tau) \times T}$$

C.6   Summary

Appendix D DCA Search Strategies in Eikon Database

The section describes several search strategies which are available through Reuter's Eikon database.

D.1   Overview

Using Eikon database for debt capacity analysis has the following advantages compared to alternative approaches.

(i)   **Search strategies**. Eikon implements multiple approaches for comparable company searches, which are either (i) highly efficient in execution, such as 'peers analysis' or 'industry constituents' search, or (ii) highly customizable with respect to the selected search parameters, such as Eikon's 'screener' tool. In practice, the search can be implemented as a combination of multiple search strategies to produce the most complete sample of comparable companies.

(ii)   **Data download efficiency**. Eikon allows efficient data download through Excel API, so that the step related to obtaining the data from the database can be automated and integrated into the debt capacity analysis process. Certain data, such as for example 'Business Summary', can be downloaded automatically through respective data fields. (In alternative tools, it may be necessary to review and populate the data manually).

(iii)   **Data quality**. In several projects Eikon produced a higher quality data compared to alternative data sources. The data could be easily tracked to the 10-K statements. Eikon includes clear and formal definitions of the data fields, which allows understanding better the data interpretation and data sources.

(iv)   **Data completeness**. Eikon allows performing more complex and integrated analysis. For example, Eikon allows automatic download of the corporate note tickers issued by the companies included in the debt capacity sample. Eikon also has a list of data fields which is potentially allows obtaining a much more granular data compared to other tools. For example, if the DCA analysis is performed for a company operating in banking industry sector, the fields which provide regulatory capital data may be required to estimate financial leverage ratios.

D.2   Company peers

This is the most direct to identify a sample of peer companies but applies to public companies only. For a public tested entity, open Eikon window with the company information and select 'Peers & Valuation' menu option.
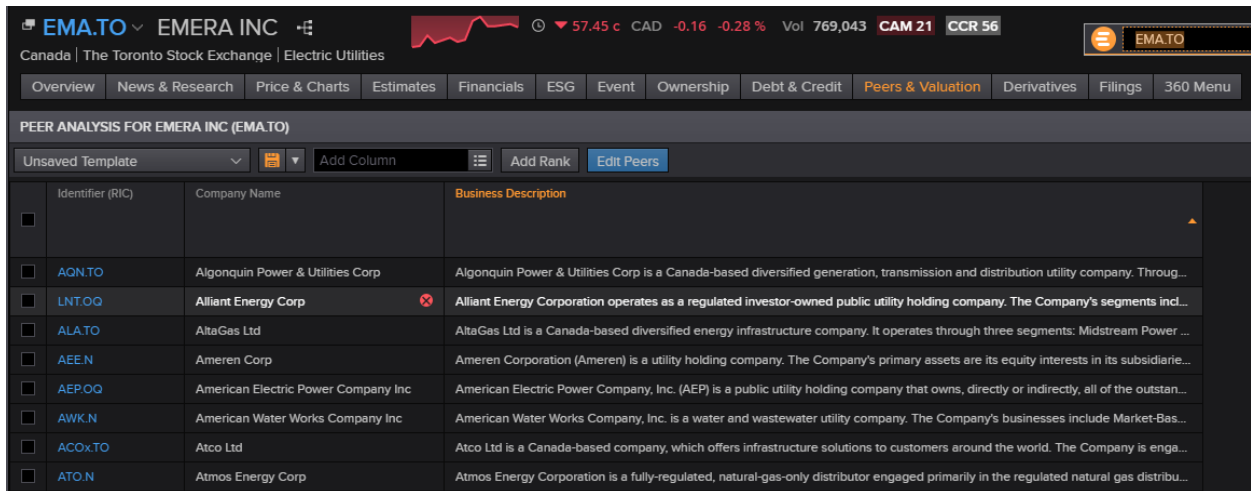
The initial sample of peers companies may be small. To get the full sample, click on the 'Edit Peers' button.

Select all peers available through the list. The list of tickers can be exported into Excel file. The sample is usually limited to 50 companies.

Note that the output for the peers data was configured to include company name, RIC, and business description. The output can be customized to include required data in the exported Excel file.

The tool includes two separate options: 'Peers Analysis' and 'Sector Competitors'. Both options can be reviewed to compare which option produces a better sample.

The approach works reasonably well if there is a sufficient sample of comparables within the industry sector. If, however the industry sector is narrow, the 'Peer Analysis' will still include 50 companies from a broader sector. For example, if the narrow sector is 'insurance brokers' (which has ~10 companies listed as industry constituents by Eikon), then the 'Peer Analysis' will include 'insurance carriers' as peers. In this case a preferred option would be to design a customized search strategy to identify better comparables.

D.3   Industry tool

DCA search is normally performed to identify comparable companies within a given industry sector. Eikon includes 'Industry' (INDUS) application, which allows to identify constituents for each specific industry sector operating within a selected region. An example of the application output is illustrated in the exhibit below.

The tool also allows to customize Excel output.

In most tested examples, the tool included public companies only as comparables. Unlike 'Per analysis' the tool will not try to expand the industry sector to generate a broader sample. It will include only companies which are listed under the selected industry sector.

D.4   Screener tool

Screener function (SCREENER) allows performing customized company search using a wide range of search filters. The tool allows searching public companies, public and private companies, or deals. An example of public company search is illustrated in the exhibit below.

The screener tool is typically used for customized searches when the sample of industry constituents is not sufficient and the peers analysis does not produce good comparables for the tested entity. The tool allows to expand the sample to include private companies and mix different industry sectors to match better the business description of the tested entity.

D.5   Bond search tool

Bond search tool is the tool that is applied in interest benchmarking analysis to identify bonds issued within a given industry sector. Advantage of the approach is that it potentially produces consistent samples for the DCA and IRB analysis.[22] However, the sample is limited only to the companies which have outstanding bond transactions.

D.6   Integration of DCA with IRB searches

An example below illustrates how the sample of corporate notes can be automatically identified for a sample of companies included in the DCA sample. The corporate note data can be useful to include the creditworthiness field in the DCA sample or to understand better the debt structure of the companies included in the sample.

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[22] Alternatively, the automatic search for the notes issuances can be performed for the DCA samples generated by other approaches.

Appendix E DCA Data Validation

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E.1   Validation against alternative sources

The most direct approach to validate the DCA data is to compare it against the data obtained through an alternative source. For the US public companies, a direct source of the financial data is the 10-K reports published by the companies.

Alternatively, based on the review and matching of the Eikon data against the data obtained through TPBM[23] database, the following definitions were applied to the DCA metrics.

1. Total debt
2. Total equity

E.2   Validation against expected values

Validation against alternative sources may be a time-consuming process. In general, only part of the data should be reviewed and only if there is a strong reason to believe that the data is incomplete or is not correct. Below is the list of validation rules that can be applied as a high-level check of data quality.

E.3   Identified data issues

Data matching identified the following issues with the data, which should be taken into consideration.

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[23] EY proprietary transfer pricing benchmarking (TPBM) tool for searches of comparable companies.

Appendix F   ac.finance.DCA Tool

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# Appendix G Examples Illustrating Theoretical Concepts

This section presents a few stylized examples which illustrate how the theoretical concepts are related to the transfer pricing analysis.

G.1   Example illustrating Modigliani-Miller theorem

Consider the following stylized example.

► An investment fund is purchasing 100% share in a renewable project.

► The acquisition is structured as follows. A blocker entity is set and capitalized through the issue of debt and equity injection. The only purpose of the blocker entity is to invest into the renewable project.

► The renewable project was developed by a sponsor with a high credit rating. The project has long-term contracts to sell the generated energy, which are guaranteed by the sponsor. The projected cash flows of the projected are contracted and predictable. The risk in the cash flows is estimated as low.

The structure is illustrated in the diagram below.
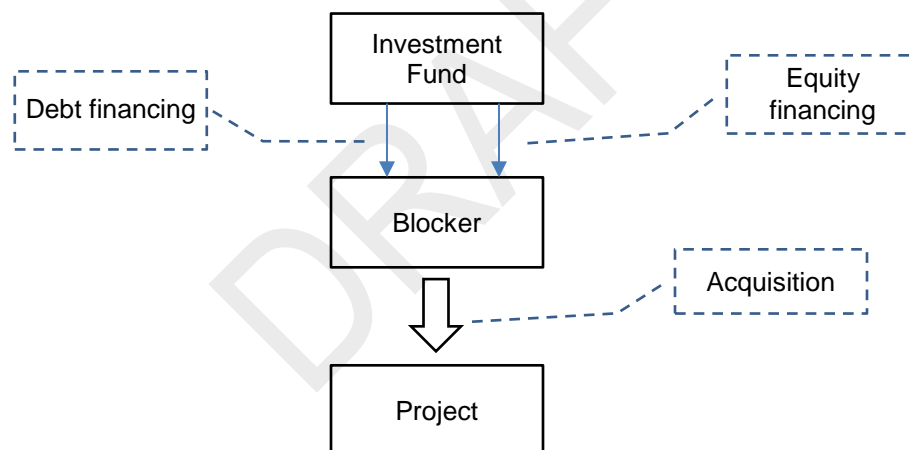
The analysis is performed from the perspective of the Blocker entity.

G.2   Example illustrating Trade-off theory

G.3   Inventory financing example

Problem description. Suppose that a company needs financing for inventory management. The inventory is reduced due to depreciation and shrinkage / losses. The cash generated at the company level is not

sufficient to maintain a required level of inventory. The company raises additional cash through the issue of debt and equity. The debt and equity amount are issued to maintain a certain debt / equity target ratio (e.g. 2:1). The task is to determine the required debt and equity amounts for each specific fiscal year.

The steps of the inventory management problem are summarized as follows:

1. Estimate the cash requirements for inventory purchase.

2. Assume that existing cash balances of the company are used first for the inventory purchase.

3. Estimate the cash shortage and estimate the debt/equity issued to finance the cash shortage. If there is excess of cash, reduce the debt / equity amounts (assume facility format of the debt instrument).

4. Estimate earnings (EBIT) for the period, depreciation and amortization (D&A) expense, and interest expense.

5. Estimate the equity balance as of the year end. Test that debt / equity ratio is consistent with the threshold.

Problem solution.

The problem is solver recursively starting from initial period $t = 0$ and ending with period $t = T$. Suppose that the debt / equity amounts were estimated for period t. We show how the amounts are calculated for period $t + 1$.

Suppose that ΔC is cash requirement in period $t + 1$. The cash requirement is financed through debt (ΔD) and common share (ΔCS) issuance:

(G.1)
$$\Delta C = \Delta D + \Delta CS$$

The change in equity (ΔE) equals to

(G.2)
$$\Delta E = \Delta CS + NI$$

where net income NI is estimated based operating income OPI and interest expense (estimated within the model).

(G.3)
$$NI = OPI - i \times (D + \Delta D)$$

After substituting equations (G.1) - (G.3) into the financial leverage constraint, we get the following equation for the new debt amount:

$$\lambda = \frac{D + \Delta D}{E + \Delta E} = \frac{D + \Delta D}{E + (\Delta C - \Delta D) + \big(OPI - i \times (D + \Delta D)\big)}$$

or equivalently

$$\Delta D \times (1 + \lambda + i \times \lambda) = \lambda \times [\Delta C + OPI - i \times D] + [\lambda \times E - D]$$

Based on the equation above, the required debt amount is estimated as

(G.4)
$$\Delta D = \frac{1}{1 + \lambda + i \times \lambda} \times [\lambda \times (E + \Delta C + OPI - i \times D) - D]$$

and the required new common shares amount is estimated as

(G.5)
$$\Delta CS = \Delta C - \Delta D$$

If the constraint $\lambda E - D = 0$ holds in period t, the equation for new debt issuance for period $t + 1$ is simplified as follows

(G.6)
$$\Delta D = \frac{\lambda}{1 + \lambda + i \times \lambda} \times [\Delta C + OPI - i \times D]$$

And

(G.7)
$$\Delta E = (\Delta C - \Delta D) + NI$$

Appendix H   Thin-Cap and Deductibility Limit Rules

The section discusses thin cap rules and rules which limit interest deductibility, which are an alternative to the DCA analysis. 'Thin cap' rule generally refers to the fixed limits on the debt-to-equity ratios in a company capital structure. Interest deductibility limit rules are generally related to 'EBITDA Limit' rules, which specify the allowed deductible interest amount as a fixed share of the entity tax EBITDA measure.

H.1   United States

H.1.1   163j Rule

United States: Code §163(J) – Ignoring U.S. Thin Capitalization Rules May Leave Tax Advisors Thinly Prepared For Audits, Last Updated: May 9 2017

Article by Beate Erwin, Ruchelman PLLC

http://www.mondaq.com/unitedstates/x/592322/withholding+tax/Code+163J+Ignoring+US+Thin+Capitalization+Rules+May+Leave+Tax+Advisors+Thinly+Prepared+For+Audits

INTRODUCTION

Using deductible interest payments to reduce U.S. taxable income is often a goal of tax practitioners. These payments are often disbursed to foreign related parties, where the interest income is subject to little or no tax. The U.S. has developed rules that limit the deductibility of these interest payments when the payor is a thinly capitalized corporation and the creditor is a related party that is subject to a reduced tax rate in its country of residence as compared to the U.S. rate. Deductibility is also limited when a person related to the lender makes a "disqualified guarantee" of the debt to an unrelated creditor and no gross basis tax is imposed on the interest.

Example 1: Apple Pie Corporation ("Apple Pie") is incorporated in Florida. It is wholly owned by Papaya Inc. ("Papaya"), a corporation incorporated in a jurisdic-tion that has a tax treaty with the U.S. and a 0% corporate tax rate. Apple Pie was incorporated with $100 of debt from Papaya and has no other assets. Each month, Apple Pie pays interest to Papaya based on its debt agreement. Apple Pie deducts this interest payment in the U.S., thus lowering its U.S. tax liability.

Absent any regulation or Code section, the interest deduction taken by Apple Pie would reduce any U.S. taxable income. Conversely, the interest payment would not be subject to tax in Papaya's country of residence.

CODE §163(J)

Earnings stripping rules are intended to prevent the erosion of the U.S. tax base of a thinly capitalized corporation by means of excessive deductions for certain interest expense. Proposed regulations were issued in June 1991 (the "Proposed Regula-tions"). However, the Proposed Regulations have not yet been finalized. To remedy the problem, Congress created Code §163(j).

The earnings stripping provisions under Code §163(j) limit the deductibility of in-terest payments made to related tax-exempt entities (including related foreign per-sons). The rules apply to both U.S. companies and foreign companies engaged in a U.S. trade or business[24] if the following conditions are met:

1. The company pays or accrues "exempt related-party interest."

2. It has both

   ► a debt-to-equity ratio exceeding 1.5:1[25] at the close of the tax year and

   ► excess interest expense.[26]

If a company meets all these criteria, it must determine the interest deduction disal-lowed under Code §163(j).

Disallowed interest expense is carried over to future years and treated as interest paid or accrued in the succeeding taxable year. Thus, falling under the earnings stripping rules does not result in a denial, but rather a deferral, of deductible corpo-rate interest expense.

If either of the criteria under condition 2 is absent (i.e., debt-to-equity ratio not ex-ceeding the1.5:1 threshold or no excess interest expense), there is no earnings stripping limitation on a corporation's ability to deduct related-party interest expense. There are, however, proposed anti-avoidance rules, which provide that arrange-ments will be disregarded if they have been entered into with a principal purpose of avoiding the earnings stripping rules.[27]

Form 8926, Disqualified Corporate Interest Expense Disallowed Under Section 163(j) and Related Information, is used by taxpayers to report disallowed interest amounts under the earnings stripping rules. The form was issued by the I.R.S. in December of 2008. The form strictly follows the statute, which differs, in some cases, from the Proposed Regulations. The Proposed Regulations deviate from the Code in setting forth additional adjustments to, inter alia, the adjusted taxable income.

APPLICABILE SCENARIOS

As mentioned in the introduction, there are two distinct scenarios where Code §163(j) will apply: (i) where the payment is made to a related party and (ii) where the payment is made to unrelated party who makes a "disqualified guarantee" to the payor.

Related Person

With regard to the former scenario, a person is "related" if it satisfies any of the defi-nitions within Code §267(b) or Code §707(b)(1).[28] Under Code §267, two members of the same controlled group are considered to be related.[29]

Two corporations are members of a controlled group where

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[24] Prop. Treas. Reg. §1.163(j)-1(a)(1)(ii)

[25] Code §163(j)(2)(A)(ii)

[26] Code §163(j)(2)(A)(i)

[27] Prop. Treas. Reg. §§1.1.63(j)-1(f), 1.163(j)-3(c)(5), 1.163(j)-6(b)(3). The Pro-posed Regulations are not consistent in this regard.

[28] Code §163(j)(4

[29] Code §267(b)(3)

► one entity owns more than 50% of the total voting power of all voting classes or more than 50% of the total value of all shares of each of the corporations, except the common parent corporation is owned by one or more of the other corporations; and

► the common parent corporation owns more than 50% of the total voting pow-er of all the voting classes or more than 50% of the total value of shares of all classes of stock of at least one of the other corporations, excluding, in computing such voting power or value, stock owned directly by such other corporations.[30]

All members of an "Affiliated Group" are treated as one corporation, whether or not the members file a consolidated return.[31]

Disqualified Guarantee

The second scenario involves a fact pattern where a guarantee is given by a related exempt person or a related foreign person and the interest income is not subject to the standard U.S. withholding tax.[32] The definition of "guarantee" can be very broad and includes any arrangement where a person, either directly or indirectly through an entity or otherwise, assures the payment of another person's obligation. The guarantee can be either direct or indirect and include a financial contribution to keep the debtor solvent.

The results of the disqualified guarantee are the same as when a payment is made to a related party.

DETERMINING THE DEBT-TO-EQUITY RATIO

For the interest expense limitation to apply, the debt-to-equity ratio must exceed 1.5. This determination is made on the last day of the taxable year. The ratio would be determined as follows:

$$\text{Debt-to-Equity Ratio} = \frac{\text{Cash + Other Assets}}{(\text{Cash + Other Assets}) - \text{Debt}}$$

Example 2: In Year 1, Apple Pie has a loan with its parent, Papaya Inc. ("Papaya"), valued at $600 and wishes to deduct its interest payment to Papaya. Apple Pie also has real property with a fair market value of $300 and $600 cash from the loan. The numerator is $600 and the denominator is $300 (i.e., $300 + $600 - $600). Therefore, the debt-to-equity ratio is 2. Should Apple Pie satisfy the other elements present in Code §163(j), some of its interest deduction may be denied and carried over to the following year.

Example 3: The conditions are the same as in Example 2, but this time, the debt is valued at $300 and the real property is valued at $200. The debt-to-equity ra-tio is 1.5. The interest deduction is not disallowed under Code §163(j) since the debt-to-equity ratio does not exceed 1.5.

Example 4: The conditions are the same as in Example 3 above, but this time, Papaya guarantees a loan made from an unrelated foreign bank to Apple Pie. This is a "disqualified guarantee" since Papaya and Apple Pie are related, but because the debt-to-equity ratio does not exceed 1.5, any interest deduction by Apple Pie is not disallowed under Code §163(j).

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[30] Code §267(f), referencing Code §1563(a)(1) with substitutions

[31] Code §1504(a)

[32] Code §163(j)(6)(D)(ii)(I). A controlling interest is direct or indirect ownership of at least 80% of the total voting power and value of all classes of stock of a cor-poration, or 80% of the profit and capital interests in any other entity. A related person does not include an entity that is 80% controlled by the payor.

DETERMINING NET INTEREST EXPENSE

Net interest expense is the excess of the amount of interest expense paid or ac-crued over the interest income.[33] It can be represented in the following formula:

Net Interest Expense = Interest Expense Paid/Accrued – Interest Income

Example 5: Apple Pie earns $100 of interest income from its bank account. How-ever, it also has an outstanding loan with another bank and pays $30 of interest on the loan. Its net interest expense is $70 (i.e., $100 of interest income - $30 of interest paid).

DETERMINING ADJUSTED TAXABLE INCOME

Adjusted Taxable Income ("A.T.I.") is computed as follows:

A.T.I = Taxable Income + Net Interest Expense[34] + Net Operating Loss Deduction[35] + Deductions for Depreciation, Amortization, or Depletion + Domestic Production Deduction + Other Adjustments

Since a disallowance only occurs if the net interest expense exceeds 50% of A.T.I., it benefits the taxpayer if the A.T.I. is high, as it will result in a smaller disallowance.

DETERMINING EXCESS INTEREST EXPENSE

As mentioned above, a deduction will be limited to the "excess interest expense" for the tax year. Excess interest expense is the net interest expense over 50% of its adjusted taxable income, plus any "excess limitation" carry-forward.[36]

An excess limitation carry-forward from up to three preceding years can be used as an adjustment to A.T.I. for any current tax year.

Example 6: During Year 1, Apple Pie has $200 of A.T.I., including $40 of interest income and 90$ of interest expense, $60 of which is paid or accrued to Papaya and $30 is paid or accrued to unrelated persons. Apple Pie has no excess limitation carry-forward and its debt-equity ratio exceeds 1.5. to 1.

Apple Pie's interest expense for Year 1 is $50, the difference between its net interest expense of $50 (i.e., $90 interest expense - $40 interest income) and $100 (i.e., 50% of Apple Pie's $200 of A.T.I.). The payment to Papaya is $60 and is greater than its $50 excess interest expense by $10. Therefore. $10 of the interest deduc-tion is disallowed and carry forwarded to Year 2.

CONCLUSION

Non-U.S. practitioners should be aware of the thin capitalization debt rules when planning for multinational structures. This can be particularly acute when the non-U.S. parent company is taxed in a jurisdiction that

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[33] Code §163(j)(6)(B)

[34] Code §172

[35] Code §199

[36] Code §163(j)(2)(B)(i)-(ii), (j)(6)(B)

has a low to non-existent tax rate for the taxation of interest income and the planner seeks to reduce U.S. taxable income through an interest deduction.

The concern regarding thinly capitalized entities and interest deduction also exists within the B.E.P.S. framework. Action 4 discusses several solutions to the problem, including recharacterizing the interest payment as a dividend and using a carry-forward rule that is similar to the one found in U.S. At the same time, Action 4 expands on the number of prohibited transactions by introducing the concept of "interest equivalents." Like the U.S., the B.E.P.S. framework includes the concept of "guarantees in financial arrangements" as an interest equivalent. However, it also includes several other interest equivalents not present in the U.S. tax code, inter alia derivative instruments and Islamic finance transactions.[37]

Practitioners should also be aware that the I.R.S. Large Business & International ("LB&I") Division has released a step-by-step plan to assist auditors when analyzing interest payments that may implicate Code §163(j).[38] When reviewing the interest expense computation, the I.R.S. will review Forms 8926 and 1120, as well as the taxpayer's ledgers, financial statements, and other tax return statements. Practi-tioners should review the I.R.S. plan with respect to clients making loans involving related parties, so that they may prepare the correct documentation accordingly.

H.2   Canada[39]

In addition to the Canada had Debt-to-Equity 'thin cap' rule[40], Canadian Budget[41] proposed in 2021 a new interest deductibility limit (similar to the US 163j rule). The EBITDA Limit rules are proposed to take effect starting from 2023. The EBITDA Limit is targeted at cross-border interest deductions and is aligned with the common approach recommended by the OECD in BEPS Action 4.

EBITDA Limit would limit the amount of net interest expense that an entity may deduct to no more than a fixed ratio of "Tax EBITDA". By referencing an entity's "net" interest expense, the EBITDA Limit would allow an entity's interest expense to be offset by interest income before the interest limitation is applied. "Tax EBITDA" refers to taxable income before interest expense, interest income and income tax, and depreciation and amortization (in each case, as determined for tax purposes).

H.2.1   'Thin Cap' rule

The following facts apply to the Canadian 'Thin Cap' rule.

1. Thin-capitalization restrictions apply if the non-resident owns 25% or more of the shares of the debtor corporation (by vote or value) or 25% or more of the interests in the debtor trust (by value).

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[37] Stanley C. Ruchelman and Sheryl Shah, "B.E.P.S. Action 4: Limit Base Erosion via Interest Payments and Other Financial Payments," Insights 1 (2015).

[38] I.R.S., "LB&I International Practice Service Process Unit – Audit," last updated January 6, 2016.

[39] https://www.bennettjones.com/Blogs-Section/Canadian-Budget-Proposes-New-Cross-border-Interest-Deductibility-Limit#:~:text=Canada%20currently%20limits%20interest%20deductions,length%20persons)%2C%20where%20the%20debt.

[40] The EBITDA Limit is proposed to be enacted in addition to, not in replacement of, the thin capitalization rules, which are expected to remain in force.

[41] Canadian Federal Budget, released on April 19, 2021, proposes new rules that would change the interest deductibility rules for Canadian businesses.

2. Current 1.5:1 debt-to-equity 'thin cap' was reduced from 2:1 for the taxation years starting from 2012.[42]

3. Interest deduction will be limited proportionally if a debtor's outstanding debts to related non-residents exceed 1.5 times the debtor's equity. Any non-deductible "excess" interest is treated as a dividend for withholding tax purposes, and would trigger withholding tax at a rate of 25% subject to reductions under an applicable tax treaty.

4. Specific rules exist to address, among other things, back-to-back loan arrangements and borrowings by partnerships.

5. The intra-group debt-to-equity ratio of Canadian members of a corporate group should be monitored periodically to ensure compliance with the thin-capitalization rules.

H.2.2 Application of the EBITDA Limit rule

Applying the EBITDA Limit involves three basic steps:

(i) Calculate the entity's Tax EBITDA.

(ii) Apply the fixed percentage (which will generally be 30 percent after 2023) to the entity's Tax EBITDA to determine the maximum amount of net interest expense that the entity is allowed to deduct.

(iii) Compare the maximum deductible net interest expense with the entity's actual net interest expense. Net interest expense in excess of the maximum allowable amount is disallowed.

Budget 2021 proposes the following rules when applying the EBITDA Limit:

1. Tax EBITDA will exclude, among other things, dividends to the extent they qualify for the inter-corporate dividend deduction or the deduction for certain dividends received from foreign affiliates.

2. Interest expense and interest income will include amounts that are legally interest, and also certain payments that are economically equivalent to interest, and other financing-related expenses and income.

3. The measure of interest expense will exclude interest that is not deductible under existing income tax rules, including the thin capitalization rules.

4. Interest expense and interest income related to debts owing between Canadian members of a corporate group will generally be excluded.

Under the proposals, the EBITDA Limit would be phased in with an initial fixed ratio of 40 percent of Tax EBITDA for taxation years beginning on or after January 1, 2023, but before January 1, 2024 (the transition year), and 30 percent for taxation years beginning on or after January 1, 2024. An anti-avoidance measure has been proposed (but is not described) that would prevent taxpayers from deferring the application of the EBITDA Limit. No grandfathering relief will apply to existing debts incurred before 2023.

H.2.3 Other considerations

The exemptions from the rule, carry forward and carry back rules, and other considerations are described below.

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[42] https://www.pwc.com/gx/en/asset-management/real-estate-tax-services-newsalert/assets/pwc-canada-canadian-thin-capitalisation-limitations-tightened.pdf.

H.2.3.1 Exemptions from the EBITDA Limit rule

Budget 2021 proposes that Canadian-controlled private corporations (CCPCs) which, together with associated corporations, have taxable capital employed in Canada of less than $15 million (i.e., the top end of the phase-out range for the small business deduction) will be excluded from the EBITDA Limit. Groups of corporations and trusts whose aggregate net interest expense among Canadian members is $250,000 or less, will be also be excluded from the EBITDA Limit.

H.2.3.2 Carry Forward and Carry Back

Under the proposals, interest denied under the EBITDA Limit may be carried forward 20 years and back 3 years. A carry back will be permitted to periods prior to the EBITDA Limit becoming effective if the taxpayer would have had sufficient capacity to absorb the denied expenses.

H.2.3.3 Unused Capacity Transfers between Canadian Entities

Budget 2021 contemplates that the Canadian members of a group that have net interest expense below the fixed ratio of Tax EBITDA (or the "group ratio" discussed below) may be able to transfer their unused capacity to other members of the group to enable them to deduct additional interest.

Special rules will apply to banks and financial institutions, who generally have very low "net" interest expense, to restrict their ability to transfer unused capacity to group members that are not regulated banking or insurance entities.

H.2.3.4 Group Ratio Rule

Perhaps the most significant relieving measure in the proposals is the so-called worldwide "group ratio" rule that would compensate for the otherwise blunt application of the fixed ratio of Tax EBITDA on an entity-by-entity basis. The group ratio rule would allow entities in groups that are highly-leveraged with external debt for genuine commercial reasons to deduct net interest expense in excess of the fixed ratio of Tax EBITDA.

The group ratio generally compares a consolidated group's aggregate net third-party interest expense (numerator) relative to its aggregate book EBITDA (denominator). The group ratio is then applied to a specific entity to calculate that entity's interest capacity. The consolidated group, for purposes of the group ratio rule, would comprise a parent company and all of its subsidiaries that are fully consolidated in the parent's audited consolidated financial statements.

Budget 2021 clarifies that, for purposes of the group ratio rule, the measure of net third-party interest expense and book EBITDA will be adjusted to exclude interest payments to creditors related to, or significant shareholders of, Canadian group entities and will also take into account the impact of entities and groups with negative book EBITDA.

H.3   Examples

Appendix I   References

List of references used in this guide.

[1]   Ramirez Juan, "Handbook of Basel III Capital, Enhancing Bank Capital in Practice", Wiley, 2017

[2]   Ross, Westerfield, Jaffe, Jordan, "Corporate Finance", 11th edition, McGraw-Hill Education, 2016.

[3]   "Transfer Pricing Guidelines on Financial Transactions", Inclusive Framework on BEPS: Actions 4, 8-10, OECD, February 2020.