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Act on the Airport Network and Airport Charges (210/2011)

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Traficom's Instructions for the Setting and Estimation of the WACC

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1 Weighted Average Cost of Capital

- The appropriate return on assets for an economically regulated entity is normally determined by calculation a WACC
- In principle, the WACC represents a fair return in the sense of reasonable compensation for the capital supporting the company's activities.
- In economic terms, it reflects the opportunity cost of employing the capital to support another business activity with similar risk.
- According to economic theory, setting the WACC at an appropriate level is essential in order to achieve economic efficiency, whereby resources across the economy are allocated optimally.
- The nominal pre-tax WACC can be defined as follows:

- $$WACC (pre-tax) = K_e \times (1 - g) \times \frac{1}{1-t} + K_d \times g$$

- Where:

- K_e is the nominal post-tax cost of equity,
- g is gearing ratio defined as $\frac{debt}{debt+equity}$,
- t is the corporate tax rate,
- K_d is the nominal cost of debt.

- $$WACC(post-tax) = K_e \times (1 - g) + K_d \times g \times (1 - t)$$

2 Capital Asset Pricing Model

- In practice, the equation that derives from the CAPM (the Capital Asset Pricing Model) should be used to estimate the cost of equity of an airport managing body.
- $Ke = Rf + \beta_e(Rm - Rf)$
- Where:
- Rf stands for the risk free rate. The parameter Rf can, but not exclusively, be represented by the rate on the issuance of mid-term government bills (for instance, maturity of one year) or long-term government bonds (for instance 10 years).
- $(Rm - Rf)$ stands for the equity market risk premium (ERP), with Rm the expected rate of return of an economic agent investing on the market. According to the modern economic theory of the portfolio, the market is supposed to include all classes of assets, which can justify, in practice, comparisons between industrial sectors.
- The beta parameter β_e measures, for a given firm considered as a financial asset, the variability of its rate of return in reference to the market as a whole. It is considered to measure the non-diversifiable risk of the asset and its sensitivity to the economy in general. The more the product market tends to concentration and monopoly and there is greater consistency in return, the lower is the numerical value of the β_e parameter.
- More precisely :
- $\beta_e = 0$ stands for a risk free investment;
- $\beta_e < 1$ represents an investment with less risk than market portfolio ;
- $\beta_e = 1$ stands for an investment with the same risk as the market portfolio;
- $\beta_e > 1$ represents an investment with larger risk than the market portfolio.

3 Instructions for AMB

- AMB should provide transparent information on the estimate and calculation methods
 - Both estimates of the WACC, before and after the application of the corporate tax, specifying the corporate total tax rate taken into account in the estimate;
 - The AMB's forecast of its WACC, of the proportion of equity in total capital and of the proportion of debt, for each year of a multi-annual period that should not be shorter than a three-year period;
 - A numerical value and a detailed justification of any parameter should be provided
 - A detailed justification of any parameter or premium that does not directly derive from the recommendations set in this document

4 Traficom's Instructions for Parameter Estimations

note: sport rates for risk-free rates and for the equity market risk premiums should be used

4.1 Risk-free rate

- Although an entirely risk-free instrument does not exist, government bond rates are often considered reasonable proxies for "risk-free" rate (e.g. 10 year bond).
- The estimation should not take into account atypical observations due to exceptional events and should be based on bond yields during periods of relative financial stability.

4.2 Beta parameter

- The numerical value of the beta parameter should be reviewed with regard to the actual level of risk borne by the AMB, considering that the level of commercial and traffic risk is mitigated by the resilience of air transport demand and by the relatively low level of competition to which the AMB is exposed.
- The level of risk may be affected, in particular, by the relative overall size of the operation, the traffic mix, the existence of traffic volume risk, operator mix and/capacity at the airport.
- Equity betas are normally measured using statistical analysis of relative variation in the published share price to the market. However, this is not possible for entities that are not listed and in practice the most common approach is to benchmark against companies with similar risk and operational profiles.
- Using betas of peer companies is an acceptable practice. The sample of comparable listed AMBs that is used to estimate its beta parameter should be analysed with regard to the following criteria:
 - The geographical area of the peer group used for the estimation may preferentially be restricted to the EEA; but
 - In the case of too limited number of comparable peers in the EEA, the geographical area may be extended to countries with a comparable general economy and/or the peer group may be extended to other relevant sectors, such as the transport infrastructure sector.
- Since the beta parameter is a function of the financial structure, the level of debt of the airport managing body is taken into account using e.g. the Hamada formula:

- $$\beta_{equity} = \beta_{asset} \times [1 + (1 - t) \frac{D}{E}]$$

- Where:

- β_{asset} stands for the unlevered beta,
- β_{equity} is levered beta of a given airport managing body,
- E the value of equity,
- D the value of debt,
- t the corporate tax rate.

- This equation holds when there is no beta on debt. The debt beta is therefore usually assumed to be zero.
- One way to find unlevered (asset) beta of the company is to unlever the average betas of the comparable peers with the average debt to equity ratio.
- AMB should give justifications for the used asset beta and equity beta.
- *See e.g. Damodaran's home page for betas (unlevered and levered) by industry.*

4.3 Equity market risk premium (ERP)

- The equity market risk premium represents the excess return over the risk-free rate that investors require to compensate them for the risks associated with variability of a market portfolio of securities. It is therefore specific to the market in question and not to an individual company or sector
- In practice, there are a number of different approaches to estimating the likely future equity risk premium
- AMB should use studies acknowledged by the financial and scientific literature
- When using available estimates, AMB may take into account a range of estimates
- *One highly suggested source is Damodaran*

4.4 The cost of debt

- The cost of debt represents the cost incurred by a company in compensating its creditors
- The cost of debt consist of the risk free rate supplemented by a debt risk premium reflecting lenders' required compensation for the risk of default (adjusted for any tax advantages of debt finance)
- Therefore, the debt risk premium (economically efficient) is the excess return the market requires on debt finance provided to a commercial entity to compensate for the risk
- There are several methods for estimating the cost of debt, for example:

- The actual cost paid by a company on its borrowings (this should be used when the cost is known and the company is not receiving finance in a preferential terms)
- Estimate a value through comparison with other similar rated airport managing bodies (and similar leverage)
- Estimate values based on average yields on corporate bonds issued by an entity with similar leverage and similar credit rating

4.5 Gearing

The gearing is a parameter that affects the value of the costs of debt and equity and moreover determines the weight of each financial source in the final cost of capital

The use of the gearing of the current capital structure could be suboptimal

The optimal level of gearing is the one that minimises the WACC

This ensures that the cost of capital reflects true market cost of finance

The AMB should estimate and provide the optimal gearing at least for comparison purposes

One view on the optimal gearing would be the actual gearing of privately owned organisations with broadly similar operating characteristics

Target gearing could also be seen as optimal if the company is trying to optimize the capital structure

In the actual WACC calculation, the use of other than optimal gearing should be justified