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ZYRA E RREGULLATORIT PËR ENERGJI
REGULATORNI URED ZA ENERGIJU
ENERGY REGULATORY OFFICE

Weighted Average Cost of Capital (WACC) – Consultation Paper

Periodic review of input values for TSO/MO and DSO

(2018-2022)

DISCLAIMER

This Consultation Paper has been prepared by ERO in order to inform the energy sector stakeholders. This report does not represent a decision of ERO and should not be interpreted as such.

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Executive Summary

According to ERO's “building block” methodology , KOSTT (TSO and MO) and KEDS (DSO) are allowed to cover through tariffs, the amount of efficient operational costs, the depreciation of the Regulatory Asset Base (RAB) and the allowed return calculated as the product of WACC and RAB. In MYT1, the return represented about 15% of the allowed revenues of the TSO/MO and 18% of the allowed revenues of the DSO.

ERO's approach to WACC calculation was initially established in a 2006 paper, whereas in December 2011, ERO issued a Consultation Paper on updating the calculation for licensees. The final decision on WACC to be applied for licensees for the first regulatory period (MYT1) was issued in February 2012. Afterwards, ERO updated WACC for KOSTT.

The basic formula for WACC used by ERO is as follows:

$$WACC = (1 - g) * (rE) / (1 - t) + gi * (rD)$$

where:

WACC	*Weighted Average Cost of Capital*
g	*Gearing (debt:debt+equity ratio)*
rE	*Real cost of equity (expressed as a %)*
rD	*Real cost debt (expressed as a %)*
t	Kosovo corporate income tax rate

The cost of debt is estimated as the sum of a risk-free rate (cost of government debt) plus a company-specific debt risk premium. The cost of equity is estimated by using the widely-used Capital Asset Pricing Model (CAPM). Accordingly, the cost of pre-tax equity is calculated as:

$$rEi = rf + \beta i * ERPm$$

where:

rf	*risk-free rate*
ERPm	*equity risk premium applicable to the market as a whole*
βi	*covariance between the returns on the individual equity asset and those of the market as a whole (the equity beta)*

The final value of WACC approved for MYT1 for the DSO was 15% on pre-tax, nominal basis. The value approved for WACC for KOSTT was 5.1% on pre-tax, real basis, equivalent to 8.1% on nominal basis. The lower WACC for KOSTT represented guidance from the Government that expected KOSTT to earn a 5% nominal, pre-tax return on equity (2% real, pre-tax).

The MYT1 values were adopted at a time of high uncertainty over financing costs when Kosovo was perceived as a high-risk destination for investment. Since then, there have been changes:

- Kosovo has begun to issue long-term debts (up to 5 years) allowing a better estimate of how investors perceive the risks. This is estimated at low interest rates of up to 1.1% (real). Interest rates on debt of other regional countries have also remained low.
- EU regulators have reduced the assumed values of MRP and equity beta values used to estimate the cost of equity. In the absence of specific data for Kosovo, ERO uses these decisions as a precedent for the values to be applied in the calculation of WACC for Kosovo.

For MYT2, ERO proposes to make the following adjustments to the input values used in the WACC calculation for MYT1, reflecting these changing circumstances:

- **Risk-free rate.** The proposed rate is reduced quite a bit to be somewhere between 1.1 and 3.0%. The low limit represents the level of interests for Kosovo's long-term treasury bills while the upper limit represents the 10-year average of interest rates from Hungary's treasury bills - which represents the most risky long-term debt traded among regional comparators.
- **Gearing.** ERO has determined earlier that an appropriate level of gearing for regulated licensees lies between 0.40 and 0.70. Since KEDS (DSO) and KOSTT (TSO and MO) have achieved gearing levels below these levels, ERO proposes to set gearing for each entity at 0.40.
- **MRP and equity beta.** ERO proposes to reduce the ERP used to calculate WACC at 4.5% in line with recent EU regulators' decisions. For the same reason, ERO proposes to reduce the equity beta to 0.75 in line with recent EU regulators' decisions.

The WACC indicative values deriving from the analyses are presented below. The value shown for KOSTT represents what is assumed if a real pre-tax return on equity of 2%, as determined by the Government for MYT1, applies also to the second regulatory period (MYT2). If KOSTT is allowed to realise commercial return on equity, then the allowed WACC will match that of KEDS. Reductions from MYT1 come mainly from reductions in the risk-free rate, taking into account the present evidence of the cost of financing of the Government of Kosovo.

Component	KEDS (DSO)			KOSTT (TSO and MO)		
	MYT1	MYT2		MYT1	MYT2 (continuation of 2% real, pre-tax ROE)	
		Scenario1	Scenario2		Scenario1	Scenario2
Non-risk rate (real)	**6.5%**	**1.1%**	**3.0%**	**6.5%**	**1.1%**	**3.0%**
Cost of debt (real)	**9.3%**	**3.9%**	**5.8%**	**9.3%**	**3.9%**	**5.8%**
Equity cost (real, pre-tax)	14.7%	5.0%	7.1%	2.3%	2.3%	2.3%
GEARING	0.50	0.40	0.40	0:40	0.40	0:40
WACC (pre-tax, real)	**12.0%**	**4.5%**	**6.6%**	**5.1%**	**2.9%**	**3.7%**
Eurozone HICP (*)	3.0%	1.9%	1.9%	3.0%	1.9%	1.9%
WACC (pre-tax, nominal)	15.0%	6.4%	8.5%	8.1%	4.8%	5.6%

.*) MYT2 value is for April 2017 and is only included for comparative purposes. The inflation value to be used to convert real WACC to nominal will be determined as part of the final decision for MAR

1 Introduction

The Energy Regulatory Office (ERO) is conducting a Periodic Review for the Second Regulatory Period (MYT2) to determine the Maximum Allowed Revenues (MAR) for the Transmission System Operator (TSO), the Market Operator (MO) and Distribution System Operator (DSO) for the period 1 April 2018 to 31 March 2023. KOSTT JSC is TSO and MO and KEDS JSC is the DSO. Actual allowed revenues were determined in the first Periodic Review in 2013 (MYT1).

As part of this review, ERO will determine a number of key input variables for the calculation of MAR in advance to provide sufficient time for their public consultation. This is the same practice that is applied for MYT1. The input values in question are:

- **Weighted Average Cost of Capital (WACC) of TSO and DSO;**
- Initial level and expected rate of reductions in transmission and distribution system losses;
- Expected rate of efficiency improvements in operating costs of TSO and DSO;
- Appropriate asset lifetime to be used for the purpose of calculating the regulatory depreciation of new investments;
- Loss sharing factor;
- Savings sharing factor that applies to savings that exceed the efficiency factor, and
- Any other input parameter that the regulator may deem necessary.

This report was issued for public consultation. Any comments can be submitted electronically via email at ero.pricing-tariffs@ero-ks.org or submitted in printed form at the following address:

Energy Regulatory Office
Department for Tariffs and Prices
St. Dervish Rozaja No. 12
Prishtina, 10000, Kosovo

Eventual comments from interested parties should be sent no later than 18 July 2017.

ERO reserves the right to publish any comment received in whole or in part, unless it is identified as confidential.

Relevant documents

Law on Electricity	http://ero-ks.org/2016/Ligjet/LIGJI_PER_ENERGJINE_ELEKTRIKE.pdf

Law on the Energy Regulator	https://gzk.rks-gov.net/ActDocumentDetail.aspx?ActID=12694
Rules on TSO / MO Prices	http://ero-ks.org/2017/Rregullat/Rregulla%20per%20te%20Hyrat%20e%20TSO_MO.pdf
Rule on DSO Prices	http://ero-ks.org/2017/Rregullat/Rregulla%20per%20te%20Hyrat%20e%20DSO.pdf

2 MYT1 Decision

The MAR value determined for the TSO, the MO and the DSO in each price review is prepared according to the 'block building' methodology. According to this methodology, each entity is allowed to earn from tariffs an amount equal to the amount of efficient operating costs, the depreciation of the Regulatory Asset Base (RAB) return on RAB. RAB represents the value of the assets purchased by the licensee where ERO has approved these assets as necessary to provide the regulated service and has approved their costs included in the RAB as reasonable.

Allowed return is calculated as the product of WACC and RAB. In MYT1, the return represented about 15% of the allowed revenues of TSO / MO[1] and 18% of DSO allowed revenues. The combination of allowed returns of these entities represents about 6% of the fixed regulated tariff[2].

ERO's approach to WACC calculation was initially determined by a report issued in 2006, prior to the first annual tariff review (which preceded the MY submission)[3]. Prior to the start of MYT1, ERO in December 2011 issued a Consultation Paper[4] by updating the calculation for DSO for 2006. After receiving the comments, a final decision was issued in February 2012 for the WACC value to be applied to DSO for MYT1[5]. Subsequently, ERO also updated the calculations for KOSTT.

The basic formula for WACC used by ERO is as follows:

$$WACC = g_i \times Rd_i + (1 - g_i) \times Re_i$$

[1] In PR 1, the OST and OT were combined into a single entity for the purposes of determining allowed revenues and charges. They will be allocated for the purpose of setting tariffs for PRR 2.

[2] OST / OT and DSO's total charges, including transmission and distribution power loss costs, represented around 34% of final regulated tariffs with energy acquisition costs representing 54% and the costs of the then Public Energy Supplier Electricity with the remaining 12% . After the adoption of new energy laws in 2016, only the OST, OT and DSO charges will be adjusted to MYT2 where the costs of power purchase and suppliers will remain unregulated.

[3] http://ero-ks.org/Price%20and%20Tariffs/WACC_Assumptions_FINAL_alb.pdf

[4] http://ero-ks.org/Tarifat/2012/January/Percaktimi_i_vlerave_indikative_MPKK.pdf

[5] Decision V_399_2012 of 6 February 2012 (http://ero-ks.org/Vendimet/Shqip/2012/V_399_2012.pdf)

gi *The firm's gearing [is calculated as debt / (debt + equity)]*

Rdi *The cost of debt repayment for the firm*

Rei *Cost of Return on Equity for the firm i*

The cost of debt can either be estimated from market evidence or determined directly using the debt costs set by the regulated entity. For MYT1, as neither KEDS nor KOSTT received commercial loans, ERO estimated an appropriate debt cost using the following formula:

$$Rd_i = Rf + DRP_i$$

Rf *Risk free rate (proxies from Securities Debt incomes)*

DRPi *The risk premium for the firm i, representing the additional risk of that firm in relation to the risk- free rate*

The equity cost is not directly observable, even for firms that are listed on the stock exchange, as it represents the expectations of investors for future returns. Therefore, it is necessary to perform the evaluation using any model of any form. For MYT1, ERO has used the Capital Asset Pricing Model (CAPM), which is usually implemented by regulators across the European Union[6] and beyond (e.g., Australia and New Zealand). CAPM estimates the cost of equity as a product of additional risk from stockholding instead of investing in risky assets (Market Risk Premium or MRP[7]) and the risk of volatility of an individual stock compared to that of the market as a whole (equity beta). High-risk firms (stocks that are unstable and move with the market) have equity beta higher than one. Low-risk firms (stocks that are less volatile with respect to changes in the broader economy) have an equity beta lower than one.

CAPM is calculated as follows[8]:

$$Re_i = (Rf + \beta e_i \times MRP)/(1 - t)$$

MRP Market risk premium (the difference between the stock market return and risk free rate)

ße$_i$ Equity beta for firm *i*

[6] According to the European Regulatory Co-operation Agency, 23 Member States apply CAPM in determining the cost of capital for regulated electricity firms

(http://www.acer.europa.eu/official_documents/acts_of_the_agency/recommendations/acer%20recommendation%2003-2014.pdf)

[7] Also referred to as the Equity Risk Pricing (ERP).

[8] For more information regarding the theory of CAPM and its strengths and weaknesses, refer to any corporate finance book (p.sh., http://www.untag-smd.ac.id/files/Perpustakaan_Digital_1/CORPORATE%20FINANCE%20Fundamentals%20of%20Corporate%20Finance,%206th%20Ed%20-%20Vol%20I.%5B2002.ISBN0072553073%5D.pdf)

t Corporate tax rate

The formula presented here is for CAPM pre-tax, where allowed return on equity is adjusted to be set in order to offset corporate income tax and, consequently, to make sure that the post-tax return earned from Equity investors matches their required return. On the other hand, post-tax calculation is used when profit tax is explicitly included as part of the calculation of allowed revenues.

The value of each of the inputs applied in the calculation of MYT1 and WACC that resulted for KEDS (DSO) and KOSTT (TSO and MO) are summarized below along with resources for individual WACC components.

The final value of WACC for KEDS was 15% on a nominal pre-tax basis (e.g., the WACC value includes the assumed inflation and allowance for corporate income tax). The WACC approved value for KOSTT (TSO and MO) was 5.07% on a real pre-tax basis[9], equivalent to 8.07% on a nominal basis as applied to KEDS. Lower WACC for KOSTT represents the Government's guidance to ERO that, as KOSTT owner, it was intended to aim for a lower return on equity than a private owner would require, aiming at benefiting the electricity customers. A lower gearing of 0.40 is also applied. WACC approved means an allowed return on equity for KOSTT of 5.0% in nominal terms (2.0% in real terms).

Table 1: Values approved for WACC in MYT1

Component	KEDS (DSO)		KOSTT (TSO / MO)	
	MYT1	Notes	MYT1	Notes
Risk-free rate (real)	**6.5%**	ERO's assessment of market conditions	**6.5%**	ERO's assessment of market conditions
Debt premium	2.8%	Follow up on ERO decision of 2006	2.8%	Follow up on ERO decision of 2006
Cost of debt (real)	**9.3%**	*Calculated*	**9.3%**	*Calculated*
Equity Risk Premium	6.7%	Follow up on ERO decision of 2006. Based on the EU regulators decisions	n/a	Follow up on ERO decision of 2006. Based on the EU regulators decisions
Equity beta	1.00	Follow up on ERO decision of 2006. Based on the EU regulators decisions	n/a	Follow up on ERO decision of 2006. Based on the EU regulators decisions
Cost of equity (post-tax, real)	**13.2%**	*Calculated*	**2.0%**	*Calculated*
Corporate tax rate	10.0%	Current tax rate in Kosovo	10.0%	Current tax rate in Kosovo

[9] As noted in ERO's Final Evaluation of Allowed Revenues of KOSTT for PRR 1

http://ero-ks.org/Tarifat/2013/Proceset%20e%20Shqyrtimit/Vlersimi_perfundimtar_KOSTT_Shq_22_Mars_2013.pdf

Component	KEDS (DSO)		KOSTT (TSO / MO)	
	MYT1	Notes	MYT1	Notes
Cost of equity (pre-tax, real)	14.7%	*Calculated*	2.3%	*Calculated*
Gearing	0.50	ERO's assessment of the efficiency of gearing	0.40	ERO's assessment of the efficiency of gearing
WACC (pre-tax, real)	**12.0%**	*Calculated*	**5.1%**	*Calculated*
Eurozone HICP	3.0%	September 2011, current[10]	3.0%	September 2011, current
WACC (pre-tax, nominal)	15.0%	*Calculated*	8.1%	*Calculated*

3 Evaluation of MYT1 Outcomes

It is informative to compare current outcomes during MYT1 with assumptions made at the time the initial values for WACC were determined. This section provides a comparison of the key input values in the WACC calculation of the estimated and realized results of MYT1. On the other hand, this comparison supports ERO's proposals about the WACC values that will apply to MYT2.

3.1 Risk-free rate (MYT1 = 6.5%)

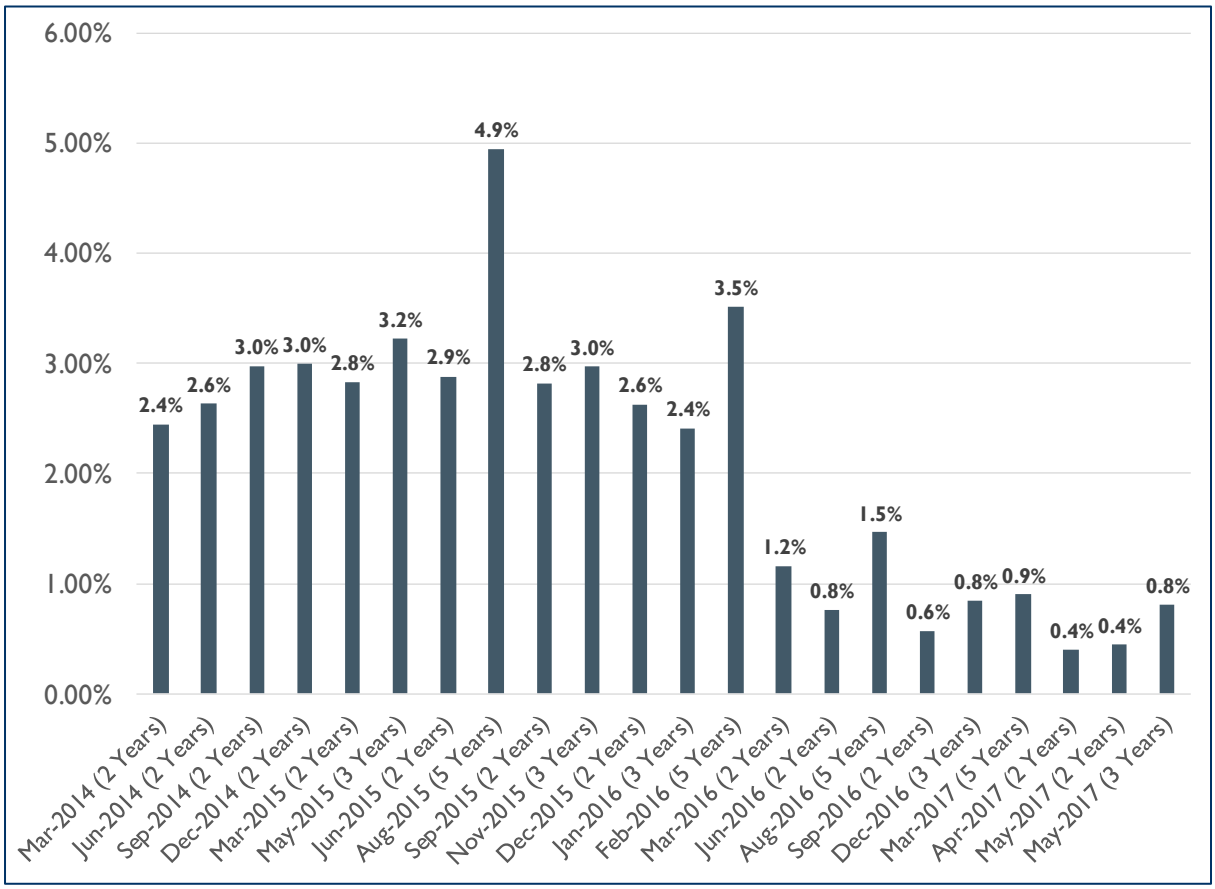
WACC for MYT1 was determined at a time when the impact of the 2008 Global Financial Crisis was still fresh and the long-term interest rate trend was unclear and when Greece was experiencing extremely high interest rates considering the risk of failure and when the issue of public debt was inexistent in Kosovo. Consequently, ERO adopted a conservative assumption for a risk-free rate, setting it at a relatively high level, pending the increasing movements in the securities debt income in general and of a high risk premium attached to Kosovo and other debts in Euro from the higher risk countries, taking into account the Greek crisis.

Since 2012, securities debt income has remained low where the US, Germany and other governments of developed economies, which are able to borrow with interest rates close to or in some cases, even below zero. Kosovo has begun issuing its own securities for a period of up to five years, with revenues from recent issuances which have fallen below 1%. The securities issued on May 26, 2017 for 5 years, have achieved an average income of only 0.81%. Adjusted to the current inflation rate of Kosovo (CPI, April 2017) of -0.3%, this is equivalent to a real income for debt from securities of Kosovo of 1.1%. This compares to the 6.7% assumed for the risk-free rate for Kosovo in the WACC decision in MYT1. While in June, the Government of the Republic of Kosovo issued Securities, where 12-month Treasury Bonds were offered with a nominal value of euro 30 million and with an interest rate of only 0.27%.[11]

[10] http://www.inflation.eu/inflation-rates/europe/historic-inflation/hicp-inflation-europe-2011.aspx

[11] http://mf.rks-gov.net/page.aspx?id=1,2,547

Figure 1: Income from Kosovo Government's securities (1+ years)

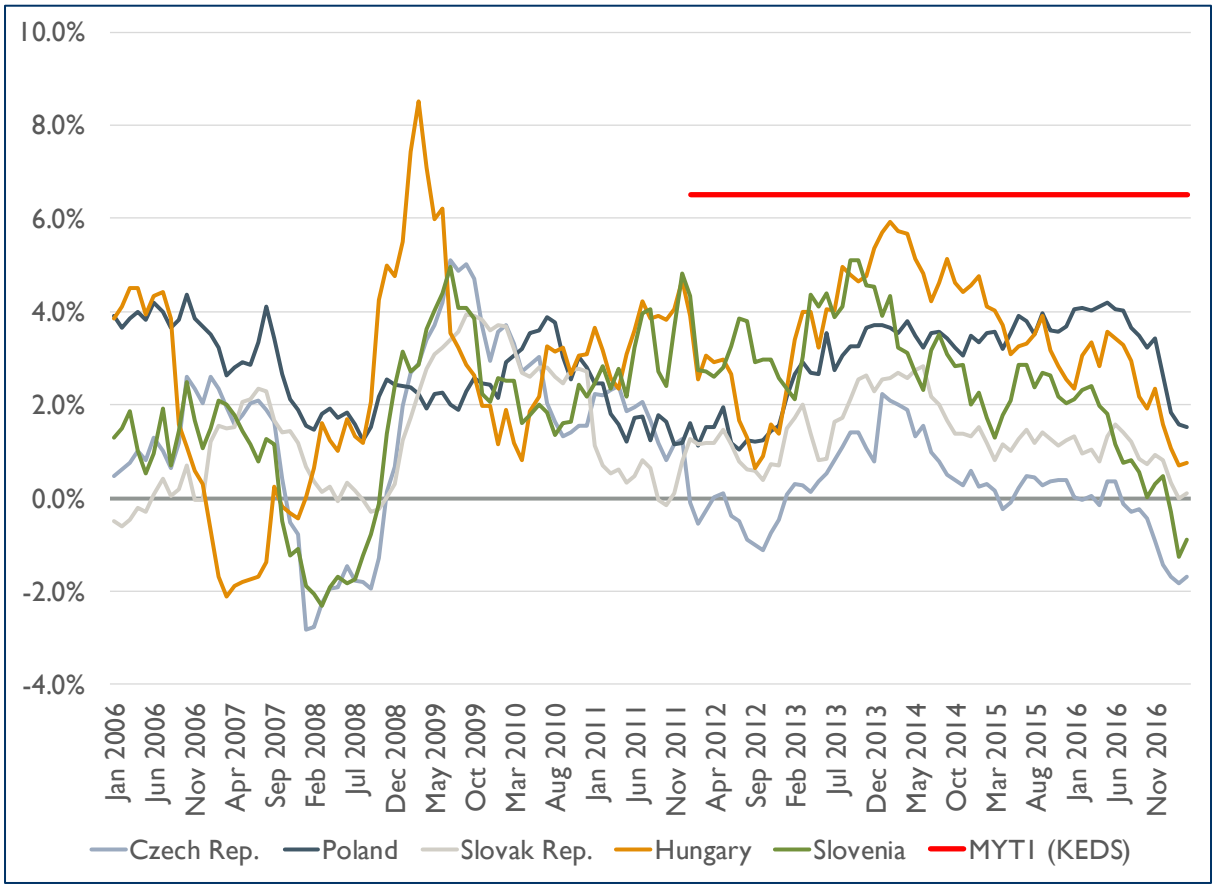


Source: Ministry of Finance

Looking at this more broadly, the risk-free rate applied for MYT1 appears to be at variance with those of public borrowers in other countries in the region, suggesting that concerns about creditworthiness perceived at the time of the Greek crisis and which have been taken into account in the MYT1 decision were overstated. The figure below shows the 10-year real income from government securities for a number of Central and Eastern European countries. As can be seen, except for a short period at the beginning of 2009, incomes at all times are below the risk-free rate for Kosovo, applied in MYT1. Over the last 10 years, real incomes for the Hungarian Government's debt , the country with the lowest credit rating from the ones reviewed here[12], had an average of 3.0% compared to the 6.7% risk-free rate applied for Kosovo in the MYT1 decision.

[12] Ratings evaluation (Moody's) in January 2017 were: Czech Republic - A1; Hungary - Baa3; Poland - A2; Slovak Republic - A2. The rating for Hungary represents the lowest level of investment.

Figure 1: 10-Year Government Securities Real Income for Certain Central and Eastern European Countries (2006-16)



Source: ERO calculations from FRED data

3.2 Cost of debt (MYT1 = 9.3% real / 12.3% nominal)

Both KOSTT and KEDS received long-term loans during the MYT1 period. Those for KOSTT were obtained from KfW and EBRD, which represent international financial institutions that offer loans at below market rates. Therefore, the costs of these loans cannot be considered to represent the actual cost of KOSTT for commercial debt.

In March 2015, KEDS took a five-year loan from an international bank with an annual interest rate of 6.5%. At that date, inflation in the Eurozone was -0.1%[13], and as a result, this represents an effective real interest rate of about 6.6%. This is 2.7% below the assumed debt cost applied to MYT1. While a single loan is not sufficient evidence of the current cost of borrowing, this further supports the evidence from the risk-free rate analysis that the current borrowing costs of regulated entities are below those allowed for MYT1.

[13] Eurostat, HICP, annual change, Euro area

3.3 Gearing (KEDS MYT1 = 0.50 / KOSTT MYT1 = 0.40)

ERO has previously stated (as part of the Sixth Electricity Tariff Review, made in 2012), its position on gearing which is as follows[14]:

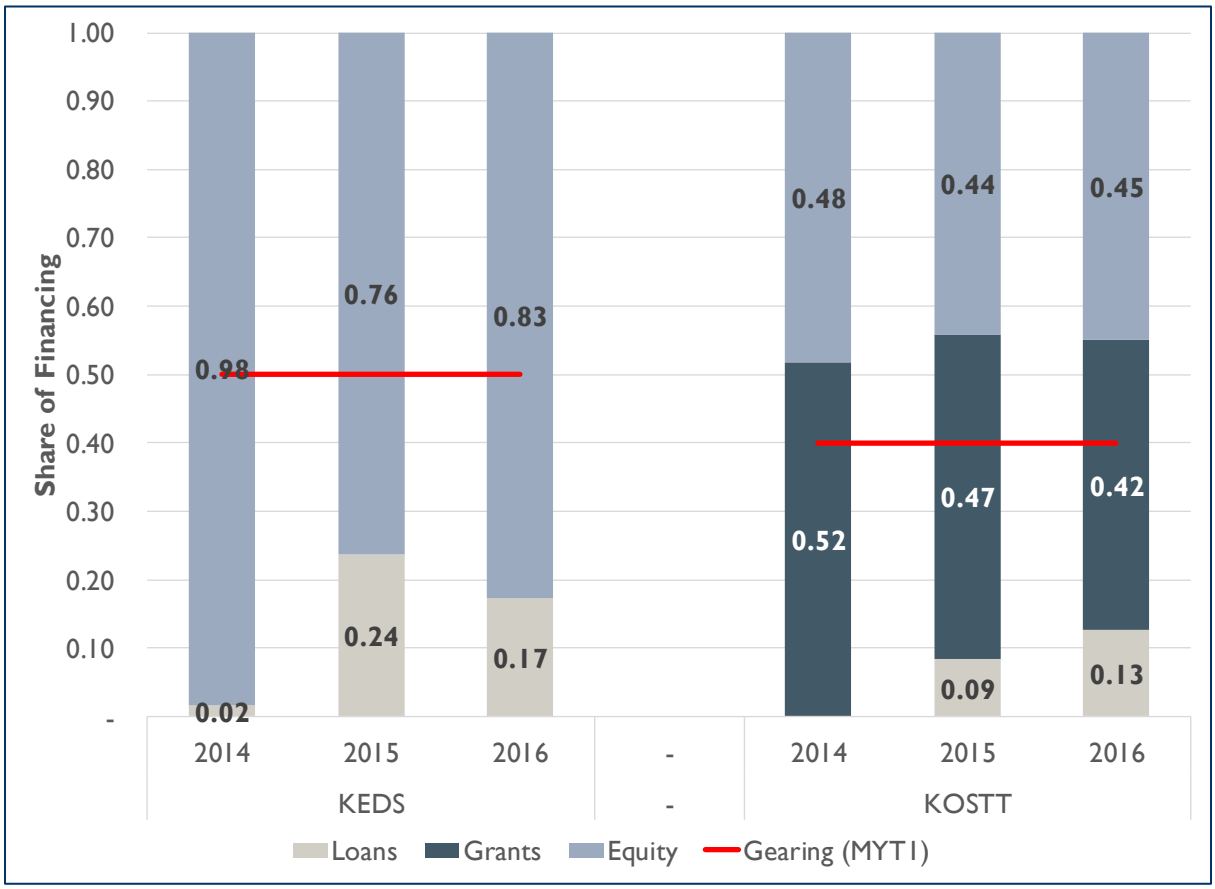
> … it is important to consider what can be considered an optimal gearing level for the utilities – one that assures a lower overall cost of capital and, at the same time, does not encourage excessive gearing which could endanger the financial viability of the licensees. ERO therefore suggests that a gearing between 0.4 and 0.7 is appropriate and has followed this principle in the calculation of WACC for the licensees. Where actual gearing is less than 0.4 then the lower boundary of 0.4 has been used to calculate WACC and, where the actual gearing is higher than 0.7, then 0.7 has been used for calculating WACC. Any actual gearing values that lied between 0.4 and 0.7 were used as such in the calculation of the WACC.

For MYT1, ERO has applied an assumed gearing of 0.50 for KEDS, which was considered to reflect an efficient combination of debt and equity financing. For KOSTT, ERO's final range of 0.40 was applied.

It is clear that the entity's gearing is currently under ERO's assumptions in an efficient gearing range. This suggests a much greater credibility in cash flow (and, in the case of KOSTT, government grants) to fund the investments that ERO has considered appropriate.

[14] ETR6 Consultation Paper for KEK (http://ero-ks.org/Tarifat/2012/Feb/Raporti_Konsultativ_per_KEK.pdf)

Figure 2: Gearing realized and assumed for MYT1



Source: ERO calculations from audited financial statements.

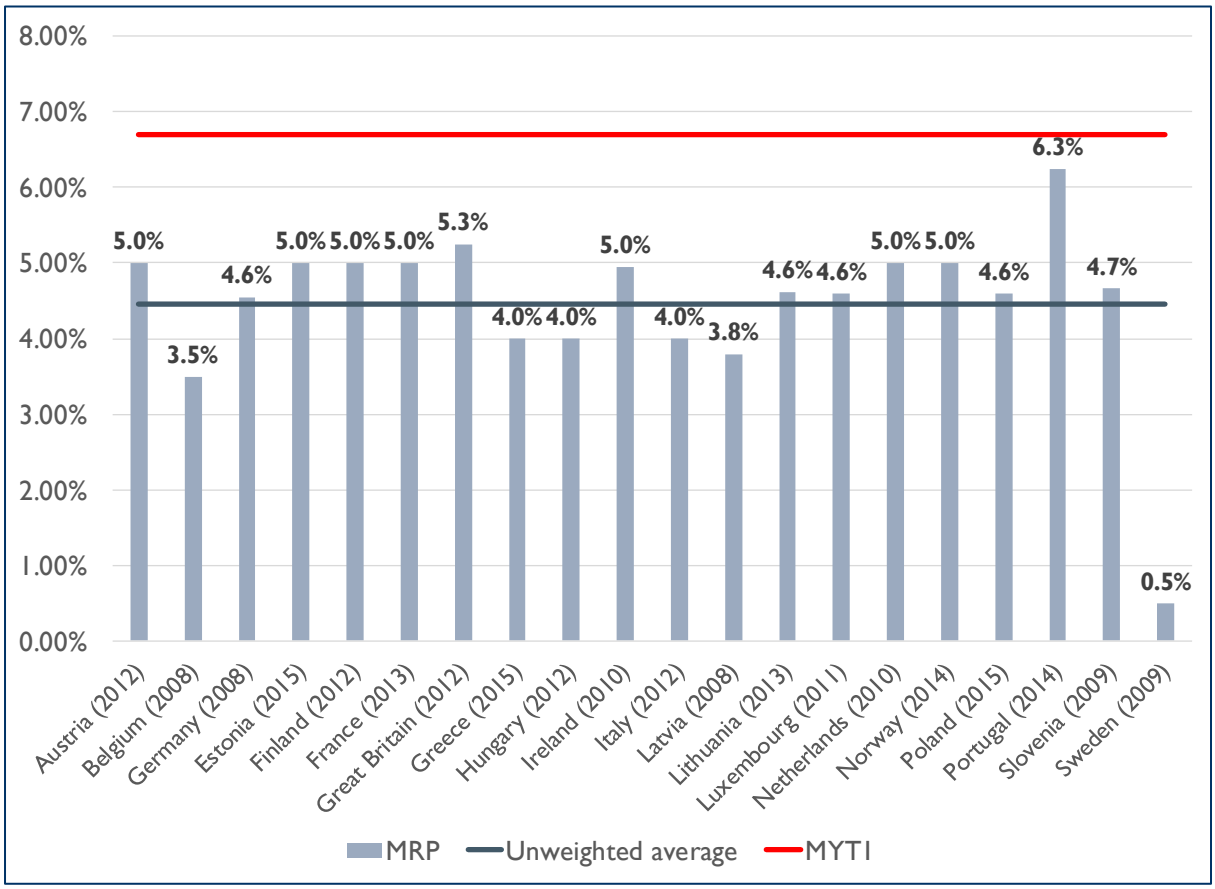
3.4 Market risk premium (MYT1 = 6.7%)

MRP is generally estimated by reference to the long-term differences between return on equity and government securities or notes. Estimates are sensitive to time periods for which estimates are calculated, stock exchange used, securities or bills selection and their terms and if calculations are performed using the arithmetic or geometric average. Given these complexities and the lack of relevant Kosovo market data, ERO's approach to MYT1 was to refer to EU regulators decisions for MRP, appropriate to determine the value to be applied.

For MYT1, ERO has used a MRP of 6.7%. This is based on decisions taken by regulators during and after the 2008 Global Financial Crisis. Apparently, many regulators have explicitly and implicitly adopted their MRP estimates upwards at this time to compensate for increased uncertainty over the conditions of future funding. Recent decisions tend to show a downward trend in WACC's various components.

The figure below shows a number of recent MRP decisions by EU regulators. As can be seen, they are generally gathered in the range of 4% to 5%, with some isolated cases. The weighted average of all the regulators shown is 4.5%, which is significantly lower than the value applied by ERO in calculating WACC for MYT1.

Figure 4: Recent regulatory decisions on Market Risk Premium (Electricity)



Source: CEER. March 2016. CEER Report on Investment Conditions in European Countries (C15-IRB-28-03).

< http://www.ceer.eu/portal/page/portal/EER_HOME/EER_PUBLICATIONS/CEER_PAPERS/Cross-Sectoral/2016/C15-IRB-28-03_Investment_Conditions-Report_14-March-2016.pdf> .

3.5 Equity beta (MYT1 = 1.0)

Similar to MRP, the equity beta is generally estimated by market data and is sensitive to assumptions applied to the frequency of estimates, the start and end dates used and the calculation methodologies. Given this, and the lack of specific data for Kosovo, ERO has followed the same approach as for MRP in deriving its value from the precedents provided by other regulators' decisions.

For MYT1, ERO has applied the assumed equity beta of 1.0 in calculating the allowed return for KEDS (return for KOSTT was specified by the Government). This was the same value used by ERO in its initial assessment in 2006, which was taken out of regulatory decisions at that time.

Same as with MRP, there appears to have been a downward trend in regulators' decisions on the equity beta. The two figures below show the equity balances applied by EU regulators in the recent WACC decisions on electricity for TSOs and DSOs. Their average is 0.76 and 0.75 respectively. Only

one regulatory agency (that of Slovenia) has applied a beta higher than 1.0 with all other betas set under 1.0.

Figure 5: Recent EU Decisions on Equity Beta (Electricity Transmission)

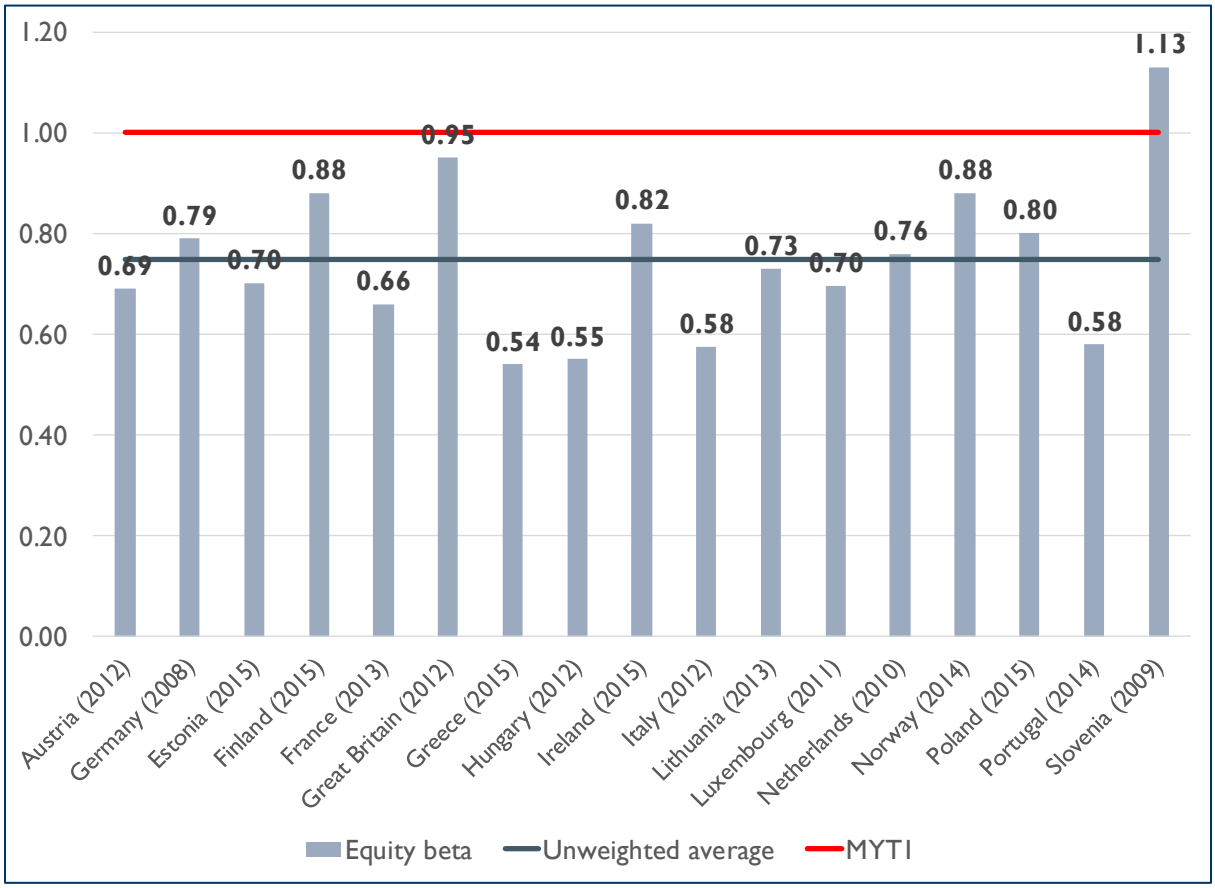
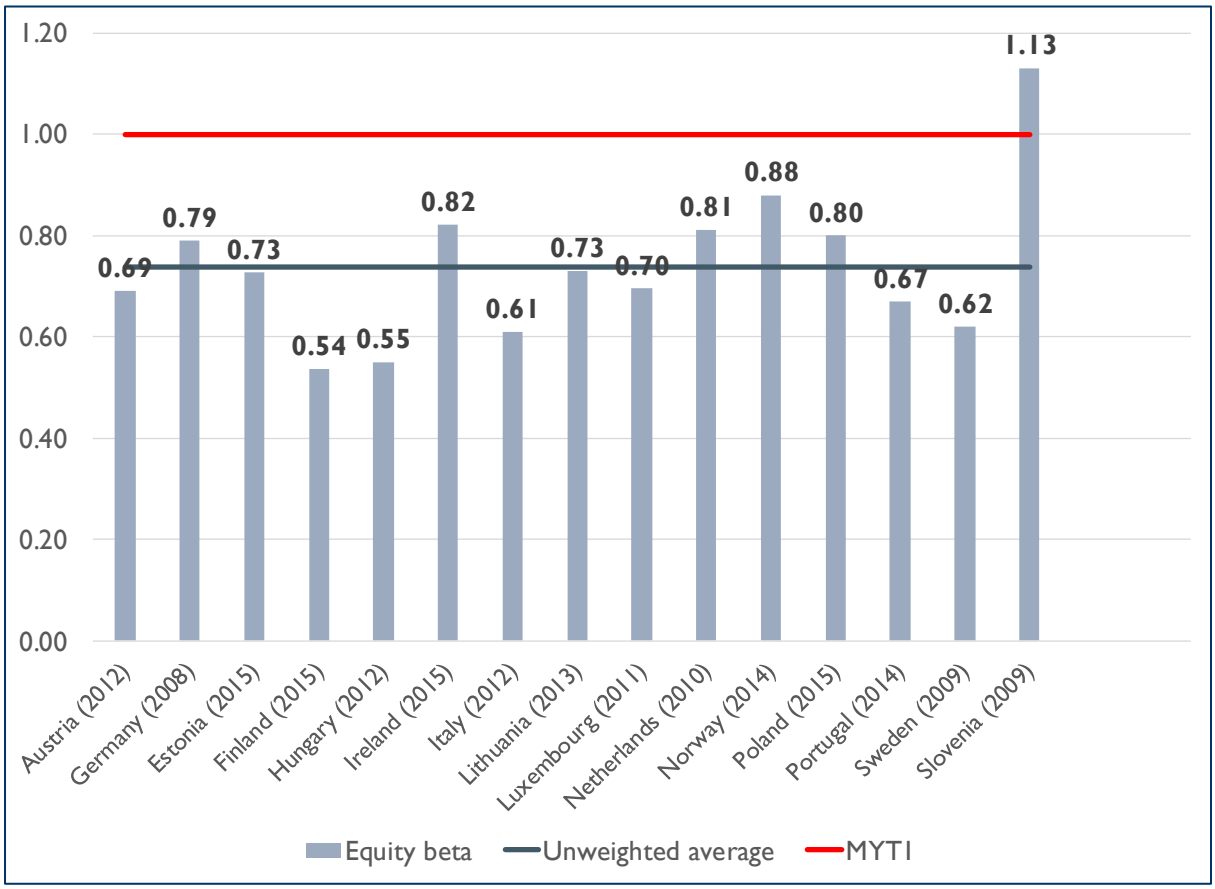


Figure 3: Recent EU Decisions on Equity Beta (Electricity Distribution)



Source (both figures): CEER. March 2016. CEER Report on Investment Conditions in European Countries (C15-IRB-28-03). < http://www.ceer.eu/portal/page/portal/EER_HOME/EER_PUBLICATIONS/CEER_PAPERS/Cross-Sectoral/2016/C15-IRB-28-03_Investment_Conditions-Report_14-March-2016.pdf> .

3.6 Summary of Conclusions

A comparison of current results versus MYT1 estimates suggests the following:

- Recent risk-free rates are significantly lower than those assumed in estimates for MYT1, which is reflected in KEDS borrowing costs.
- Gearing realized by both KOSTT and KEDS is lower than ERO's assumptions for efficient gearing levels.
- MRP and equity beta used in MYT1 exceed the recent EU regulators' decisions.

4 Proposals for MYT2

Based on the MYT1 estimate of the achieved results, ERO proposes a number of adjustments to the inputs used for WACC calucaltion for MYT2. The individual inputs used will be discussed below with the result of WACC proposed at the end of this section.

4.1 Risk-free rate

ERO considers that the risk-free rate of 6.7% applied for MYT1 should be reduced due to the large discrepancy between revenues realized in the Securities Debt in Kosovo and elsewhere. At the same time, ERO considers that revenues may increase from current ones, historically low levels, over the five year period of MYT2 and that it may be appropriate to offer 'space' to the licensees in order to be protected from such increases.

Taking this into account, ERO for this Consultation Paper has calculated a WACC indicative value for MYT2 using a range of risk free rates of 1.1 to 3.0%. The lower limit represents actual real income in Kosovo long-term debt securities while the upper limit represents the 10-year average income in Hungarian debt securities - selected as a representative with the issuance of the highest risk of traded long-term debt among regional comparators.

4.2 Cost of debt

In the 2011 Consultation Paper, ERO has shown its intention for the use of actual cost of debt by the licensees, in determining the allowed cost of debt for future price control, where it can be assured that these loans are carried out efficiently and represent the commercial cost of financing. Since then, KOSTT has signed three loan agreements, but these are below market rates. KEDS has signed a single loan agreement which, according to ERO's view, represents a very small sample to be considered significant.

Taking this into account, ERO proposes to continue to calculate allowed costs of debt as an amount of the assumed risk-free rate and debt risk premium. For MYT2, ERO proposes applying the same debt risk premium as in MYT1 (meaning, of 2.8%). By adding to this assumed risk-free real rate of 1.1 to 3.0% it gives us the real cost of debt of 3.9% to 5.8%. The same cost will be applicable to TSO, MO and DSO[15].

This compares to the reported cost of KEDS existing single loan of 6.5% in nominal terms (6.6% in real terms using the Eurozone's HICP at the date of the loan agreement). ERO is aware that the proposed cost of debt is lower than the interest rate reported by KEDS and invites KEDS to provide evidence that the interest rate on its existing loan represents the result of a competitive process to determine optimal loan terms and, as a result, can be considered an effective cost of financing.

Proposed cost of debt is likely to be higher than realized cost of KOSTT's existing loans. Interest rates on two loans received by KOSTT from KfW are reported to be equal to KfW's own financing costs plus 1.5%. Based on recent issues of securities, this would mean an interest rate of about 1.5% in

[15] ERO will continue to disallow return of the funded assets by grants

nominal terms and about 0.4% in real terms [16]. The loan interest rate that KOSTT received from EBRD is reported to be related to EURIBOR. The current 6-month EURIBOR rates are -0.26%[17], which implies that the interest rate on this loan is currently negative. ERO invites for comments to be given on whether it is appropriate to adjust the allowed cost of debt to KOSTT (TSO and MO) licensees below to reflect these extremely small interest rates on its current loans.

4.3 Gearing

ERO has previously determined that the appropriate gearing level for regulated licensees lies between 0.40 and 0.70. Since both KEDS (DSO) and KOSTT (TSO and MO) have gearing at lower levels than this, ERO proposes that for each entity gearing be set at 0.40 representing the end of this range.

4.4 Market risk premium

ERO has emphasized above that the MRP applied in MYT1 is significantly higher than that applied by recent EU regulators' decisions. Taking into account ERO's approach to follow the precedent in this regard, ERO proposes to lower the MRP used in WACC calculation from 6.7% to 4.5%.

4.5 Equity beta

As with the MRP, ERO intends to continue its approach to follow the precedents laid down by EU regulators' decisions. Based on the review of recent decisions, as outlined in Section 4.5, ERO considers it appropriate to propose a beta of equity of 0.75 for DSO and TSO.

4.6 Other inputs

ERO has kept the tax rate assumption on corporate income of 10%. For illustrative purposes, ERO has calculated the nominal WACC using the latest annual HICP values for the Eurozone, where for the month of April 2017 it is 1.9%. ERO will update the assumed inflation rate and nominal WACC that results before the final decision on allowed revenues for MYT2.

4.7 Indicative WACC for MYT2 - KEDS (DSO)

The following table shows the WACC indicative for MYT2 for KEDS (DSO), calculated using the proposed changes from the MYT1 values discussed above. The proposed range of 4.5 to 6.6% in real terms represents an approximate halving from the rate applied in MYT1. The deduction is mainly due to the lower risk-free rate applied, reflecting changes in market conditions.

Table 2: Indicative WACC calculations for MYT2 - KEDS (DSO)

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[16] The latest comparison of KfW's Euro securities offers in April 2017 has been for securities for 5 years. The coupon rate was 0.0%. The HICP Eurozone in April 2017 was 1.9% on annual basis.

(https://www.kfw.de/KfW-Group/Newsroom/Aktuelles/News/News-Details_410048.html)

[17] http://wsj.com/mdc/public/page/9_3020-euribor.html (rates effective on June 8, 2017)

Component	MYT1	MYT2	
		Scenario 1	Scenario 2
Risk-free rate (real)	**6.5%**	**1.1%**	**3.0%**
Debt premium	2.8%	2.8%	2.8%
Cost of debt (real)	**9.3%**	**3.9%**	**5.8%**
Equity risk premium	6.7%	4.5%	4.5%
Equity beta	1.00	0.75	0.75
Equity cost (post-tax, real)	**13.2%**	**4.5%**	**6.4%**
Corporate tax rate	10.0%	10.0%	10.0%
Equity cost (pre-tax, real)	14.7%	5.0%	7.1%
Gearing	0.50	0.40	0.40
WACC (pre-tax, real)	**12.0%**	**4.5%**	**6.6%**
Eurozone HICP (*)	3.0%	1.9%	1.9%
WACC (pre-tax, nominal)	15.0%	6.4%	8.5%

(*) MYT2 value is for April 2017 and is included for comparative purposes only. The inflation value that will be used in converting from real WACC to nominal will be determined as part of the final MAR decision.

4.8 Indicative WACC for MYT2 – KOSTT (TSO and MO)

WACC for KOSTT (TSO and MO) depends on the assumptions made on the future return on equity. If the return on equity is kept at level determined by the Government for MYT1 of 2.0% in real terms, then the estimated WACC falls to a level of 2.9 to 3.7% in real terms. ERO highlights that, as has happened in MYT1, this means that in some circumstances, KOSTT may earn a return below the risk-free rate or cost of funding of the Government of Kosovo. However, if KOSTT earns a commercial return on equity, then the estimated WACC is increased at the same level as for KEDS. ERO is seeking guidance from the Government regarding the appropriate principle to be applied for MYT2.

Table 1: WACC indicative calculations for MYT2 – KOSTT (TSO and MO)

Component	MYT1	MYT2 (commercial ROE)		MYT2 (Continuation of the Government - defined ROE)	
		Scenario 1	Scenario 2	Scenario 1	Scenario 2
Risk-free rates (real)	**6.5%**	**1.1%**	**3.0%**	**1.1%**	**3.0%**
Debt premium	2.8%	2.8%	2.8%	2.8%	2.8%
Cost of debt (real)	**9.3%**	**3.9%**	**5.8%**	**3.9%**	**5.8%**
Equity risk premium	n/a	4.5%	4.5%	n/a	n/a

Component	MYT1	MYT2 (commercial ROE)		MYT2 (Continuation of the Government - defined ROE)	
		Scenario 1	Scenario 2	Scenario 1	Scenario 2
Equity beta	n/a	0.75	0.75	n/a	n/a
Equity cost (post-tax, real)	**2.0%**	**4.5%**	**6.4%**	**2.0%**	**2.0%**
Corporate tax rate	10.0%	10.0%	10.0%	10.0%	10.0%
Equity cost (pre-tax, real)	2.3%	5.0%	7.1%	2.3%	2.3%
Gearing	0.40	0.40	0.40	0.40	0.40
WACC (pre-tax, real)	**5.1%**	**4.5%**	**6.6%**	**2.9%**	**3.7%**
Eurozone HICP (*)	3.0%	1.9%	1.9%	1.9%	1.9%
WACC (pre-tax, nominal)	8.1%	6.4%	8.5%	4.8%	5.6%

(*) MYT2 value is for April 2017 and is included for comparative purposes only. The inflation value that will be used in converting from real WACC to nominal will be determined as part of the final MAR decision.