

The WACC for Dutch Postal Services

A RESPONSE TO THE REPORT PREPARED
BY ECORYS FOR POSTNL

PREPARED FOR

ACM

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I. Introduction and Summary

In the Netherlands, local and regional postal operators serve business mailers by collecting and delivering mail at a regional level. However, these operators lack a nationwide delivery network and rely on the nationwide network of PostNL for the mail they cannot deliver themselves. In July 2017, in the context of the Market Analysis Decision on business bulk mail, the Dutch Authority for Consumers and Markets (ACM) decided that PostNL must grant other postal operators access to its 24-hour postal network on the basis of a tariff set by ACM. One of the main components in setting the tariff is the Weighted Average Cost of Capital (WACC). Within this context, ACM commissioned The Brattle Group (Brattle) to calculate the WACC for PostNL's 24-hour mail service using ACM's general methodology, also taking into account that PostNL is a listed firm and that not all of PostNL's activities are regulated mail delivery services.

In a report dated 8 November 2017 (First Brattle Report),¹ we estimated a nominal pre-tax WACC of 4.60%, which we converted into real using an inflation estimate of 1.10%, resulting in a real WACC of 3.46%. Consistent with ACM's cost of capital methodology, and with the practice of European regulators, we applied the Capital Asset Pricing Model (CAPM) to calculate the cost of equity.

PostNL commissioned a report by Ecorys, a consultancy, to critique and challenge the findings of the First Brattle Report (the Ecorys Report).² The Ecorys Report advances a number of criticisms to the First Brattle Report and ultimately arrives at a nominal pre-tax WACC of 9.35%.³ ACM has asked Brattle to respond to the points raised in the Ecorys Report.⁴

¹ Dan Harris, Lucrezio Figurelli and Flora Triolo, "The WACC for Dutch Postal Services", 8 November 2017 (First Brattle Report).

² Ecorys, "WACC for PostNL (24 business mail)", 25 June 2018 (Ecorys Report).

³ Ecorys Report, Table S.1.

⁴ Ecorys prepared their report in Dutch. In preparing this response we have relied on an English language translation of the Ecorys Report provided by ACM.

I.A. Risk Free Rate for Equity

In the First Brattle Report we calculated the Risk-free rate (RFR) in line with ACM's methodology, as the average between the three-year average yields of ten-year government bonds in the Netherlands and in Germany. Ecorys contends that a RFR calculated using average yields of government bonds from the past three years is too low. Instead, Ecorys suggests that the RFR should be calculated based on the average interest rate over the past 10 years using the so-called 'staircase model'. ACM has used this model to calculate the cost of debt in other regulated industries.⁵ Applying this methodology, Ecorys proposes a RFR of 2.02%.

As we detail in **Section II**, there are sound economic reasons to prefer an estimate of the RFR – which will be used to estimate the cost of equity – based on an average yield over a three-year period, as opposed to using a longer averaging period of ten years. In the context of estimating the cost of equity, we need the best prediction of the RFR for the upcoming regulatory period. In principle, the most recent data on yields provides the best prediction of future rates, because it factors in all of the available information on future rates. In practice, the use of averaging periods ranging from a few months up to a few years is preferable from a policy perspective, because it reduces the volatility of the resulting estimate and makes the WACC less dependent on timing issues. In contrast, the use of averaging periods that are too long may be particularly unreliable, as it places too much weight on information from a distant point in time. In other work, we have advised regulators to consider averaging period of no longer than one year, so ACM has already gone back further than we recommend.

We recognize however, that the policy of quantitative easing (QE) in recent years has reduced the yields of government bonds directly involved without a corresponding reduction in regulatory and country risks. Therefore, estimating the RFR based on government bond yields depressed by QE may lead to underestimating the WACC. In similar work we have supported applying a discretionary upward adjustment to the RFR to account for this effect.

I.B. Equity Risk Premium

In the First Brattle Report we calculated the Equity Risk Premium (ERP) in line with ACM's methodology, as the simple average of the long-term arithmetic and geometric means of the

⁵ Ecorys Report, pp. 3 and 10. It is worth pointing out that ACM has never applied the staircase model in calculating the RFR for the cost of equity. This is reasonable, because there are no issues of legacy debt costs in calculating the cost of equity.

ERP for the Eurozone economies. Using long-term historical data on the excess return of shares over long-term bonds published by Dimson, Marsh and Staunton (DMS), we estimated an ERP of 5.03% for the Eurozone, which we rounded to 5.0%. We further considered evidence on the ERP from the Dividend Growth Model (DGM), which is based on contemporaneous dividend forecasts, but concluded that no adjustments to the historical ERP were warranted.

Ecorys contends that we should have explained why we are using “a figure for Europe,”⁶ and argues that our approach to calculating the ERP was not “sufficiently serious” in accounting for the results of the DGM and placed too much weight on the historical average of the ERP. Instead, Ecorys bases its estimate only on the value of 5.75% provided by the DGM.⁷

In **Section III**, we explain that using a Eurozone ERP is reasonable, and that in looking at DGM estimates of the ERP we are interested only in the trend, not the level, to inform whether reasonable adjustments to the historical data are warranted. In the current case, both the historical and DGM estimates had been relatively stable, and we concluded that no adjustment should be made to the historical estimate. Our estimate of the ERP is also within the range that EU regulators of postal and telecoms services have applied, mostly based on historical data.

I.C. Asset Beta

In the First Brattle Report we calculated the asset beta of the regulated 24-hour mail service based on an analysis of the asset betas of a ‘peer group’ of publicly traded postal operators. The analysis factored in the relationship between the firms’ asset betas and the percentage of revenue which they derive from mail. Ecorys contends that our methodology is flawed, mainly because we “carried out no analysis of the business-specific risks of the 24-hour service” and because our analysis of the relation between the asset beta of postal operators and the percentage of revenue which they derive from mail had too few observations.⁸ Based on this Ecorys suggests that “the principle should be that the risks are the same as those of the market portfolio (i.e. an equity beta equivalent to 1).”⁹

⁶ Ecorys Report, p. 11.

⁷ Ecorys Report, pp. 4, 11 and Table S.1.

⁸ Ecorys Report, p. 3 and 13-14.

⁹ Ecorys Report, p. 14.

As we detail in **Section IV**, Ecorys criticisms are unfounded and misleading. Our beta decomposition allows us to assess the beta of a ‘pure play’ mail delivery service even if no company in the sample derives 100% of its revenue from mail. Our results are statistically robust, and we apply judgment in interpreting our results. In contrast, Ecorys’s proposed approach is highly questionable, because it ignores data altogether, and leads to results that are incompatible with the information that is available.

I.D. Cost of Debt

In the First Brattle Report we calculated the cost of debt as a credit spread on top of the RFR, increased by 15 basis points to cover the costs of issuing debt. In line with ACM’s methodology, in calculating the spreads, we considered both the yields on an index of A-rated 10-year bonds for utilities, and the yields on comparable long-term bonds. Based on this methodology, we concluded that a credit spread of 0.90%, calculated on the comparable bonds of Deutsche Post and Fedex would be reasonable for the regulated activity.

Ecorys contends that such an approach deviates from the ‘staircase model’ recently used by ACM for other regulated industries, and “intended to provide a better estimate of companies’ actual financing costs.”¹⁰ With respect to the credit spread, Ecorys suggests that we should have considered the business-specific risks affecting PostNL’s cost of debt and the specific characteristics which distinguish PostNL from its peers, namely that PostNL’s 24-hour business is small.¹¹ In light of this, Ecorys rejects our approach, and suggests calculating the average credit spread over the past three years based on data for new loans in the Netherlands “of €1 million or over with a term of more than five years.”¹²

In **Section V** we explain that regulators have discretion on how they compensate the cost of debt. ACM’s general methodology does not look at data specific to PostNL because it seeks to estimate the WACC for the regulated activity – not the regulated firm. The staircase model may be reasonable for energy networks with long-lived assets that are typically debt financed. PostNL does not have any legacy debt arranged when interest rates were high. Applying the staircase method to PostNL would over compensate it for its debt costs.

With respect to the credit spread, we agree with Ecorys that A-rated utility bonds do not reflect the cost of debt of the regulated activity, and it is precisely for this reason that we

¹⁰ Ecorys Report, pp. 3 and 15-17.

¹¹ Ecorys Report, p. 16.

¹² Ecorys Report, p. 17.

relied only on the spread of comparable bonds. Since preparing our First Report, PostNL issued a new seven-year bond. The average spread of this bond is 0.86%, which is almost identical to the spread of 0.90% we calculated for the regulated service based on comparable bonds.

I.E. Reasonableness of the Results

Ecorys’s final criticism is that in the First Brattle Report we failed to validate the reasonableness of our results overall, and that we should have compared our estimate of the WACC with the WACC used by analysts for PostNL, with the WACCs used by foreign regulators of postal services, and with the WACC used by ACM in other sectors.¹³ Ecorys arrives at a nominal pre-tax WACC of 9.35%, which -- according to Ecorys -- is in line with the range of “WACCs which PostNL itself uses and which analysts use for mail companies,” though “higher than the WACC that the ACM sets for other sectors.”¹⁴

In **Section VI** we explain that there is no reason to believe that values used by analysts provide a useful benchmark for the reasonableness of WACC for the regulated 24-hour mail service. Analysts may overstate the actual cost of capital, because they tend to account for diversifiable business risk (e.g., declining volumes) using a higher cost of capital rather than adjusting cash flows downwards. Analysts are measuring the discount rate for PostNL as a whole, but the data shows that the regulated business has the lowest systematic risk. Hence we would expect the discount rate for PostNL to be higher than the WACC for the regulated 24-hour mail business.

It is also unreasonable to suggest, as Ecorys does, that Brattle “devoted insufficient time and energy to clarifying the parameters applied by foreign regulators to the postal market.” In Section IV.D of the First Brattle Report we reviewed a number of recent consultations and decisions of other European regulators on the WACC of regulated postal services to validate our analysis of the asset beta and to ensure that our results were robust and reasonable. Furthermore, for three countries we were able to retrieve sufficient methodological details to estimate the asset beta under the methodology applied by the regulator.

¹³ Ecorys Report, p. 19.

¹⁴ Ecorys Report, p. 4.

II. Risk Free Rate

In the First Brattle Report, consistent with the ACM's methodology, we calculated the RFR as the average yield on 10-year government bonds in the Netherlands and in Germany over the three years October 2014 through September 2017, being the last date on which data were available at the time we prepared the First Brattle Report.

Ecorys contends that the methodology we adopted in the First Brattle Report differs from the methodology used by ACM in other sectors, and that the extremely low yields experienced over the last few years provide grounds for using a longer time horizon, particularly because QE is expected to end in the near future. Ecorys further points out that in the energy sector and the pilotage service, ACM used a 'staircase model' for calculating the cost of debt. The staircase model assumes a portfolio of 10-year debt obligations, 10% of which are renewed each year.

Based on these observations, Ecorys proposes two alternative methods of using the staircase model for calculating the RFR. As shown in Table 2.1 of the Ecorys Report, the first method calculates the RFR averaging the actual interest rate over period 2008-2017, while the second method interpolates the interest rate over the three years of the new regulatory period (2018-2020) and calculates the RFR averaging the interest rates over the 10 years ending at the end of the regulatory period (2011-2020). Applying this methodology, Ecorys arrive at a value of the RFR equal to 2.02% under the first method, and 1.07% using the second method. Ecorys relies on the higher value of 2.02% in calculating the WACC.

Unlike what Ecorys appears to suggest, we did not apply ACM's methodology *mechanically*.¹⁵ There are sound economic reasons to prefer an estimate of the RFR based on an average yield over a three-year period, as opposed to using the longer averaging period of ten years suggested by Ecorys. The RFR must reflect the best prediction of the RFR for the upcoming regulatory period. In principle, the most recent data on yields provides the best prediction of future rates because it factors in all of the available information on future rates. In practice, the use of averaging periods ranging from a few months up to a few years is preferable from a policy perspective, because it reduces the volatility of the resulting estimate and makes the WACC less dependent on timing issues. In contrast, an averaging period of 10 years is too

¹⁵ Ecorys Report, p. 8.

long and may be particularly unreliable, because it places too much weight on information from a distant point in time. In other work, we have advised regulators to consider averaging periods of no longer than one year,¹⁶ so ACM has already gone back further than we recommend.

In any event, ACM has never applied the staircase model to calculate the RFR for the cost of equity. We have never seen a regulator apply it, and applying it would make no economic sense, because there are no issues of legacy debt costs in calculating the cost of equity.

We recognize however, that the policy of Quantitative Easing or QE, introduced by the European Central Bank (ECB), has reduced the yields of government bonds directly involved without a corresponding reduction in regulatory and country risks. Therefore, estimating the RFR based on government bond yields depressed by QE may lead to underestimating the WACC. Research indicates that the effect of QE programs on bond-yields can be up to 100 basis points for countries with relatively low credit ratings. In similar work for other regulators and regulated firms we have supported applying an upward adjustment to the RFR to account for the effect of QE on government bond yields.¹⁷

In sum, we agree with Ecorys that the particularly low bond yields over the past few years produce a RFR that is low. However, we do not agree with the use of a 10-year averaging period, because bond yields from periods that are too distant in time are not a reliable indicator of what interest rates are expected to be in the future, and there are no 'legacy debt' issues.

III. Equity Risk Premium

In the First Brattle Report, we calculated the ERP in line with ACM's methodology, based on the excess return of stocks over long-term bonds for the Eurozone economies, using the simple average of the long-term arithmetic and geometric means of the ERP for the Eurozone economies, and using the current capitalization of each country's stock market as analytical

¹⁶ See, *e.g.*, Harris, Caldwell, Bazzucchi, and Lo Passo, "Review of approaches to estimate a reasonable rate of return for investments in telecoms networks in regulatory proceedings and options for EU harmonization", The Brattle Group (2016), prepared for the Directorate-General for Communications Networks, Content and Technology (DG CONNECT).

¹⁷ *Ibid.*

weights. Using data published by DMS,¹⁸ we estimated an ERP of 5.03% for the Eurozone, which we rounded to 5.0%.

We further considered whether evidence from the DGM, which provides an estimate of the ERP based on contemporaneous dividend forecasts, warranted an adjustment to the estimate based on historical data. Accordingly, we retrieved an estimate of the ERP in the Eurozone based on KPMG's DGMs.¹⁹ Overall, we found that both the historical estimates and the DGM estimates had been relatively stable over the last five years, with the DGM estimates slightly higher than the average between the arithmetic and geometric means of the historical ERP. Noting that some practitioners argue that the historic outturn ERP may overestimate the future ERP, and that a downward adjustment to the historical ERP would be largely offset by an upward adjustment based on DGM estimates, we concluded that no adjustments to DMS estimates of the historical ERP were warranted.

Ecorys advanced two main critiques to our estimate of the ERP. First, Ecorys argued that we or ACM should have stated why "it was decided to use a figure for Europe, particularly since PostNL provides 24-hour business mail services only in the Netherlands."²⁰ Second, Ecorys argued that "Brattle attributes too little weight to forward-looking estimates of the ERP,"²¹ noting that while we acknowledge that there are reasons "for adjusting estimates downwards," we didn't adduce any arguments for an upward adjustment.²² Ecorys then advances a number of reasons which it believes provide arguments for an upward adjustment,²³ and cite to a number of studies which support the notion of a time-varying ERP, and/or support the use of forward-looking models such as the DGM or surveys.²⁴ Based

¹⁸ *Credit Suisse Global Investment Returns Yearbook 2017*, Table 2.

¹⁹ KPMG provides a DGM-based estimate of the ERP for Europe based on the implied equity returns of European indices.

²⁰ Ecorys Report, p. 11.

²¹ Ecorys Report, p. 11.

²² Ecorys Report, pp. 11-12.

²³ Ecorys Report, p. 12. Specifically, Ecorys states that: "People grow more risk-averse with age, so risk premiums are probably higher in an ageing society. The market risk premium also depends on the health and predictability of the economy as a whole. The years since the financial crisis that struck in 2007 have been characterised by periods of volatility alternating with periods of stability. There also appears to be an inverse relationship between the risk-free interest rate and the risk premium. Over the past few years the risk-free interest rate has declined, as a result of which the risk premium would have risen."

²⁴ Ecorys Report, p. 12.

on these arguments, Ecorys suggests using a value of the ERP of 5.75%, being KPMG's DGM estimate of the ERP for 2017.

Both of Ecorys's criticisms are unsupported. First, Ecorys argument that PostNL provides 24-hour business mail services *only in the Netherlands* is irrelevant in calculating the ERP for the regulated activity. The ERP measures the excess return over the RFR that an investor holding a diversified portfolio would expect as a premium for the non-diversifiable risk undertaken by investing in the regulated business. Because investors diversify their investments internationally, the geographic scope of the ERP should be wider than the country in which the regulated business operates. In principle, if investors were perfectly diversified over the world, it would make sense to consider a worldwide ERP. In practise, investors have a tendency to invest in markets which are geographically closer and with which the investor is more familiar. ACM's methodology considers an estimate of the ERP which only considers countries within the Eurozone. This is reasonable, because a Dutch investor is likely to be diversified over the same currency zone, rather than to incur additional currency risks by diversifying outside of the Eurozone. But even supposing, for the sake of argument, that we were interested in a Dutch ERP as Ecorys is implicitly suggesting, the best estimate of a Dutch ERP would need to consider a broad group of countries. The historical data for the Netherlands does not correspond to what investors today would expect or ask for the Netherlands.

The second criticism advanced by Ecorys, chiefly that we overlooked the evidence from the DGM, is based on a misunderstanding of our purpose for looking at forward looking estimates of the ERP. Forward looking estimates such as the DGM may provide useful support to the historical data, particularly following years of economic downturns or recovery. DGM models, however, tend to produce estimates of the ERP which are higher and more volatile than those based on historical data.²⁵ There is no reason to believe that DGM models provide the 'best estimate' of the ERP, particularly because these models are highly dependent on input assumptions embedded in analyst forecasts and can vary widely over time in a way that does not necessarily reflect economic fundamentals.

Accordingly, when we look at DGM estimates, we are interested in looking at the trend, and not at the level. For example, if the DGM estimate had gone up a lot, while the historical ERP estimate had remained flat, we would investigate why this was the case, and consider

²⁵ DGM models estimate the ERP by backing out the rate of return that justifies observed stock prices for given set of dividend forecasts. In essence, DGM models are based on the views of analysts, and their results can be volatile.

whether an adjustment is warranted. A mechanical application of the historical data could for example result in an erroneously lower estimate of the ERP when stock markets have fallen, or similarly an erroneously higher estimate of the ERP when stock markets have risen. In light of the above, the analysis of the DGM may inform reasonable adjustments to the historical data. In the current case, both the historical and DGM estimates had been relatively stable, and we concluded that no adjustment should be made to the historical estimate.

As we illustrate in Table 1, below, our estimate of the ERP is within the range used by EU regulators of postal and telecoms services in their recent decisions. Table 1 further indicates that all regulators have based their determination on historical data, and only in a few cases considered additional evidence from surveys and/or DGM estimates.

Table 1: ERP applied by EU Postal and Telecoms Services Regulators

Regulator [A]	Year [B]	Country [C]	ERP [D]	Based on historical data [E]	Source [F]
AGCOM	2015	Italy	3.10%	✓	AGCOM, Delibera 623/15/CONS
BnetzA	2016	Germany	4.73%	✓	Stehle, Setting the Telecom WACC: Procedures and Estimates of the German Network Regulator Bundesnetzagentur (BNetzA), 2016
ARCEP	2017	France	5.00%	✓	ARCEP Decision 2017-0830
ACM	2015	Netherlands	5.00%	✓	Brattle Group, The WACC for KPN and FttH, July 2015
CCR	2014	Ireland	5.00%	✓	CCR, Cost of Capital - Response to Consultation and Decision, 18/12/2014
CNMC	2017	Spain	5.15%	✓	CNMC, Resolución relativa a la tasa anual de coste de capital a aplicar en la contabilidad de costes de Telefónica de España s.a.u., Telefónica móviles España, s.a.u, Vodafone España, s.a.u. y Orange Espagne, s.a.u. del ejercicio 2017
OFCOM	2018	UK	6.30%	✓	OFCOM, Wholesale Local Access Market Review: Statement - Annex 20, March 2018
ANACOM	2017	Portugal	6.98%	✓	ANACOM, Determinação da taxa de custo de capital da MEO - Serviços de Comunicações e Multimédia, S.A. - aplicável ao exercício de 2017, Section 2.4, May 2017

[E]: Regulators in the UK (OFCOM), Spain (CNMC) and Portugal (ANACOM) have also considered survey data and DGM estimates in their determinations.

Ecorys's proposed value of 5.75% is essentially advocating for an estimate of the ERP solely based on the DGM. Ecorys complain that in the end we rely only on historical data, but equally their approach would ignore historical data completely and use the DGM approach instead.

IV. Asset Beta

Ecorys raises a number of criticisms regarding our analysis of the asset beta of the regulated mail service. First, Ecorys complains that Brattle made "scant reference, if any, to the 'ACM

method' and apparently devised its own approach.”²⁶ Second, Ecorys complains that the regression analysis we conducted was “methodologically deficient,” because it only included 10 companies, and because other factors “can explain the beta (country of operator, digital developments in the market concerned, fortuitous circumstances and selection effects).”²⁷ Third, Ecorys suggests that the beta decomposition cannot produce an estimate of the beta for the 24-hour service because there are no pure-plays in the peer group.²⁸ Fourth, Ecorys argues that we should have analysed “the cyclical sensitivity of mail services (24-hour business and others) and parcel services” to ascertain “whether the systematic risks of the 24-hour service were comparable to those of the other mail and parcel services.”²⁹ Based on these critiques, Ecorys arrives at the unsupported conclusion that we should use an equity beta equal to 1 based on the principle “that the risks are the same as those of the market portfolio.”³⁰ As we explain below, Ecorys criticisms and conclusions are unfounded and misleading.

ACM asked us to estimate the asset beta of the regulated activity based on ACM general methodology, also taking into account that that not all of PostNL’s activities are regulated mail delivery services. Accordingly, we estimated the equity beta for a peer group of listed companies as the covariance between the company returns and an index of market returns, using a three year daily sampling period and using the Modigliani and Miller formula for unlevering and re-levering purposes.

Our approach to estimating the beta for the regulated activity, as opposed to the beta of PostNL’s overall business, is more sophisticated than other mail regulators who did not undertake a decomposition exercise. Based on the observation that companies with the highest betas had the largest percentage of revenue from parcel delivery, we analysed the relationship between the percentage of mail and non-mail activity and the beta by performing a beta decomposition exercise. In spite of the limited number of observations, our simple regression indicated a statistically significant, negative relation between the estimated asset betas of our peers and their mail revenue percentage.

²⁶ Ecorys Report, p. 13.

²⁷ Ecorys Report, p. 13.

²⁸ Ecorys Report, p. 14.

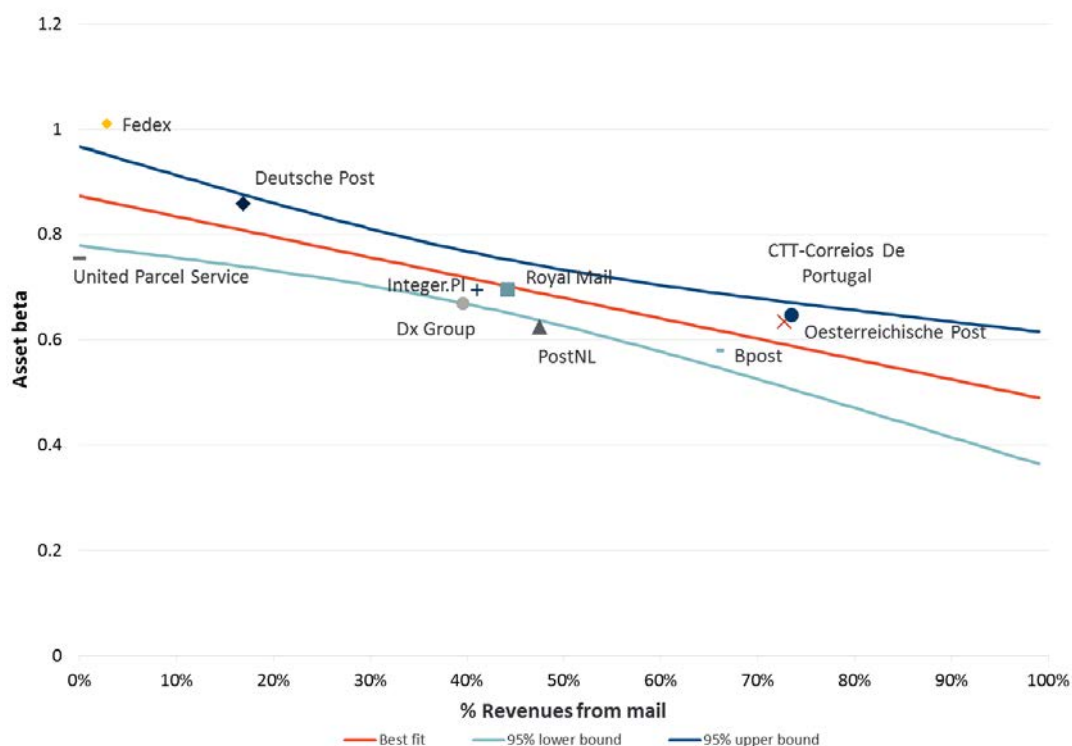
²⁹ Ecorys Report, p. 13.

³⁰ Ecorys Report, p.14. Ecorys mentions that “there are examples of foreign regulators that apply this principle in view of the lack of information on the actual beta.” However, they provide no evidence in support of this statement.

Contrary to what Ecorys appears to suggest, the beta decomposition exercise does allow us to assess the beta of a ‘pure play’ mail delivery service, even if no company in the sample derives 100% of its revenue from mail, by performing an out-of-sample prediction. Indeed, the lack of pure-play operators is precisely the reason why we perform the beta decomposition in first place. Ecorys seems to be complaining about the lack of data, but offer no solutions. We agree that it would be nice to have more companies, but we did not have more. Our results, however, were statistically robust, and we addressed the uncertainty surrounding the estimates by looking at their confidence intervals. Of course, the lack of pure-play operators has an effect on the precision of the estimates, but this was entirely accounted for in the way confidence interval we constructed. As illustrated graphically in Figure 1 (which replicates Figure 3 of the First Brattle Report), confidence intervals get larger as we move away from the sample means.³¹

³¹ This is a well-known property of out-of-sample prediction in regression analysis. See, *e.g.*, William H. Green, *Econometric Analysis*, 8th Edition: “the width of a confidence interval (i.e., a **prediction interval**) depends on the distance of the elements of \mathbf{x}^0 from the center of the data. Intuitively, this idea makes sense, the further the forecasted point is from the center of our experience, the greater is the degree of uncertainty” (p. 87).

Figure 1: Beta Decomposition: Systematic Risk and Revenue from Mail



Ecorys complains that we assumed “a linear connection between the mail share of revenues and the beta, but that has not been demonstrated.”³² However, it is standard practice to use a linear relationship in a beta decomposition exercise, and our analysis produced statistically significant results. Perhaps most importantly, we applied judgment in interpreting the results, rather than just mechanically taking the results of the regression. Specifically, noting that the 24-hour delivery of business mail is likely to have a higher beta than regular mail, because it consists of business mail which is more exposed to the business cycle and to economic conditions, we determined that an asset beta of 0.60, which is at the high end of the confidence interval of 0.37-0.61 for the beta of a ‘pure-play’ mail delivery business and very close to PostNL’s asset beta of 0.62, best reflected the systematic risk of the 24-hour delivery of business mail.³³

Ecorys’s argument that we should have analysed the cyclical sensitivity of mail services and parcel delivery to ascertain “whether the systematic risks of the 24-hour service were comparable to those of the other mail and parcel services” is also unwarranted. As mentioned above, the risks of 24-hour mail service were clearly considered in our analysis – so it is not

³² Ecorys Report, p. 14.

³³ First Brattle Report, Section IV.E.

true to say we have done no analysis. Also, the analysis that Ecorys is suggesting is unrealistic, because we did not have access to data which allows to distinguish between 24-hour mail and other mail services. Even if we did have such granular data, it wouldn't get us to estimate the systematic risk of mail services, because, for example, a steady decline in volume of mail is not a systematic risk, and, therefore, it should not be included in the beta.

Ecorys complains about the lack of data, but proposes instead an approach to estimating the beta which ignores all of the available data, and simply uses a default value of 1.0 for the equity beta. This approach is highly questionable, and leads to results that are incompatible with all the information available. For example, Ecorys method implies that for a pure play 24-hour mail company we would default to an equity beta of 1.0, resulting in an asset beta of 0.88.³⁴ PostNL actually has an asset beta of 0.62 and derives 47% of revenue from mail. Assuming that 24-hour mail accounts for 25% of PostNL's revenue, using Ecorys's assumptions results in an asset beta for PostNL's other activities – which are mainly parcel delivery and other mail services – of 0.53.³⁵ That is, Ecorys's approach of assuming an equity beta of 1.0 for the mail service implies that the asset beta for PostNL's parcel delivery and international mail is lower than the asset beta for the regulated mail service. This conclusion is against all of the available evidence indicating that parcel delivery is more risky.

V. Cost of Debt

In the First Brattle Report, we calculated the cost of debt as a three-year average credit spread on top of the risk free rate, to which we add 15 basis points to the spread to cover the costs of issuing debt. In line with ACM's methodology, in calculating the spreads, we considered both the yields on an index of A-rated bonds with a maturity of 10 years for utilities, and the yields on comparable long-term bonds with a maturity of around 10-years.³⁶ In particular, we were able to identify two BBB rated (S&P) FedEx bonds and two BBB+ rated (Fitch) Deutsche Post

³⁴ Based on a notional gearing of 15% and a tax rate of 25%; $0.88 = 1 / (1 + (1-25\%)*D/E)$, where $D/E = 15\% / 85\% = 17.6\%$.

³⁵ $0.53 = (0.62 - 0.88*0.25)/0.75$.

³⁶ For comparable long term bonds, we considered the yields and spreads on individual bonds issued by firms engaged in comparable activities to those of PostNL. Our analysis focuses on firms primarily active in the courier services industry and bonds with a maturity between 9 to 11 years during the period 1 October 2014 to 30 September 2017. First Brattle Report, pp. 27-28.

bonds.³⁷ Ultimately, we concluded that a credit spread of 0.90%, calculated on the comparable bonds of Deutsche Post and Fedex would be appropriate for the regulated activity, because the index of A-rated 10-year utility bonds had higher ratings than the bonds of either Deutsche Post and Fedex, and we found it unlikely that a bond issued by regulated post service could get a much better rating than either Deutsche Post or FedEx.

We also analyzed PostNL's debt, noting that as of November 2017, PostNL had only two outstanding bonds, both maturing in less than one year. Therefore, the yields on PostNL's debt did not meet the criteria for inclusion in the sample. We also noted that yields on PostNL's one-year debt were relatively high, and that this was likely to be for reasons specific to PostNL that were not relevant for the cost of debt of a generic regulated postal service.

As mentioned above in discussing the RFR, Ecorys contends that our methodology deviates from the methodology used by ACM in other sectors, noting that ACM has used a staircase model in other regulated industries, "intended to provide a better estimate of companies' actual financing costs."³⁸ Ecorys further suggests that one should consider the business-specific risks affecting PostNL's cost of debt,³⁹ and the specific characteristics which distinguish PostNL from its peers, namely that the 24-hour service is limited to the Dutch market, and that PostNL's 24-hour business is small.⁴⁰

Based on these considerations, Ecorys rejects a comparison with utilities or comparable bonds, because utility companies earn predictable returns whereas PostNL bears a substantial volume risk, and because the comparable bonds were issued by companies substantially larger than PostNL.⁴¹ Instead, Ecorys suggests that we should have modelled the expected coverage ratio of the regulated business and determined the credit spread on the basis the spread of companies with a comparable coverage ratio, or alternatively on the basis of corporate loans

³⁷ Specifically the two Deutsche Post bonds we consider have maturity in October 2023 and December 2024 respectively. These two bonds were the only bonds with a maturity of between 9 and 11 years within the three year period ending on September 30, 2017.

³⁸ Ecorys Report, p. 3.

³⁹ Ecorys mentions three main risks: (i) the sharp decline in volume in the Dutch postal market, (ii) the intrinsic risks associated with PostNL's high pension liabilities, and (iii) regulatory uncertainty. Ecorys Report, p. 16.

⁴⁰ Ecorys Report, p. 16.

⁴¹ Ecorys Report, pp. 16-17.

in the Netherlands. In light of this, Ecorys calculates an average credit of 1.47% using data on new loans in the Netherlands “of €1 million or over with a term of more than five years.”⁴²

We agree with Ecorys that PostNL’s cost of debt reflects business specific risks that cannot be diversified. However, regulators have discretion on how they compensate the cost of debt of a regulated activity. They can either chose to pass through actual debt costs, as in the KPN decision, or award the current cost of debt to incentivise efficient refinancing, or allow some estimate of legacy debt costs. Hence, the cost of debt is largely a regulatory policy decision, rather than a pure financial-economic one.

The staircase method aims to replicate the cost of debt of a firm which borrows on 10-year terms, and which refinances 10% of its debt every year. In the case of electricity and gas networks and pilotage services, ACM departed from its general methodology for calculating the cost of debt, and used the staircase model instead to take into account the existing debt of these companies. ACM, however, has never implemented this method in other regulated sectors.

Use of the staircase model may be reasonable for companies such as energy networks with long-lived assets that are typically debt financed. However, it would not make any sense to apply it to PostNL. As Ecorys points out, PostNL is relatively ‘asset light’, and does not require a lot of debt financing. Most importantly, PostNL has no legacy debt to repay,⁴³ and calculating its cost of debt based on the higher average yields over the past 10 years would overcompensate PostNL’s actual cost of debt.

ACM’s general methodology does not look at PostNL specific data, because it seeks to estimate the WACC for the regulated activity, not the regulated firm. We agree with Ecorys that the index of A-rated utility bonds does not reflect the cost of debt of the regulated activity, and it is precisely for that reason that we relied instead on the spread of comparable bonds.

Ecorys complains that the comparable bonds were issued by firms that have significantly higher revenues than PostNL’s regulated activity. Ecorys seems to place too much emphasis on the fact that the regulated activity is small. However, in calculating the cost of debt, it is

⁴² Ecorys Report, p. 17.

⁴³ As we explain in the First Brattle Report, PostNL had only two bonds as of the end of 2016, none of which could be considered ‘long-term’ aving maturities in November 2017 and August 2018. First Brattle Report, Section VII.C.

not appropriate to consider the regulated activity in isolation. To carry out the regulated 24-hour mail service, PostNL relies on a national delivery network which it uses to offer other mail and parcel delivery services and enables it to enjoy the benefits of a larger scale. Focusing only on the regulated activity, therefore, would produce a cost of debt that is higher than what a national postal delivery network could obtain. Put another way, the cost of debt for a stand-alone 24 hour mail business would likely be higher than PostNL's actual cost of debt. But it seems unreasonable to make users of the 24-hour mail service pay higher prices for debt costs which PostNL does not in reality bear.

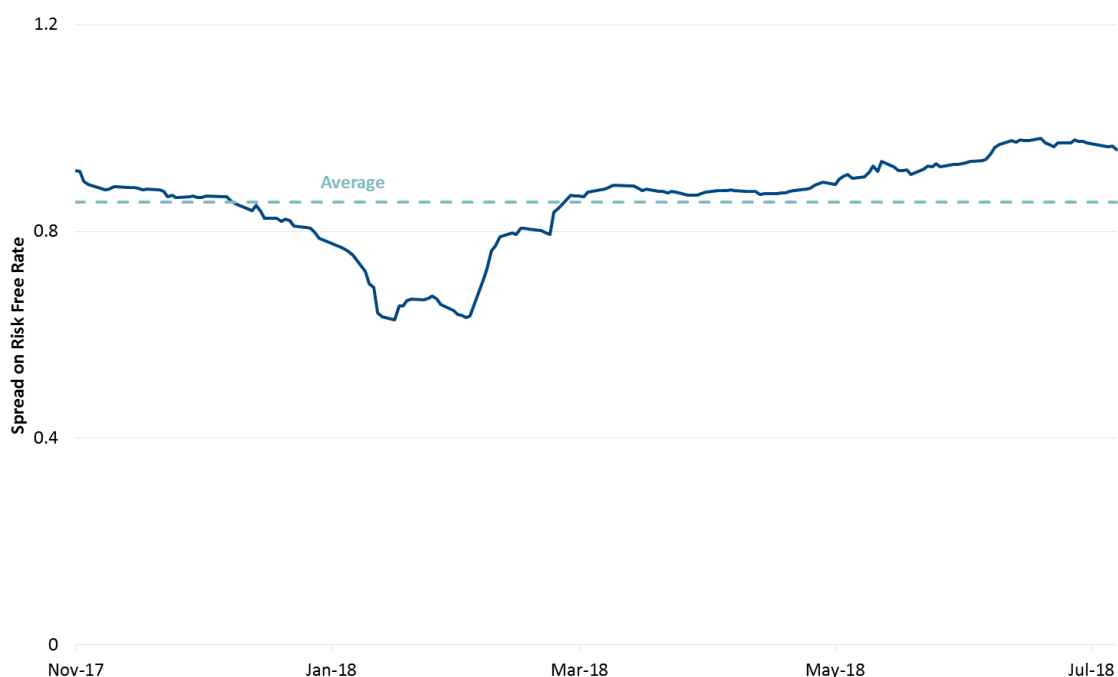
Ecorys complains that we should consider the business-specific risks affecting PostNL's cost of debt. But the business specific risks for PostNL are implicitly accounted for in its credit ratings, which rating agencies determine based on the specificities of a company taking into account indicators of its ability to service debt. At the time we prepared the First Brattle Report, PostNL had a credit rating of BBB+, the same as Deutsche Post bonds, and its only existing bonds as of the end of 2016, were maturing in November 2017 and August 2018.⁴⁴

Importantly, in November 2017, PostNL issued a new bond with maturity in November 2024. As shown in Figure 2, we have analysed the spread of PostNL's newly issued bond over the yield of Dutch government bonds of similar maturity.⁴⁵ Contrary to what Ecorys is suggesting, the resulting spread of 0.86% is almost exactly in line with the spread of 0.90% we calculated on the basis of comparable bonds.

⁴⁴ First Brattle Report, Section VII.C.

⁴⁵ The three Dutch government bonds considered have maturities in January 2024, July 2024 and July 2025, respectively. The July 2017 bond was the closest 7-year government bond in terms of maturity to PostNL's November 2017 bond. The July 2024 bond was the closest 10-year government bond to PostNL's November 2017 bond. However, because both government bonds had slightly shorter maturity than the PostNL's bonds, we also include the July 2025 10-year government bond.

Figure 2: Credit Spread of PostNL's November 2017 Bond



Finally, it is also worth pointing out that given the low level of the gearing, which we estimate at 15% for a mail delivery business in the Netherlands, the impact on the overall WACC of applying the credit spread calculated by Ecorys would be small. As shown in Table 2, applying a credit spread of 1.47% instead of 0.90% only increases the nominal pre-tax WACC by 0.09%, and the real pre-tax WACC by 0.08%.

Table 2: WACC Sensitivity

			Difference
Debt premium	0.90%	1.47%	0.57%
Nominal pre-tax WACC	4.60%	4.69%	0.09%
Real pre-tax WACC	3.46%	3.55%	0.08%

VI. Reasonableness of the Results

Ecorys's final criticism is that in the First Brattle Report we failed to validate the reasonableness of our results overall, and that we should have compared our estimate of the

WACC with the WACC used by analysts for PostNL, with the WACCs used by foreign regulators of postal services, and with the WACC used by ACM in other sectors.⁴⁶

Ecorys indicates that “according to an analysis of analyst reports conducted by PostNL” analysts use a post-tax nominal WACC between 7.3% and 9.5% for PostNL.⁴⁷ There is no reason to believe that these values provide a useful benchmark for the reasonableness of WACC for the regulated 24-hour mail service. First, we have not seen PostNL’s study, so we have not been able to assess the validity of these numbers. Second, analysts may overstate the actual cost of capital, because in analysing the value of a business analyst they may tend to account for diversifiable business risk (e.g., declining volumes) using a higher cost of capital rather than adjusting cash flows downwards. Third, independent analysts’ WACCs are specific for PostNL and account for all aspects of PostNL’s business. In contrast, we estimated the WACC for a generic 24-hour mail business in the Netherlands, so that the comparison is not apples-to-apples. As we explained in the First Brattle Report, parcel delivery services are more risky than regular mail services, and PostNL cost of debt in 2017 was higher than for a generic postal operator.⁴⁸ All of these factors imply that PostNL’s WACC, as measured by independent analysts, will be higher than the WACC for a generic 24-hour mail business.

As explained in Section IV.D of the First Brattle Report, we reviewed a number of recent consultations and decisions of other European regulators on the WACC of regulated postal services to validate our analysis of the asset beta and to ensure that our results were robust and reasonable. Ecorys complains that we did could not find a single country for which public figures on the WACC were available, but provides no evidence that any were actually available. Furthermore, although we could not retrieve the values selected by the regulators, for three countries we were able to retrieve sufficient methodological details to estimate the asset beta under the methodology applied by the regulator. It is therefore unreasonable to suggest, as Ecorys does, that Brattle “devoted insufficient time and energy to clarifying the parameters applied by foreign regulators to the postal market.”

Ecorys further points out that our proposed WACC for 24-hour mail is at the low end of the WACCs determined by ACM, arguing that “it is clear, however, that a mail company bears greater risks than a network operator or a drinking water company.”⁴⁹ Ecorys, however, is not

⁴⁶ Ecorys Report, p. 19.

⁴⁷ Ecorys Report, p. 19.

⁴⁸ First Brattle Report, Section VII.D and Table 13.

⁴⁹ Ecorys Report, p. 21.

differentiating here between systematic risk, which is included in the WACC, and business-specific risk, which is not. We agree that PostNL faces a number of risk factors that other regulated companies do not face. However, these risks (including declining volumes and digitization) are not obviously systematic and, therefore, should not be reflected in a higher WACC. Also, to the extent they were systematic, they would be captured in the estimate of the beta.

Ecorys also points out that “taking the asset base into account, [...] a WACC of 4.6% amounts to a return on revenue of 0.7%; in the case of network operators in the telecom sector the return on revenue amounts to 13% to 25% – considerably higher,” and “[c]onsequently, the return as a percentage of revenues is lower than in any other ACM-regulated business or regulated activity.”⁵⁰ This criticism is very unusual. We agree that the asset base is relatively small compared to revenues, but it is not clear why this should imply a higher return on the asset base. It is also not clear what Ecorys is suggesting should be done about it. The return as a percentage of revenues is not a relevant benchmark for the cost of capital.

VII. Conclusions

In the First Brattle Report we estimated a nominal pre-tax WACC of 4.60%, resulting in a real pre-tax WACC of 3.46%. In this second report we have responded to a number of criticisms to our approach and to the reasonableness of our results advanced by Ecorys. Overall, Ecorys criticisms are one-sided and misleading. We have reached the following conclusions:

- the use of a 10-year averaging period for the RFR is inappropriate, because bond yields from periods that are too distant in time are not a reliable indicator of future interest rates;
- there is no reason to believe that DGM models provide the ‘best estimate’ of the ERP, because these models are highly dependent on input assumptions embedded in analyst forecasts and can vary widely over time in a way that does not necessarily reflect economic fundamentals. Accordingly, when we look at DGM estimates, we are interested in looking at the trend, and not at the level;

⁵⁰ Ecorys Report, p. 21.

- Ecorys's proposed value of 5.75% for the ERP is not supportable, because it is essentially advocating for an estimate of the ERP solely based on the DGM;
- Ecorys's proposed approach for calculating the equity beta ignores the data altogether, and leads to results that are incompatible with all the information available;
- our analysis of the cost of debt relies only on the spread of comparable bonds, and properly reflects the cost of debt for the regulated activity.

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