Forward-looking benchmark estimates of reasonable profit

Note prepared for the Health Insurance Authority

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Strictly confidential

1 Introduction

This note provides a high-level assessment of appropriate benchmarks to determine a reasonable forward-looking estimate of profit for private health insurers (PHI) in Ireland, for the period 2013–15 inclusive.

Following the approach in Oxera's assessments of overcompensation in the Irish PHI market, this note provides estimates of both external and internal benchmarks.[1] The external benchmarks are estimated as the return on equity (ROE) and the return on capital employed (ROCE) for comparable insurers, and the respective internal benchmarks are estimated as Vhi's notional cost of equity and cost of capital.

Based on the analysis outlined in this note, indicative estimates of the external and internal benchmarks are presented in Table 1.1.

[1] See Oxera (2012), '2009–11 assessment of overcompensation in the Irish PHI market', prepared for the Health Insurance Authority, November; Oxera (2011), '2009–10 assessment of overcompensation in the Irish PHI market', prepared for the Health Insurance Authority, November 18th; Oxera (2010), 'Assessment of overcompensation in the Irish PHI market, Financial Year 2009', prepared for the Health Insurance Authority, September 20th; and Oxera (2010), 'How to assess over-compensation in the Irish PHI market? Methodology and data requirements', prepared for the Health Insurance Authority, September 20th.

Table 1.1 Estimates of the forward-looking external and internal benchmarks (%)

Profitability metric	External benchmark		Internal benchmark	
	Range	Midpoint	Range	Midpoint
ROE	7–12	10	9–15	12
ROCE	6–7	7	8–14	11

Source: Oxera analysis, based on ORBIS and Datastream.

The estimate of the ROE is preferred for the external benchmark, since the comparators that are used to derive the estimate of the ROCE for the external benchmark may have different debt to equity ratios compared with Vhi.

The remainder of the note provides an overview of the methodology that was adopted, before setting out further details on the resulting internal and external benchmark estimates.

2 Methodology to estimate the benchmarks

2.1 External benchmarks

Following discussions with the Health Insurance Authority, in Oxera's 2012 report for the Authority, the external comparator set comprised of Aviva Health Insurance Ireland Ltd only.[2] However, in order to provide indicative forward-looking estimates of the external benchmarks, the comparator set has been extended to include European insurers.

Ideally, forward-looking benchmarks would be estimated from business plans or forecasts of future profitability. However, in light of the lack of available projections, the analysis is based on historical data. It seems reasonable to assume that given a sufficiently broad comparator set, recent past trends in profitability provide an appropriate indication of forward-looking benchmarks.[3] Furthermore, the approach of considering historical estimates was adopted by the European Commission in its recent analysis of De Post-La Poste.[4]

2.1.1 Identifying comparable insurers

The initial comparator companies were identified as the constituents of Datastream's equity index of European insurers.[5] At the time of writing in December 2012, the index comprises of 70 companies.

Financial information that is required to estimate the ROE and ROCE was obtained from the ORBIS dataset. Of the 70 constituent companies in the index, it was possible to obtain the necessary data for 65 companies for the period 2007–11 inclusive.[6] Due to the limitations in data availability, it was not possible to obtain financial information by business segment; the estimates are therefore presented at the group level.

[2] Quinn Healthcare Ltd was not included as a comparator since it was placed under administration by court appointment (in 2010), and experienced a large restatement of its profit and loss account.

[3] The analysis covers the period from 2007 to 2011 (inclusive). It is therefore implicitly assumed that conditions between 2013 and 2015 will be broadly similar to those observed over this period.

[4] For further details, see European Commission (2012), 'Commission Decision of 25 January 2012 on the measure SA.14588 (C 20/09) implemented by Belgium in favour of De Post-La Poste (now bpost)', Letter to the Member State, January 25th.

[5] The index is labelled 'Europe-Datastream Insurance' and contains a larger number of constituents than alternative indices, for example, the 'STOXX Europe 600 insurance' index. These companies are broadly equivalent to the comparators used in Oxera's previous analysis to estimate Vhi's beta, as part of the calculation of Vhi's cost of equity and cost of capital.

[6] Specifically, data on profits before taxes, shareholder funds, total liabilities, and net earned premium were obtained from ORBIS, together with information about whether the insurers provide healthcare services. Aviva plc, a subsidiary of which is Aviva Health Insurance Ireland Ltd, was included as a comparator.

The value of equity required to calculate both the ROE and the ROCE was estimated according to book value (proxied by shareholder funds) and market value (proxied by market capitalisation). The book value can differ from the market value for a number of reasons, including the potential for the latter to fluctuate greatly with short-term movements in equity markets. Therefore, estimates based on both approaches were examined.[7]

To check that the insurers in the sample were broadly similar to Vhi, information on companies' net earned premia was obtained from ORBIS. The net earned premium of Vhi's SGEI-related[8] business was within the range of the estimates of the net earned premia of the comparator companies.

2.2 Internal benchmarks

In light of uncertainty about future macroeconomic conditions in Ireland due to the current situation in the eurozone, indicative estimates of Vhi's forward-looking cost of equity and cost of capital were derived under alternative assumptions, as set out below:

- **scenario 1**: current conditions (as of December 2012) continue;
- **scenario 2**: conditions return to pre-crisis levels;
- **scenario 3**: conditions deteriorate to levels observed during the crisis.

For each of the above scenarios, indicative forward-looking estimates of Vhi's cost of equity and cost of capital were derived, based on an assumed relationship between changes in yields on bonds issued by the Irish state and estimates of the cost of equity and the cost of capital.[9]

In light of the volatility in capital markets, it is difficult to determine a precise estimate of the extent to which changes in debt markets influence Vhi's cost of equity and cost of capital. However, this has been inferred based on Oxera's recent analysis for the Commission for Energy Regulation. The assumed relationship has been calibrated based on the estimate of the cost of capital for Vhi in 2011, as set out in Oxera's previous 2012 report for the HIA.[10] As a result, it is assumed that a 1% change in yields on bonds issued by the Irish state translates into an approximate 0.6% change in the cost of capital.[11]

Based on this relationship, the difference between average historical yields on bonds issued by the Irish state associated with each of the three scenarios (illustrated in Figure 2.1) and the respective estimates corresponding to the calculation of Vhi's cost of equity and cost of capital in 2011 (as presented in Oxera's 2012 report for the Health Insurance Authority) were translated into an estimate of Vhi's cost of equity and cost of capital under each of the three scenarios.

[7] The analysis does not attempt to control for differences in income from investments and policies across insurers.

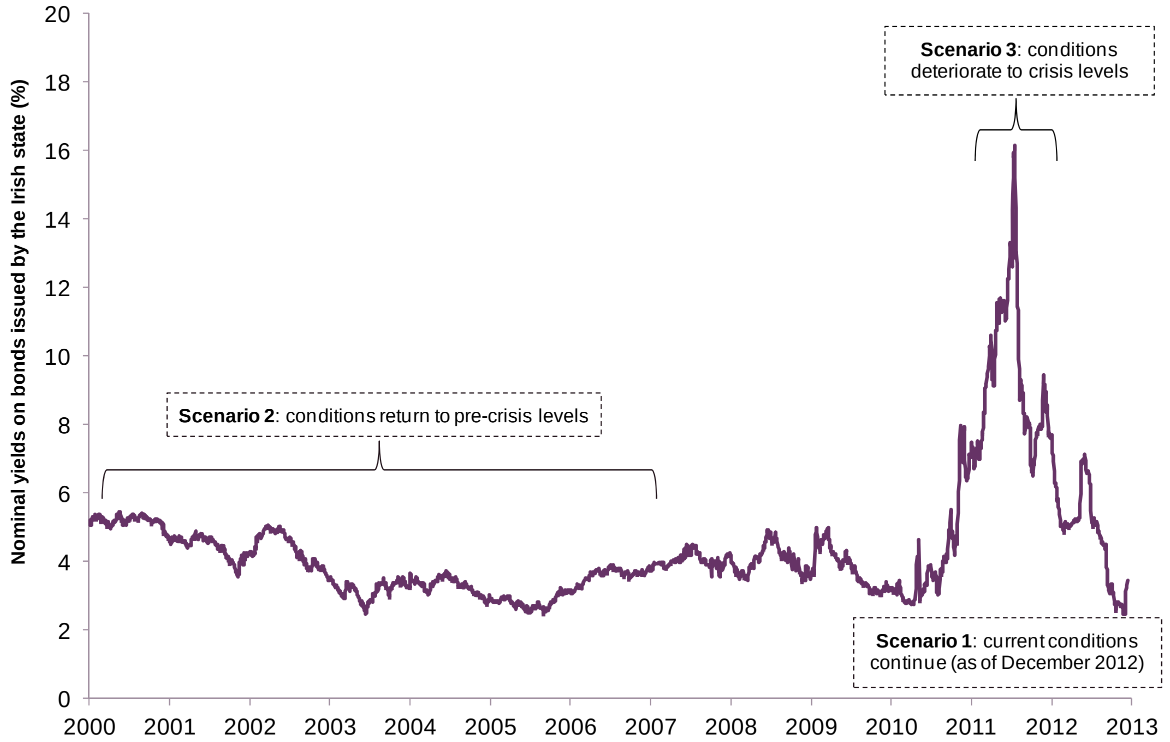
[8] SGEI, services of general economic interest.

[9] The assumed relationship is based on Oxera's work for the Commission for Energy Regulation. See Oxera (2012), 'What is the cost of capital of Bord Gáis Networks?', prepared for the Commission for Energy Regulation, May 21st.

[10] For further details, see Oxera (2012), '2009–11 assessment of overcompensation in the Irish PHI market', prepared for the Health Insurance Authority, November, Appendix A1.

[11] The assumed sensitivity of the impact of a change in yields on bonds issued by the Irish state and the estimate of the cost of capital differ slightly from the estimates outlined by Oxera in its 2012 report for the CER in order to reflect assumptions specific to Vhi.

Figure 2.1 Nominal yields on bonds issued by the Irish state (%)



Source: Oxera analysis, based on Datastream.

3 Estimates of the benchmarks

3.1 External benchmarks

Table 3.1 shows estimates of the ROE for the sample of European insurers, as well as the sub-sample that provides health insurance. Reflecting the range of average estimates of the ROE for the sample of health insurers, based on both unweighted and weighted averages, an indicative range for the ROE for the health insurer industry is 7–12% (with a midpoint of 10%).[12] The low end of the range is derived as the pooled unweighted average (based on the market value of equity), while the high end of the range is derived as the pooled weighted average (based on the book value of equity).[13]

[12] The weighted average is based on insurers' net earned premia. Data on net earned premia is not available from ORBIS for all companies.

[13] Estimates of both the pooled unweighted average and the pooled weighted average are taken into account in order to derive the range. This is because data on the net earned premium is not available for all companies.

Table 3.1 Estimates of the ROE of European insurers

	Book value						Market value					
	2007	2008	2009	2010	2011	Pld[1]	2007	2008	2009	2010	2011	Pld[1]
All insurers												
No. of obs[2]	44	46	49	52	51	240	44	46	49	52	51	240
ROE estimates (%):												
Lower quartile	15	–2	1	8	2	3	10	–1	1	6	1	1
Median	21	4	12	13	11	12	14	2	9	13	11	11
Upper quartile	31	11	18	17	16	18	19	9	15	17	16	16
Avg[3]	23	–5	5	10	5	8	14	–10	6	9	–0	4
Weighted avg[4]	20	0	12	13	7	11	13	–0	9	13	2	8
Health insurers												
No. of obs[2]	19	20	21	21	21	102	19	20	21	21	21	102
ROE estimates (%):												
Lower quartile	15	–1	5	9	4	4	10	–1	4	8	4	3
Median	20	3	12	13	12	12	13	1	10	13	11	11
Upper quartile	27	14	14	16	16	18	17	6	14	18	15	16
Avg[3]	22	1	8	13	7	**10**	12	1	3	13	6	**7**
Weighted avg[4]	22	1	12	14	11	**12**	14	1	10	15	15	**11**

Note: The ROE is calculated as profits before interest and tax divided by equity. [1] To avoid estimating an average of an average, the numbers are calculated by pooling all available data (ie, by considering each estimate for each company in each year as a separate data item). [2] The number of observations is calculated as an average of the number of companies used for the simple average and the weighted average. [3] The numbers are calculated as a simple average across the different companies. [4] The weights to derive the weighted averages are defined as the relative sizes of net earned premia. If the net earned premium is not available for a particular company, the ROE for that company is not included in the calculation. Hence, the weighted average may consist of a smaller sample than the simple average. Companies that provide health insurance are identified using the description provided by ORBIS.
Source: Oxera analysis, based on Datastream and ORBIS.

Table 3.2 presents estimates of the ROCE for the sample of European insurers as well as the sub-sample that provides health insurance.

Table 3.2 Estimates of the ROCE of European insurers

	Book value						Market value					
	2007	2008	2009	2010	2011	Pld[1]	2007	2008	2009	2010	2011	Pld[1]
All insurers												
No. of obs[2]	34	36	38	41	41	189	34	36	38	41	41	188
ROCE estimates (%):												
Lower quartile	7	–0	1	4	2	2	5	–0	1	3	1	1
Median	14	3	5	7	9	8	11	2	4	6	8	6
Upper quartile	20	10	9	10	14	14	13	9	9	11	12	12
Avg.[3]	15	3	6	7	4	7	10	2	5	6	–4	4
Weighted avg[4]	11	–0	6	7	4	5	8	–1	6	8	–2	4
Health insurers												
No. of obs[2]	18	19	20	20	20	97	18	19	20	20	20	97
ROCE estimates (%):												
Lower quartile	6	0	4	4	3	3	5	0	2	3	3	3
Median	13	3	6	8	8	8	9	3	4	6	8	6
Upper quartile	16	13	9	10	10	14	12	7	9	12	11	12
Avg.[3]	14	2	7	9	6	**7**	9	1	6	9	6	**6**
Weighted avg[4]	12	1	7	8	8	**7**	9	0	7	9	10	**7**

Note: The ROCE is calculated as profits before interest and tax divided by the sum of equity and non-current liabilities. As ORBIS only reports total liabilities, and does not separately report current and non-current liabilities, the value of non-current liabilities is estimated using the ratio between current and non-current insurance reserves obtained from Datastream. [1] To avoid estimating an average of an average, the numbers are calculated by pooling all available data (ie, by considering each estimate for each company in each year as a separate data item). [2] The number of observations is calculated as an average of the number of companies used for the simple average and the weighted average. [3] The numbers are calculated as a simple average across the different companies. [4] The weights to derive the weighted averages are defined as the relative size of net earned premia (NEP). If the NEP was not available for a particular company, the ROE for that company was not included in the calculation. Hence, a weighted average may consist of a smaller sample than the simple average. Companies that provide health insurance were identified using the description provided by ORBIS.
Source: Oxera analysis, based on Datastream and ORBIS.

Based on the above, an indicative range of the ROCE for the health insurer industry is 6–7% (with a midpoint at 7%).[14] The low and high ends of the range of estimates of the ROCE are derived from the range of the pooled unweighted and weighted average estimates, based on market value and book value, for the sample of health insurers.

3.2 Internal benchmarks

Indicative estimates of Vhi's cost of equity and cost of capital are shown in Table 3.3, under alternative assumptions about future macroeconomic conditions in Ireland, together with the respective estimates defined over the same period as Oxera's calculation of Vhi's cost of equity and cost of capital in 2011, as presented in Oxera's 2012 report for the Health Insurance Authority.

[14] The estimates presented in Tables 3.1 and 3.2 indicate that the insurance market suffered significantly from the financial crisis in 2008; however, the market seems to have recovered, at least partly, within one to two years. Given that it is possible that conditions may deteriorate in the next few years, it is not appropriate to exclude the estimates for 2008 as outliers. Therefore, the range for the external benchmarks included data for 2008.

Table 3.3 Indicative estimates of Vhi's forward-looking cost of equity and cost of capital (%)

Scenarios	Nominal yields on bonds issued by the Irish state	Nominal (pre-tax) cost of equity	Nominal (pre-tax) cost of capital
2011 estimates	9 [1]	13	13
Scenario 1: continuation of current conditions	3	9	8
Scenario 2: conditions return to pre-crisis levels	6	11 [2]	11 [2]
Scenario 3: conditions deteriorate to crisis levels	11	15	14

Note: '2011 estimates' refer to the midpoint estimates of Vhi's cost of equity and cost of capital for 2011, as presented in Oxera's 2012 report for the HIA. [1] This estimate reflects the average over the calendar year 2011. [2] The cost of equity and cost of capital were 11.2% and 10.5% respectively. As the estimate of Vhi's gearing is relatively low, there is only a relatively small difference between estimates of the nominal (pre-tax) cost of equity and the nominal (pre-tax) cost of capital.
Source: Oxera analysis, based on Datastream.

Taking into account the range of estimates, indicative estimates of Vhi's (pre-tax nominal) cost of equity and cost of capital are 9–15% (midpoint: 12%) and 8–14% (midpoint: 11%) respectively.[15]

4 Conclusions

Based on the above analysis, indicative estimates of the external and internal benchmarks are presented below.

Table 4.1 Estimates of the forward-looking external and internal benchmarks (%)

Profitability metric	External benchmark		Internal benchmark	
	Range	Midpoint	Range	Midpoint
ROE	7–12	10	9–15	12
ROCE	6–7	7	8–14	11

Source: Oxera analysis, based on ORBIS and Datastream.

The estimate of the ROE is preferred for the external benchmark, since the comparators that are used to derive the estimate of the ROCE for the external benchmark may have different debt to equity ratios compared with Vhi.

[15] The estimates of the internal benchmarks are higher than the respective estimates of the external benchmarks—this may reflect the additional risks associated with the insurance sector.