

MEASURING THE RETURN ON EQUITY OF SPANISH DEPOSIT INSTITUTIONS

In theory, banking profitability is a perfectly defined and precise concept. Yet in practice, both the various supervisors and the deposit institutions use different metrics to measure it. This box aims to review the information content of some of these metrics, by analysing the possible differences in their time variation and cross-institution distribution.

In prior FSRs, the definition of return on equity (ROE) included (annualised) net profit attributable to the parent as the numerator and (average) own funds¹ as the denominator. This definition of ROE is consistent with that historically published by Spanish deposit institutions in their earnings reports. By excluding non-controlling interests (the share of a subsidiary's equity not owned by a parent) from the ratio's numerator and denominator, this metric measures exclusively the return for shareholders of the group's parent. This is the return which may have the most direct impact on managers' incentives.

However, the FSR will henceforth use a modified definition of the ROE ratio to bring it into line with the European Banking

Authority (EBA) Risk Indicators Methodological Guide,² thereby ensuring that the data published in the FSR and the EBA's data, which are also used by the European Central Bank (ECB), are comparable. Specifically, return on equity will be obtained as the ratio between (annualised) net profit of the period and (average) equity.³ Consequently, the numerator will include the net profit attributable to non-controlling interests and the denominator will include the items of equity corresponding to non-controlling interests and, furthermore, accumulated other comprehensive income (income and expenses not accounted for in profit or loss). This definition measures the return on institutions' overall equity. It may therefore be a more informative measure for explaining the average cost of accumulating equity.

This box also provides an additional definition of profitability called return on tangible equity (ROTE). In this case, based on the new definition of ROE consistent with the EBA Methodological Guide, goodwill and other intangible assets are deducted from the denominator in order to obtain an approximate ROTE ratio. The return as a percentage of the carrying amount of the equity instruments

Chart 1
TREND IN PROFITABILITY (ROE AND ROTE) OF SPANISH DEPOSIT INSTITUTIONS (a)

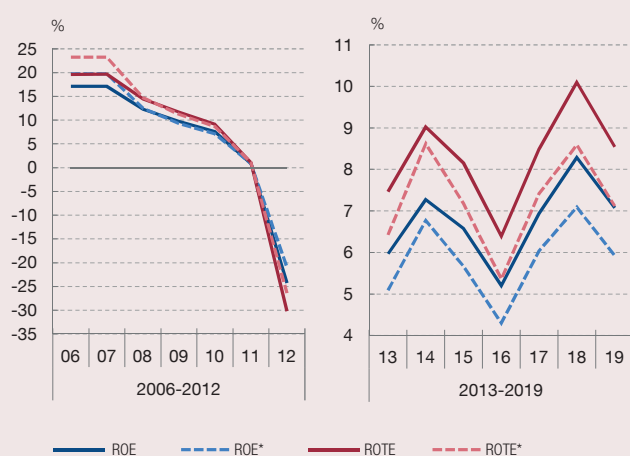
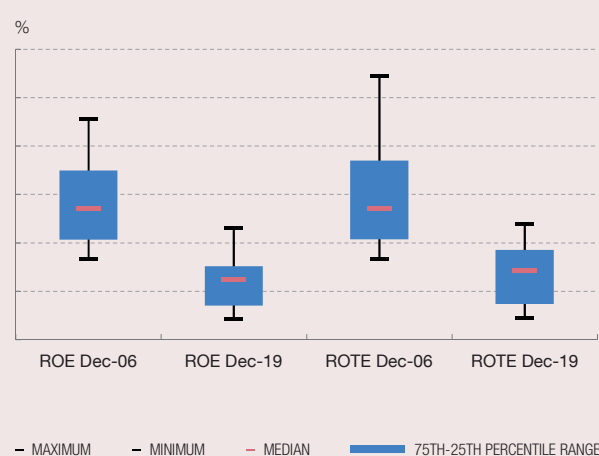


Chart 2
DISPERSION OF PROFITABILITY (ROE AND ROTE) OF SPANISH DEPOSIT INSTITUTIONS (b)



SOURCE: Banco de España.

- a The chart shows the ROE and ROTE ratios of Spanish deposit institutions between December 2006 and December 2019 calculated using the revised definition aligned with the EBA methodology and using the definition historically used in prior FSRs (dashed line).
- b The chart shows the maximum, the minimum, the range between the 75th percentile and the 25th percentile and the median of the ROE and ROTE ratios of Spanish deposit institutions in December 2006 and December 2019.

1 Own funds include mainly capital, reserves, share premium and other equity instruments issued other than capital. Unlike equity, own funds do not include non-controlling interests or accumulated other comprehensive income.

2 See Revised EBA Methodological Guide - Risk Indicators and Detailed Risk Analysis Tools.

3 The ROE ratio's denominator is calculated as an average of equity at the end of the prior year and at the end of the current quarter.

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issued and accumulated reserves, i.e. of the funds actually contributed by the investors or retained as reserves, is thus obtained. Conversely, intangibles represent future expectations of profit generation, not contributed funds. This measure thus contributes to estimating the average cost of raising additional funds.⁴

Spanish deposit institutions include in their quarterly earnings reports various measures of profitability; specifically, the ROE and ROTE ratios. Indeed, in recent years institutions have increasingly defined profitability targets in terms of ROTE in their strategic plans. Institutions' reports include profitability metrics based on assets (Return on Assets (ROA)) or on risk-weighted assets (Return on Risk-Weighted Assets (RORWAs)), and efficiency metrics.⁵ These metrics are part of the alternative performance measures (APMs) that institutions include in their earnings reports and prepare in accordance with the European Securities and Markets Authority (ESMA) Guidelines published on 30 June 2015.⁶ In the last year, the main Spanish deposit institutions have also

changed the definition of ROE and ROTE so as to deduct from the denominator the equity item "Accumulated Other Comprehensive Income", which increases the ratio when it presents a material negative amount.

Chart 1 shows these four ratios (ROE and ROTE calculated according to the definition aligned with the EBA Methodological Guide, and ROE* and ROTE* calculated according to the definition historically used in prior Financial Stability Reports)⁷ for Spanish deposit institutions. First, it should be highlighted that all the ratios have trended very similarly over the last 14 years, with a correlation coefficient of 0.99 in all cases; however, differences in the ratios' levels are observed. Specifically, since 2013 ROE is higher than ROE* (8.3% and 7.1%, in December 2018). Furthermore, the ROTE ratio is higher than both ROE and ROE* (10.1% and 8.6%, respectively, in December 2018). It is very important to take into account these different levels when the definition changes, so that an actual change in profitability is not attributed to something that is purely methodological.

Chart 3
TREND IN PROFITABILITY (ROE AND ROTE) OF THE MAIN SPANISH AND EUROPEAN BANKS (a)

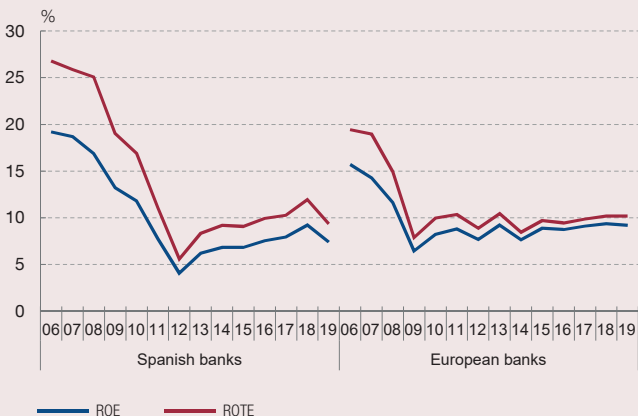
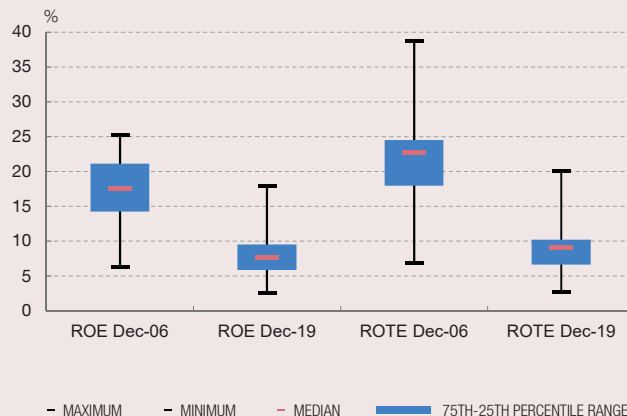


Chart 4
DISPERSION OF PROFITABILITY (ROE AND ROTE) OF THE MAIN EUROPEAN BANKS (b)



SOURCE: SNL Financial.

- a The chart shows the ROE and ROTE ratios calculated using the revised definition aligned with the EBA methodology for the main Spanish and European banks (sample of 27 banks) between December 2006 and December 2019.
- b The chart shows the maximum, the minimum, the range between the 75th percentile and the 25th percentile, and the median of the ROE and ROTE ratios of the main European banks (sample of 27 banks) in December 2006 and December 2019.

4 A broader definition of the ROTE ratio would include as the denominator equity less not only goodwill and other intangible assets, but also convertible bonds and *participaciones preferentes* (hybrid instruments).

5 Other market alternatives also exist to measure institutions' profitability, such as the price-earnings ratio (PER) or earnings per share, which is the inverse of PER.

6 See ESMA Guidelines on Alternative Performance Measures.

7 The ROE* and ROTE* ratios were calculated in prior FSRs as the ratio between (annualised) profit attributable to the parent and average own funds or average own funds net of average intangible assets, respectively.

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Chart 2 shows a high level of heterogeneity between the main Spanish deposit institutions (12 banks under direct SSM supervision) both in terms of ROE and ROTE (e.g. difference between the 25th and 75th percentiles of 4.1 pp for the ROE ratio and of 5.6 pp for the ROTE ratio in December 2019). Furthermore, the period following the global financial crisis of 2008 is characterised by a reduction in both the level and heterogeneity of the two measures of profitability (ROE and ROTE), with the main Spanish banks more concentrated.

From an international standpoint, Charts 3 and 4 compare the trend in and dispersion of these measures of profitability (the ROE and ROTE ratios) among Spanish

and European banks.⁸ The two panels in Chart 3 show that the difference between the ROE and ROTE ratios is greater in the case of Spanish banks. This is due to their intangible assets (mainly goodwill), which are deducted from the ROTE ratio denominator, being higher. In turn, comparing Chart 2 with Chart 4 shows that the pattern observed for Spanish banks is maintained for European banks and that in 2019 both the level and heterogeneity of the two measures of profitability decreased with respect to 2006. Moreover, in 2018, the difference between the 25th and 75th percentiles is smaller for European banks (3.6 pp for the two ratios, ROE and ROTE) than for the Spanish banks.

⁸ A sample of 27 European banks, 3 of which were Spanish, was considered. The sample was selected from a list of institutions that participated in the EBA's most recent stress test (see <https://eba.europa.eu/risk-analysis-and-data/eu-wide-stress-testing/2018>) for which data for the entire period considered was available in SNL Financial.