

# What drives Austrian banking subsidiaries' return on equity in CESEE and how does it compare to their cost of equity?

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*This short study analyzes the relative profitability of Austrian banking subsidiaries in Central, Eastern and Southeastern Europe (CESEE) using two separate approaches. First, we address the subject from an accounting point of view based on a DuPont analysis. We dissect the return on (the book value of average) equity (ROE) to highlight how profit and loss drivers as well as financial leverage affected this profitability metric from 2004 to 2016. This prepares the ground for our second part, where we switch to a market perspective for the period from 2006 to 2016 to deduce the cost of (average) equity (COE) of these subsidiaries from the Capital Asset Pricing Model (CAPM) in order to compare the model-based profits that would be expected (i.e. demanded) by investors to those that have actually been realized. The analysis is complemented by a similar exercise for a peer group consisting of listed CESEE banks.*

*We find that the ROE dropped substantially during the global financial crisis and only started to recover in 2016. An accounting-based DuPont analysis reveals that – over the entire analyzed time span – this was primarily caused by a rise in risk costs at the onset of the global financial crisis and their strong improvement in 2016, as well as a continuous reduction of financial leverage. The negative contribution of a lower operating income margin and positive effects of an improved cost-income ratio roughly canceled each other out. We also provide a (cautious) medium-term outlook for the future development of the ROE of Austrian banking subsidiaries in CESEE, which is likely to depend on the balance between the weakened net interest income and reduced credit risk costs (that still have to prove their sustainability). When switching to a market perspective and the question of the subsidiaries' COE, we find that the latter is substantially lower than often assumed, but still too high to be fully compensated by realized profits (except in 2016). In aggregate, other CESEE peer banks fared better, which was mostly due to their higher profitability. These results call for continued and persistent efforts to further improve Austrian banking subsidiaries' risk-return profile in CESEE.*

*JEL classification: G01, G11, G21*

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In this short study, we analyze the relative profitability of Austrian banking subsidiaries in CESEE. The paper is structured as follows:

In section 1, we use a DuPont analysis to dissect these subsidiaries' ROE to highlight how profit and loss drivers as well as financial leverage affected this profitability metric from 2004 to 2016. In section 2, we switch to a market

perspective for the period from 2006 to 2016 to deduce the COE of these subsidiaries from the CAPM. This allows us to compare the model-based profits that would be expected by investors to those that have actually been realized. The analysis is complemented by a similar exercise for a peer group consisting of listed CESEE banks. Section 3 concludes.

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## 1 Dissecting subsidiaries' ROE based on an adapted DuPont analysis

In order to explain the driving forces behind the ROE from an accounting point of view, we rely on a well-known corporate finance tool: the DuPont analysis, called after the global chemical and life sciences company of the same name. In 1912, a DuPont explosives salesman (Donaldson Brown) used a return on investment formula that decomposed the profitability ratio into

several sub-ratios, which can be used to understand the driving forces behind corporate performance.<sup>3</sup> Given the simplicity and wide applicability of the tool, it became highly popular, making it possible to interpret a company's ROE as e.g. the product of its profit margin, asset turnover and financial leverage.

In this short paper, we build on the DuPont analysis' appealing simplicity, but adapt and extend it for our own purposes by dissecting a bank's ROE according to its specific accounting terms:

$$\begin{aligned}
 (1) \quad RoE &= \frac{\text{net profit}}{\text{PBT}} * \frac{\text{PBT}}{\text{OP after risk}} * \frac{\text{OP after risk}}{\text{OP before risk}} * \frac{\text{OP before risk}}{\text{operating income}} * \frac{\text{operating income}}{\text{av. total assets}} * \frac{\text{av. total assets}}{\text{av. equity}} \\
 &= \left(1 - \frac{\text{taxes}}{\text{PBT}}\right) * \frac{\text{PBT}}{\text{OP after risk}} * \left(1 - \frac{\text{provisioning}}{\text{OP before risk}}\right) * \left(1 - \frac{\text{operating cost}}{\text{operating income}}\right) * \frac{\text{operating income}}{\text{av. total assets}} * \frac{\text{av. total assets}}{\text{av. equity}} \\
 &= (1 - \text{tax rate}) * \text{impact of other profit} * (1 - \text{RC}) * (1 - \text{CIR}) * \text{OIM} * \text{financial leverage} \\
 &= \text{OIM} * (1 - \text{CIR}) * (1 - \text{RC}) * \text{impact of other profit} * (1 - \text{tax rate}) * \text{financial leverage}
 \end{aligned}$$

where PBT is profit before tax, OP is operating profit, av. stands for average, RC are the risk costs, CIR is the cost-income ratio and OIM is the operating income margin.

The equation could be visualized as a funnel that turns the operating income (in relative terms: the OIM) into net profit (linked to the return on assets, ROA), by following the same logic as the bank's profit and loss statement (chart 1): A bank earns operating income from which operating and risk costs are deducted, adjustments for other profits (or losses) are made and taxes paid, which results in its net profit and ROA that will be substantially leveraged to result in the bank's ROE. As a result, we can decompose the ROE into six performance measures (with their respective effects on profitability in brackets):

1. the OIM, which is a measure of a bank's relative operating income generation capacity and – for Austrian subsidiaries in CESEE – strongly depends on their net interest margin (a positive factor);

2. the CIR, which measures the operating efficiency (including staff, administrative and general expenses; a negative factor);
3. the risk costs, which include e.g. costs incurred when nonperforming loans (NPLs) have to be provisioned for (a negative factor);
4. the typically small impact of other profits or losses (an either positive or negative factor);
5. the tax rate (a negative factor);
6. financial leverage, which is an important positive factor for a bank's ROE, given the – by definition – highly leveraged business model (when compared to other economic agents, such as for example industrial companies).

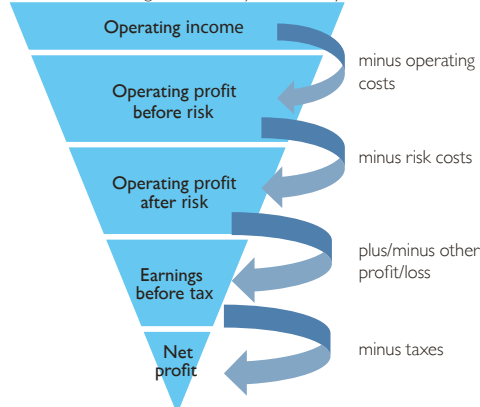
The DuPont analysis thereby allows us to delve deeply into the six factors determining a bank's ROE, to assess how important these factors are and how they have evolved over time.

<sup>3</sup> Please refer to DuPont (2017) for further details.

Chart 1

### DuPont analysis and the profit and loss statement

The operating income margin (i.e. operating income over average total assets) is altered by ...



... and the resulting ROA (i.e. net profit over average total assets) is multiplied by the financial leverage to yield the ROE.

Source: OeNB.

### 1.1 ROE affected by reduced financial leverage, volatile risk costs and recent pressure on the net interest margin

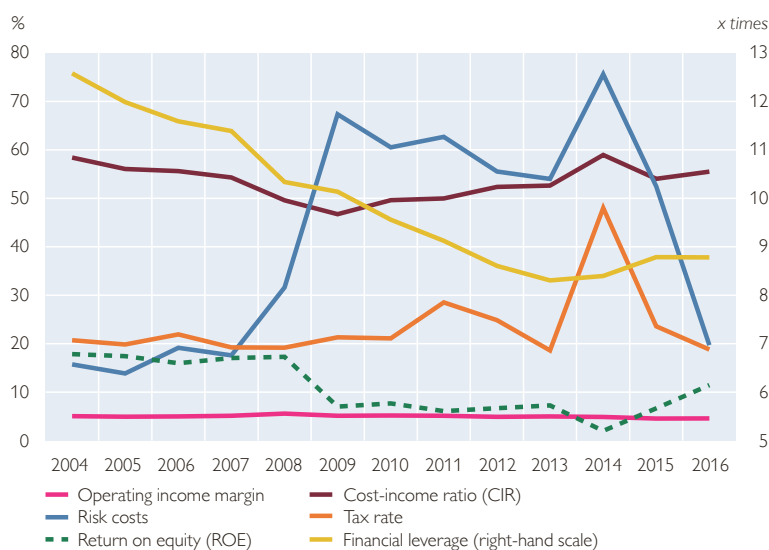
In this section, we apply the DuPont analysis to (an adjusted sample of) Austrian banking subsidiaries active in the heterogeneous CESEE region from 2004 to 2016,<sup>4</sup> with a particular focus on the impact of the global financial crisis (GFC).<sup>5</sup>

We note in chart 2 that the ROE was rather stable before the GFC (2004–2008) at around 17%, then dropped substantially to 7% in 2009 and remained at a subdued level until it recovered in 2016, reaching 11%. What caused its dramatic fall during the GFC and what are the factors that explain the intermittently depressed state of profitability and its revival in 2016? Was the sudden collapse of profitability only due to the immediate effects of the GFC in 2009? Or are there other underlying factors that can be unveiled by a DuPont analysis?

First, looking at the entire time span from 2004 to 2016, it is remarkable how banks' financial leverage declined continuously from more than twelve times to bottom out at less than nine times, a reflection of the structurally stronger capitalization of the examined subsidiaries. This trend, however positive from a financial stability perspective, negatively affected the ROE, which is a metric that strongly depends

Chart 2

### The most important drivers of ROE (2004–2016)



Source: OeNB.

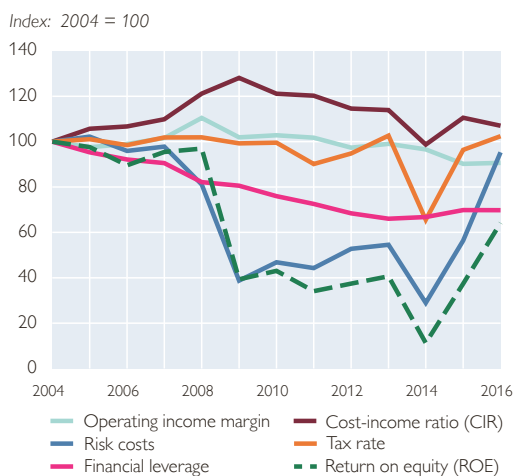
<sup>4</sup> In this paper, we use the term CESEE in a very broad sense, including a diverse set of countries (regarding i.a. their size, state of financial development as well as their macroeconomic and regulatory environment): the EU Member States Bulgaria, Croatia, the Czech Republic, Hungary, Latvia, Poland, Romania, Slovakia and Slovenia, as well as Albania, Belarus, Bosnia and Herzegovina, Kazakhstan, Kosovo, Kyrgyzstan, the Former Yugoslav Republic of Macedonia, Montenegro, Russia, Serbia, Turkey and Ukraine. We analyze the data of all Austrian banking subsidiaries in CESEE for the period from 2004 to 2016, but the sample is variable over time and required substantial adjustments. In particular, from 2004 to 2007, only IFRS subsidiaries are included due to data availability reasons (they held more than 90% of the total assets of all Austrian banking subsidiaries in CESEE). Also, for the sake of consistency, the sample of banks had to be adjusted to include only those subsidiaries in each year that reported data from the beginning to the end of that year, in order to be able to calculate yearly averages for balance sheet items (e.g. average total assets and average equity).

<sup>5</sup> We use the term GFC for the bank crisis that followed the collapse of the U.S. investment bank Lehman Brothers in September 2008.

on banks' leverage.<sup>6</sup> Second, the GFC had a massive effect on risk costs, causing them to jump from 18% to 67% in just two years (2007 versus 2009); though they displayed a decreasing trend thereafter, they still remained elevated at 52% in 2015, before dropping to a pre-crisis level in 2016 (at 20%). This means that while in 2007 and again in 2016, only about one-fifth of operating profit before risk was used up by risk costs and the remainder was available to pay taxes and dividends and/or to be retained to organically increase capitalization, from 2009 to 2015, more than half and even up to three-quarters of all operating profits were used to cover risks. Third, chart 3 shows that the decline in the OIM in the aftermath of the GFC was the third-largest contributor to the reduction in profitability, as it fell from 5.6% in 2008 to 4.6% in 2016, to which the decline in the net interest margin from 3.6% to 2.8% contributed 80 basis points (or 80%).

Chart 4

### Cumulated ceteris paribus effects of ROE drivers (2004–2016)



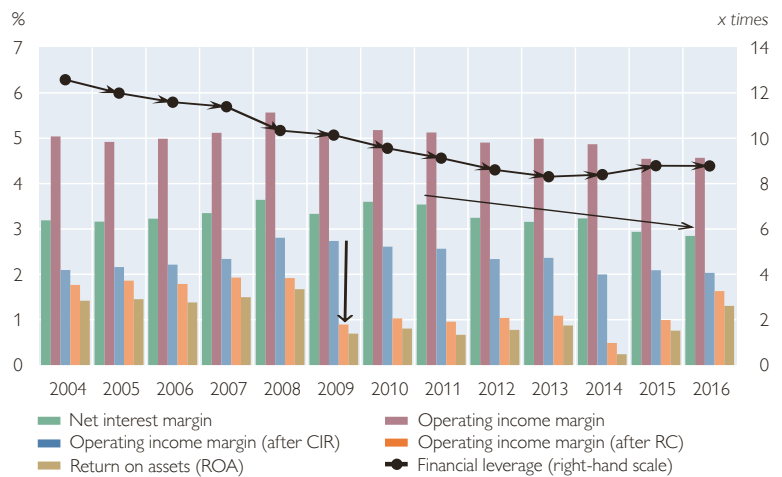
Source: OeNB.

<sup>6</sup> This explains why financial stability analysts prefer assessing a banking system's profitability by using the nonleveraged ROA.

<sup>7</sup> Changes in the tax rate (except for 2014) and other profits and losses only had a minor impact.

Chart 3

### Composition of ROA and leverage (2004–2016)



Source: OeNB.

Note: CIR = cost-income ratio; RC = risk costs.

To assess the relative importance of all these factors, we use the DuPont analysis of the ROE, which allows for a ceteris paribus analysis that answers the question of how the ROE would have changed over time if only one isolated factor had changed and all others had been frozen at their 2004 levels. Chart 4 shows that the ROE fell by 36% overall, which was primarily caused by lower financial leverage, which reduced the ROE by 30%. The other noteworthy ceteris paribus impacts:

- -9% due to the lower OIM,
- -5% due to higher risk costs, which, however, showed a substantial improvement in 2016, and
- +7% due to a lower (i.e. better) cost-income ratio that is nonetheless on a worsening trend, since it reached a historic best in 2009 at 47% (see chart 2).<sup>7</sup>

When dividing the timeframe into a pre- and post-GFC period (the “expansion” and “consolidation” phase), several remarkable facts emerge. The stability of the ROE before the GFC – at around

17% from 2004 to 2008 – masks diverging underlying trends of profitability drivers, as stability was maintained mainly due to improved operating efficiency and a supportive OIM that counterbalanced lower financial leverage and already deteriorating risk costs, which doubled from 16% in 2004 to 32% in 2008. With the GFC in full swing in CESEE in 2009, the ROE dropped to 7% as risk costs doubled once more to 67% and the OIM fell back to 5%. The ROE did not recover until 2016 (11%), as risk costs that had slowly started to improve (except for 2014, when they temporarily peaked at 76%<sup>8</sup>) dropped to 20%. All other major factors had a negative impact: the cost-income ratio increased (by nine percentage points to 55% in 2016), financial leverage was further reduced and the OIM fell to 4.6%, especially in the last years of the analyzed period, caused by a lower net interest margin in the low interest rate environment.

### **1.2 Net interest income likely to remain under pressure, while improved risk costs have to prove their sustainability**

After the historical analysis to unveil the drivers of the ROE of Austrian banking subsidiaries in CESEE over the past 13 years, what are the conclusions that can be drawn and what is the medium-term outlook for profitability from an accounting perspective?

The answers to these questions obviously rely on the four main factors of our DuPont analysis:

1. The OIM proved relatively stable around 5%, but recent pressure on the net interest margin led to a

decrease to 4.6% in 2016. Given the strong dependence of Austrian subsidiaries' profitability on their net interest income<sup>9</sup> and the low likelihood of a substantial change in their retail business models, the adverse consequences of the low interest rate environment will be difficult to avoid and net interest income is likely to remain under pressure.

2. The CIR worsened after the GFC, reaching 55% in 2016, as weaker operating income could not be compensated by cutting operating cost, but looking forward, a prediction is difficult. On the one hand, focusing on core markets and those with higher margins, reducing one-off costs and implementing further cost-cutting programs (including digitalization efforts, which will, however, involve short-term costs) may help reduce the CIR. On the other hand, rising wages due to a convergence to costlier Western European levels and other (unexpected) costs may limit the potential for raising operating efficiency.
3. Risk costs dropped to their pre-crisis level in 2016; the coverage ratio has improved substantially and the NPL ratio is on a declining path (albeit the situation remains highly heterogeneous across countries). These positive trends are supported by banks' own and various institutional initiatives to reduce NPLs,<sup>10</sup> as e.g. the Single Supervisory Mechanism lists "credit risk, with a focus on NPLs and concentrations" as one of its three priority areas for 2017.<sup>11</sup> Nonetheless, risk costs at 20% still have to prove their sustainability

<sup>8</sup> Driven both by higher provisioning and lower operating profits before risk.

<sup>9</sup> Please refer to Kavan, Gruber et al. (2016) for further details.

<sup>10</sup> E.g. the Vienna Initiative's NPL Initiative (<http://npl.vienna-initiative.com>).

<sup>11</sup> Please refer to ECB (2017a) for further details. Also, the ECB (2017b) published a guidance to banks on NPLs.

over the medium term, as global economic and political uncertainties remain.

4. Higher capital levels have led to a substantial reduction in financial leverage since 2004. Given that higher capital (buffer) requirements have already been fully implemented in several CESEE countries, the main steps seem to have been taken, and financial leverage bottomed out in 2013.

The future development of the ROE of Austrian banking subsidiaries in CESEE is likely to depend on the balance between the weakened operating profitability and reduced risk costs (that still have to prove their sustainability). While changes in the CIR are even more difficult to predict, they may ultimately tip the scales.

## 2 The model-based cost of equity in comparison to subsidiaries' profitability

After assessing the driving forces behind the accounting ROE of Austrian banking subsidiaries in CESEE, the study now turns to a market perspective in order to compare the subsidiaries' profitability with their average annual cost of equity (COE). The latter is the return expected by shareholders and potential equity investors, which provides an important insight into their perception of a bank's riskiness and their expectations of compensation. The market's demanded COE can therefore be seen

as an important yardstick for banks, when they attempt to raise new capital.

One of the motivations for this paper was to assess why recent studies and surveys still estimate banks' COE at close to 10%,<sup>12</sup> if both the return on (supposedly) risk-free assets has declined substantially in the low interest rate environment and the perception of banks' risk could have declined due to increased capital levels, which imply ceteris paribus a lower probability of default. If existing and prospective owners indeed expect such high risk premiums (for example to compensate them for higher credit risks or regulatory uncertainties), several studies conclude that the low profitability of the European banking sector in recent years<sup>13</sup> was insufficient to meet these expectations, which may lead to less demand for bank shares when they are offered to the public.<sup>14</sup>

We provide two angles to this nascent discussion: First, we analyze the situation at nonlisted Austrian banking subsidiaries in CESEE over an extended time period from 2006 to 2016<sup>15</sup> and second, we avoid comparing the return on equity at book value with the cost of equity at market prices (i.e. we switch from the book value of equity used in the first part to its value at market prices). In order to assess whether Austrian banking subsidiaries in CESEE managed to earn their COE, we first estimate their COE based on the Capital Asset Pricing Model (CAPM),

<sup>12</sup> See e.g. IMF (2017): "investor surveys suggest that banks' cost of equity is at least 8 percent (though some investors indicated that the cost of equity is above 10 percent)" (p. 29); or ECB (2016): "increase in banks' cost of equity (COE) to around 10% in the second quarter of 2016" (p. 67).

<sup>13</sup> See EBA (2017): "The EU banks' profitability remains a concern. The average return on equity (RoE) reached its lowest level (3.3%) in Q4 2016."

<sup>14</sup> See e.g. Bain & Company (2016): "Overall only five percent of around 1,700 [German] banks earn their cost of equity" (p. 4, authors' translation from German); and ECB (2016): "a negative gap [between banks' return on equity and cost of equity] is not sustainable in the long run since it implies that equity investors in banks require a higher return than the return banks are able to deliver. Over time, this will make it difficult for banks to attract capital and finance growth" (p. 11).

<sup>15</sup> The shorter analysis period compared to the DuPont analysis is due to limited data availability before 2006.

which is a long-standing corporate finance tool,<sup>16</sup> and with the help of market proxies. Then, we deduce the profits that would be expected by investors and compare them with those actually realized. We assess the risk-adjusted profitability surplus or shortfall from an owner's long-term point of view with a focus on all profits, which is more relevant to financial stability than short-term and more speculative considerations (e.g. banks' share price movements). To conclude the analysis, we complement it with a peer group analysis of other CESEE banks.

## 2.1 Calculating the cost of equity for nonlisted banking subsidiaries

For the purpose of this study, we use the CAPM to calculate risk-adjusted return expectations for the owners of nonlisted bank subsidiaries (i.e. their COE). According to the CAPM, a share's expected return (COE) should consist of the risk-free rate and an entity-specific additional compensation for accepting risk (the share's risk premium):

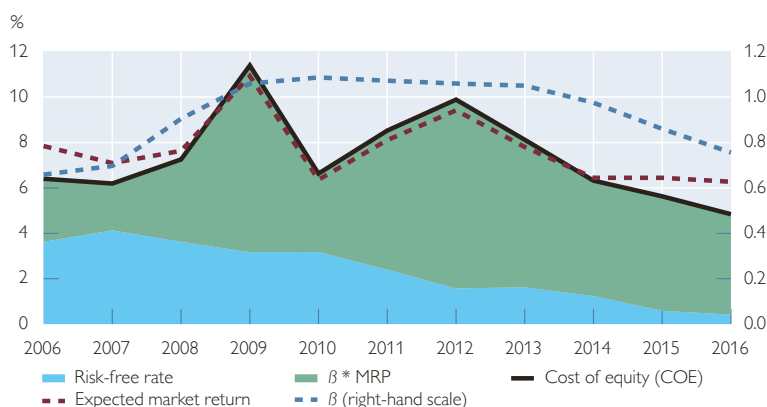
$$(2) \quad COE_t = Rf_t + \beta_t * (E[Rm]_t - Rf_t)$$

where  $Rf$  is the yield on a risk-free asset,<sup>17</sup> beta ( $\beta$ ) measures the systematic risk of the share price relative to the market portfolio,<sup>18</sup>  $E[Rm]$  is the expected return of the market portfolio<sup>19</sup> and the term  $(E[Rm] - Rf)$  is called the market risk premium (MRP).

Chart 5 depicts the development of the model-based COE and its components for Austrian banking subsidiaries in CESEE for each year from 2006 to 2016. As can be seen, Austrian subsidiaries experienced three separate periods in terms of their COE: A pre-crisis period up to 2008 with a COE of around 6% to 7%, followed by two crisis episodes with substantial increases to around 10–11% in 2009 (GFC) and 2011–2012 (sovereign debt crisis)<sup>20</sup> and subsequent reductions. After

Chart 5

### Decomposition of the average annual COE of Austrian banking subsidiaries in CESEE



Source: Bloomberg, OeNB (authors' own calculation).

Note: All figures are yearly averages.

<sup>16</sup> International institutions like the IMF and the EBA also use the CAPM to calculate the COE. For further details, see IMF (2014, p. 21ff) and EBA (2015, p. 57ff).

<sup>17</sup> We use the average annual yield of the ten-year German government bond.

<sup>18</sup> A share's beta above one indicates a stronger sensitivity of that share price to general market movements (the diversified market portfolio displays a beta of one). As Austrian banking subsidiaries are not listed on a market exchange, the average beta of each year is the weighted average (by Austrian subsidiaries' average book equity per country) of CESEE country betas, which are themselves the mean of each country's listed banks' beta. The sample of listed CESEE banks consists of peers in Poland (PKO, Pekao, Bank Zachodni WBK, mBank, Bank Handlowy), the Czech Republic (Komerční banka), Romania (Banca Transilvania, BRD – Groupe Société Générale), Russia (Sberbank) and Hungary (OTP Bank).

<sup>19</sup> We use the STOXX Europe 600 index to replicate a diversified market portfolio in line with the CAPM's assumptions (and not the much narrower STOXX Europe 600 Banks index) and Bloomberg Estimates (BEst) for the index's expected earnings-based return (by means of the expected inverse price-earnings ratio).

<sup>20</sup> In 2012, Mario Draghi, President of the ECB, famously declared: "Within our mandate, the ECB is ready to do whatever it takes to preserve the euro. And believe me, it will be enough."

its latest easing, the COE ended up below its pre-crisis level, at 5% in 2016.

A more detailed breakdown of the driving forces behind these changes reveals that the risk-free rate continuously declined from 2007, but the onset of the GFC overcompensated this trend in 2009, as it caused both a rise in the beta and especially in the expected MRP. After a year of relative calm in 2010, the European sovereign debt crisis led to another rise in the COE in 2011 and 2012, this time solely driven by the rise in the expected MRP. From 2013 onward, the beta started a steady decline and the expected market return bottomed out at 6%. Factoring in the reduction of the risk-free rate to its historic low of 0.4% in 2016 – 3.7 percentage points below its level of 2007 – the CAPM-based COE for Austrian banking subsidiaries in CESEE is at 5%, substantially below estimates provided in other studies and surveys (see footnote 12).

## 2.2 Only in 2016 did actual profitability satisfy investors' expectations

Based on the COE of each year, we calculate profits that would have been demanded by investors and compare them to actual profits in order to examine whether Austrian banking subsidiaries in CESEE earned their COE. For this exercise, we assess the profitability from an owner's long-term point of view, i.e. we look at all profits and assume that owners are indifferent regarding their retention or distribution as dividends. (Please note that we

calculate the expected profits on the basis of the approximated equity's market price, i.e. the subsidiaries' hypothetical market capitalization, given that this is the price that an investor would have to pay to acquire these subsidiaries.)<sup>21</sup>

The comparison between expectations and reality from 2006 to 2016 reveals that even though our CAPM-based COE estimates are (in part) substantially lower than those assumed in other studies, Austrian banking subsidiaries in CESEE (on an aggregated level) faced considerable challenges in satisfying market-based profitability expectations: Overall, they only earned their COE in one of the past eleven years (i.e. 2016) and clearly missed this yardstick over the entire time frame, as they managed to cover less than two-thirds of their expected profits. However, since 2012, an improvement has been noticeable (with the exception of 2014<sup>22</sup>), and in 2016 realized profits exceeded model-based expectations by more than 50%, helped both by the historically low COE and the substantial reduction in risk costs (see above).

To examine, whether these findings also apply to other banks operating in CESEE, a similar analysis has been conducted for the peer group.<sup>23</sup> The aggregated results for the peer group indicate that peer banks' higher profitability allowed them to earn their higher COE in every year over the entire time span except for 2007 to 2009. As these result are heavily driven by just one bank – Sberbank of Russia, which at some point made up more than half the peer

<sup>21</sup> As Austrian banking subsidiaries in CESEE are not listed on a market exchange, their hypothetical market capitalization was calculated by means of their peers' price-to-book ratios (please refer to footnote 18 for the list of peer group members). The average price-to-book ratio of each year is the weighted average (by Austrian subsidiaries' average book equity per country) of CESEE country price-to-book ratios, which are themselves the mean of each country's peer banks' price-to-book ratios.

<sup>22</sup> In 2014, Austrian banking subsidiaries in CESEE suffered a significant decline in profits.

<sup>23</sup> Please refer to footnote 18 for the list of peer group members. The data sources for our peer group analysis include Bloomberg, S&P Global Market Intelligence and the authors' own calculations.



group's book equity – we repeat the exercise for the remaining peer group without Sberbank, in which case the peer group exactly covers its expected profits, but nonetheless misses to achieve investors' profitability expectations in seven out of eleven years.

Regarding this second, market-focused part of our study, we conclude that although the analyzed Austrian banking subsidiaries in CESEE<sup>24</sup> generated substantial absolute profits of more than EUR 23 billion from 2006 to 2016 and contributed significantly to the overall profitability of the Austrian banking system, these profits were not enough to fully compensate their owners for the risks taken in the past (represented by their model-based COE). CESEE peers faced a similarly challenging environment, but seem to have performed better on aggregate due to higher profitability. The risk is that, over the medium term, banks that cannot satisfy their (potential) investors' expectations may face little demand when they attempt to raise new capital, unless they are able to convince market participants that their prevailing outlook on risk-adjusted profitability is overly pessimistic. Subsidiaries need to continue their efforts to find additional sources of revenue in a low interest rate environment and to enhance risk-adequate pricing, while improving cost efficiency and resolving the remaining nonperforming loans in order to put the recovery of the ROE seen in 2016 on a sustainable footing. Together with the lower leverage of the subsidiaries' business models, which points toward lower riskiness, the lowered COE of Austrian banking subsidiaries in CESEE and their improved profitability could help to sustainably close their profitability gap with regard to their COE.

### 3 Conclusions

The analysis of banks' profitability has several dimensions. Apart from measuring absolute profits and stating an ROE, it is equally important to understand their underlying drivers and to compare actual profits to the compensation investors expect for taking ownership risks (the COE). For this purpose, we focused our analysis on Austrian banking subsidiaries in CESEE and examined the period from 2004 to 2016 to complement the work done in Kavan, Gruber et al. (2016). We find that these subsidiaries' ROE dropped substantially during the GFC and only managed to recover in 2016. An accounting-based DuPont analysis reveals that the fall in the ROE was primarily caused by a continuous reduction of financial leverage, a rise in risk costs at the onset of the GFC (the effects of which have mostly been reversed since) and a lower operating income margin. We also provide a (cautious) medium-term outlook for the future development of the ROE, which is likely to depend on the balance between the weakened net interest income and reduced credit risk costs (that still have to prove their sustainability). When switching to a market perspective and the question of the subsidiaries' COE, we find that it is actually lower than often assumed, but still too high to be entirely compensated by realized profits (except in 2016). In aggregate, other CESEE peer banks fared better, which was mostly due to their higher profitability. These results call for continued and persistent efforts to further improve Austrian banking subsidiaries' risk-return profile in CESEE.

<sup>24</sup> Please refer to footnote 4 for the technical details regarding the required adaptations to the sample.

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