

Do sustainable banks outperform? Driving value creation through ESG practices



Report background

This research was initiated by the Global Alliance for Banking on Values (GABV) following exchanges with the European Investment Bank (EIB) about the links between financial performance and sustainability focus. With the support of the EIB and Deloitte, GABV contracted KKS Advisors to replicate analysis originated by Professor George Serafeim regarding linkages between financial performance and focus on material sustainability issues as defined by the Sustainability Accounting Standards Board (SASB) for the largest commercial banks in the world.

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Contents

1. Executive summary	2
2. Introduction	4
3. Materiality	7
4. Research approach	12
5. Results	13
6. Conclusions	15
7. About the authors	16
8. Research supporters	17
9. Appendix: List of banks	18

Research shows that for financial institutions, the simultaneous pursuit of sustainability priorities and strong financial performance does not conflict with one another but rather, support each other when driven by consistent strong overall leadership.

1. Executive summary

A growing number of companies around the world have voluntarily adopted and implemented a broad range of sustainability practices as a response to emerging challenges and stakeholder expectations across the environmental, social and governance (ESG) space. These efforts have resulted in a proliferation of data and ratings available to investors to help them integrate ESG performance in their capital allocation decisions. Academics and practitioners using ESG information have presented extensive evidence on the benefits of integrating ESG criteria into the investment process, from both an operational and risk-return perspective.

In a seminal paper, Professor George Serafeim and co-authors found that firms with good ratings on industry-strategic sustainability issues deliver significant financial outperformance over firms with poor ratings on the same issues.¹ The research made a clear distinction between ESG issues that are deemed material and immaterial within an industry. In contrast with immaterial factors, material ESG factors are sustainability issues that are likely to impact the financial condition or operating performance of a company and, therefore, are most important to investors.

While ESG materiality-focused research has proliferated, to date there has been limited research focusing on the impact of ESG factors on returns in the financial sector, and more specifically in the banking industry.

The Global Alliance for Banking on Values (GABV) consists of banks that focus on delivering value to society by using finance to deliver sustainable economic, social and environmental development. The GABV believes that this focus delivers stable financial returns. Supporting this hypothesis is the annual research of the GABV, commencing with year end 2010, comparing the financial profiles and returns of its members with the largest banks in the world.² The GABV, along with the European Investment Bank and Deloitte have supported this research to give more scientific weight to the hypothesis that an ESG focus increases firm value. To that end, the purpose of this report is to test the relationship between ESG and financial performance within the context of the commercial banking industry.

Using publicly available data on each of the 100 banks included in the sample (see Appendix for the list of banks), we evaluated and scored banks on their pursuit of material and immaterial sustainability issues. In analysing their stock returns from 2007 to 2017, we determined that those banks that consistently scored high on material ESG issues delivered higher risk-adjusted returns compared to those banks that performed poorly on the same issues, while the opposite was found for immaterial ESG issues. These results suggest that a focus on material sustainability issues is likely to coincide with enhanced financial returns.

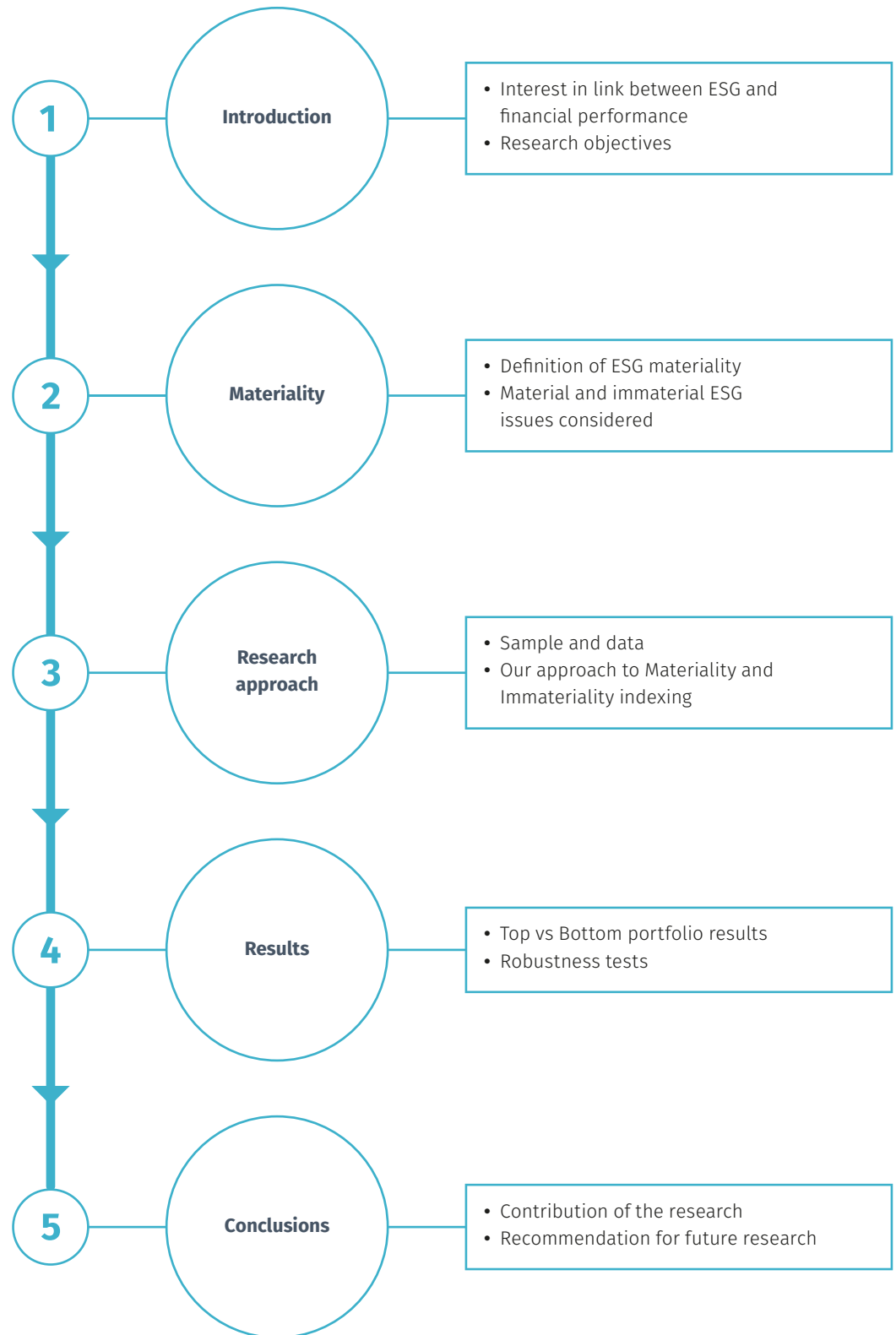
Research shows that for financial institutions, the simultaneous pursuit of strategic sustainability priorities and strong financial performance does not conflict with one another but rather, support each other when driven by consistent strong overall leadership. The enhanced performance on ESG factors and financial returns are a result of this overall stronger leadership. These results are consistent with the GABV view that delivering value to society will lead to, or is directly linked to, value for all stakeholders including shareholders.

We consider our evidence as a solid first attempt at providing industry-specific insights, adding significant weight to the argument for integrating ESG issues into corporate strategy and capital allocation decisions. Although the ESG data landscape has improved over the last few years, there is still a need for more ESG data that is financially material, forward-looking, complete and timely. By highlighting the financial relevance and importance of ESG factors, our research adds to the business case for action by all market participants to increase standardisation and robustness of ESG information, to enhance reliability for decision making by companies and investors.

1 Khan, M., G. Serafeim and A. Yoon (2016), "Corporate Sustainability: First Evidence on Materiality", *The Accounting Review* 91(6): 1697-1724.

2 The largest banks in the world are the Global Systemically Important Banks as defined by the Financial Stability Board. The GABV analysis is available at: <http://www.gabv.org/wp-content/uploads/2018-Research-Report-v1.11.pdf>

Report roadmap



An increasing number of companies identify ESG issues as strategic components of long-term success.

2. Introduction

Climate change and broader issues of sustainability have become urgent issues for society. Business leaders now see such factors as major risks affecting long-term success – whether as a response to the concerns of society to demonstrate positive impact, or as boards recognise that these issues can lead to substantial risks to their performance and prospects. This has been set out, for example, by Blackrock Chairman and CEO Larry Fink in his 2018 Letter to CEOs: “To prosper over time, every company must not only deliver financial performance, but also show how it makes a positive contribution to society. Companies must benefit all of their stakeholders, including shareholders, employees, customers, and the communities in which they operate.”

Companies are increasingly seeking to integrate wider factors such as the needs of stakeholders and sustainability performance – into their business model, rather than considering them as a separate activity within the business. As a result, companies understand that long-term value creation and financial returns are inextricably linked to their core purpose and how they create value for their stakeholders. To quote Larry Fink again, “Purpose is not the sole pursuit of profits but the animating force for achieving them”. These trends make ESG issues an integral component of companies’ strategies.

The corporate side

Companies have historically used terms such as sustainability, corporate social responsibility, social impact, and shared value almost interchangeably to describe a wide range of goals and strategies to measure and manage their environmental and social impact. Understanding is now increasing of the relationship of these impacts with sources of value, competitive advantage, brand reputation, trust among customers and the ability to attract employees. Companies are therefore seeking to evaluate and integrate relevant ESG factors into their strategy and risk management.

An increasing number of companies identify ESG issues as strategic components of long-term success. Of the world’s largest 250 companies, 93% report on their ESG performance.³ The majority of publicly-listed companies, along with several private companies, are now being evaluated and rated on their ESG performance by a wide range of third-party providers of data and analytics. The Global Initiative for Sustainability Ratings identifies over 600 ESG products globally from more than 150 organisations, providing more than 10,000 unique ESG metrics and performance indicators.⁴

Numerous studies have emerged describing the benefits of having sound ESG standards for a company: from lower cost of capital, to better operational performance, and better stock price performance.⁵ Moreover, companies that integrate ESG factors into their strategy and business model are significantly more likely to attract more dedicated long-term investors with low portfolio turnover and more concentrated holdings rather than they are to attract transient investors with high portfolio turnover and highly diversified holdings.⁶

In a seminal paper, Serafeim and co-authors found that companies with good ratings on material ESG issues significantly outperform companies with poor ratings on the same issues. Conversely, companies with good ratings on immaterial sustainability issues do not significantly outperform companies with poor ratings on the same issues.⁷ These results emphasise the importance for companies and investors to understand the material and immaterial ESG issues that can affect financial and operational performance, given their impact on value creation.

³ See www.globalreporting.org/information/news-and-press-center/press-resources/Pages/default.aspx

⁴ Global Initiative for Sustainability Ratings (July 2017), <http://ratesustainability.org/hub/index.php/search/report-in-graph>.

⁵ KKS Advisors and High Meadows Institute (2016)

⁶ See, for example, University of Oxford and Arabesque Partners (2015), ‘From the Stockholder to the Stakeholder – How sustainability can drive financial outperformance’; Clark, Feiner and Viehs (2015) who provide a comprehensive knowledge base on ESG and find that it is in the interest of companies to integrate sustainability into their decision-making process. Additionally, see Eccles, Iannou and Serafeim (2011) for more evidence on the positive impact on corporate performance deriving from valuable sustainability practices.

⁷ Khan, M., G. Serafeim and A. Yoon (2016), “Corporate Sustainability: First Evidence on Materiality”, *The Accounting Review* 91(6): 1697-1724.



The main reason for investors to include specific sustainability information in their asset allocation decisions has been the current or potential materiality of ESG issues that are seen to be relevant to an industry.

The investor side

Investors are increasingly seeking to understand the ESG risks and performance of the companies they invest in, and how they can impact returns over time. They have employed a large number of terms, such as sustainable investing, responsible investing and ESG investing to describe how they are assessing the potential impact of ESG issues on a company's current and future performance. However, they are increasingly seeking to integrate ESG considerations into their mainstream portfolios.

ESG investment products flood the market in almost every investment category, from ETFs to fixed income and alternatives. The value of global assets allocated via ESG-related strategies has grown from US \$13.2 trillion in 2012 to an estimated US \$30 trillion in 2018.⁸

The main reason for investors to include specific sustainability information in their asset allocation decisions has been the current or potential *materiality* of ESG issues that are seen to be relevant to an industry.⁹ Similarly, an MIT Sloan Management Review report found that due to the strong link between material ESG issues and financial performance, investors inform their investment decisions on the basis of companies' sustainability performance.¹⁰ To further corroborate the evidence, several practitioner research papers and studies have looked at the integration of material ESG factors into investment strategies and found consistent results.¹¹

This perspective is also consistent with investors' role as stewards – to seek long-term value for clients and beneficiaries which lead to wider economic, environmental and social benefits, to quote the UK's Stewardship Code 2020.¹²

⁸ Global Sustainable Investment Review (2018).

⁹ See Section 3 of this report on Materiality.

¹⁰ Unruh, Kiron, Kruschwitz, Reeves, Rubel, and zum Felde (2016).

¹¹ Examples include but are not limited to: Bender, Sung, and Wang (2017); Schoenmaker and Scharamade (2018); Aschwin Kumar, Smith, Badis, Wang, Ambrosy, and Travares (2016); Amel-Zadeh (2018).

¹² See UK Stewardship Code 2020, issued by the Financial Reporting Council, 2019.

Commercial banks need to take a long-term view relative to risk underwriting. That long-term view must incorporate potential risks from the impact of climate change or the impact of societal pressure on companies to address climate change.

ESG issues for commercial banks

The concept that ‘doing good’ is good business also applies to the banking sector. Since 2012, the GABV has conducted research looking at the impact of value-based banking on key economic and financial indicators.¹³ Their findings echo the evidence of the broader ESG literature, highlighting how value-based banking is associated with steady financial returns, higher growth, and solid capital position.

But the wider ESG issues affecting banks’ clients and customers also lead to risks to the banks themselves. The ESG risks of the companies that banks invest in or extend lending to are directly linked to credit exposure over time. Companies that are affected by climate change, risks to their ‘social license to operate’ or other ESG factors can succumb to financial and operational pressures that mean they are unable to meet their commitments to lenders. For example, a bank’s issuance of loans to carbon-intensive industries and corporates could be significantly impacted by potential carbon pricing legislation. Such issues pose exposure risk that needs to be measured and managed.

Banks can also bring positive impacts to society and the environment. They can help people and businesses prosper and grow. The value created through this process is, by definition, shared with the broader community. This value can be increased through the policies adopted in other areas, for example supporting community business, and broadening access to banking services to the underbanked. But the biggest potential impact for commercial banks is through their portfolio of loans and investments. Providing attractive terms to companies that have high ESG performance or who are leading the transition to a low-carbon economy will create positive impact – and enhance the bank’s own reputation. Likewise, adding clauses to lending agreements to reduce negative impacts can also lead to wider benefits.

This illustrates a cycle of value creation, where material issues relating to a bank’s wider impact on society and the environment (stakeholder perspective) also affect the performance and prospects of the organisation itself (company and investor perspective). Thinking strategically about social and environmental responsibility and identifying the ESG issues that are most material for a bank is crucial to creating a positive cycle of value creation. Yet, banks have heterogeneous approaches to ESG issues that rarely place them at the heart of their business models. As a result, banks could be underplaying drivers of value and competitive advantage.

This model of the ‘cycle of value creation’ is well illustrated in the UN Principles for Responsible Banking, formally launched in September 2019.¹⁴ On the one hand, the principles call for banks to manage their direct impacts on people and the environment (principle 2). On the other, the principles emphasise the key impact banks can have through their clients and customers, to “encourage sustainable practices and enable economic activities that create shared prosperity for current and future generations” (principle 3).

Our objective

The goal of this report is to explore the impact of material ESG issues on the commercial banking industry. More specifically, assuming an investor perspective, we wish to understand if commercial banks with good ratings on material ESG issues have the potential to outperform banks with poor ratings on the same issues.

¹³ ‘GABV (various years), “Real Economy – Real Returns: The Business Case for Values-based Banking”. Available at www.gabv.org

¹⁴ See www.unpri.org/pri/an-introduction-to-responsible-investment/what-are-the-principles-for-responsible-investment

3. Materiality

When assessing the relationship between a company's performance on ESG issues with its financial performance, the reality is that not all ESG issues matter equally, and their relevance varies industry to industry.

Which ESG information is the most useful to shape firm strategies and investments? Does water resource management have the same potential to impact the bottom line of a mining company as it does for an investment bank? When assessing the relationship between a company's performance on ESG issues with its financial performance, the reality is not all ESG issues matter equally, and their relevance varies industry to industry. The concept of materiality helps in providing some framing to discern relevant and irrelevant, strategic and non-strategic ESG issues for a given industry. For this study, we have adopted a similar approach to financial reporting to define material ESG issues as those that are likely to impact the financial condition or operating performance of a company. This lens helps to identify the most valuable company information for investors.¹⁵ Similarly, ESG immateriality in this study refers to any ESG issue that does not significantly impact a firm's financial performance, which may be of less relevance to an investor.

For the purpose of framing materiality for the commercial banking industry, we followed the guidance of the Sustainability Accounting Standards Board (SASB). The SASB identifies material ESG issues and associated accounting metrics for each of 77 industries grouped according to its Sustainable Industry Classification System (SICS), by collecting evidence of interest and financial impact together with the views and expectations of industry experts. The results of the SASB's materiality process are summarised in their Materiality Map.¹⁶ We follow the SASB's guidance as of November 2018 to identify the following material ESG issues for the Commercial Banking industry. We have used the SASB definition of materiality for this study because of the investor lens that the SASB has applied to its standards (see the following page).



¹⁵ It is crucial that a bank's performance against all immaterial issues is quantifiable. We excluded all ESG issues that are either irrelevant for a commercial bank's business model or where data availability is significantly low. Excluded immaterial ESG issues are: Air Quality, Waste Management, Ecological Impacts, Product Quality and Safety, and Customer Welfare.

¹⁶ The latest version of SASB's Materiality Map can be found at <https://www.sasb.org/standards-overview/materiality-map>. SASB updates its framework regularly. In every update materiality for each industry is updated to match new industry assessments. Accordingly, the mapping of issues to disclosure topics and/or metrics may also evolve.

We have used the SASB's approach to material ESG issues because it is aligned to the 'investor lens' and adopts standards that relate to operational and financial impacts on an organisation. This allows us to understand likely dependent factors that can directly affect the organisation's performance. "By viewing ESG factors through the lens of financial materiality... an organisation can focus on covering a small subset of ESG metrics that are most important to its success over time by reducing risk and contributing to growth and creation", as noted by Herz, Monterio and Thomsom.¹⁷ This approach is consistent with the aim of this research.

Companies also consider their wider impacts on the economy, society and the environment, adopting a 'stakeholder lens'. They do this for a number of reasons: to engage with stakeholders; to measure and communicate the impacts achieved through the company's purpose and strategy; to show they are a responsible citizen. There are also increasingly disclosure requirements in this area (for example, greenhouse gas emissions). Furthermore, companies recognise that their external impacts can lead to future risks to the enterprise. For example, limits on availability and use of resources, reputation impact, increasing costs, access to talent, business disruptions.

The SASB's aim is to create and disseminate industry-specific accounting standards for material sustainability issues for use by publicly listed companies and their investors. SASB's model is very similar to the one of FASB (Financial Accounting Standards Board), set up almost 40 years ago to establish and improve standards of financial accounting and reporting. FASB's standards are now recognised as authoritative by the Securities and Exchange Commission (SEC). Therefore, SASB's focus is to get ESG information through mandatory financial filings (like the Form 10-K in the USA), which is different than other voluntary frameworks that provide a framing for voluntary sustainability reports. Although we use the SASB framework to define materiality, this is not the only framework available. For example, the Global Reporting Initiative includes guidance on materiality through their GRI standards.¹⁸ The overall aim of the GRI standards is to help organisations communicate about the impacts they have on the economy, environment and society. In that sense, GRI recommends that organisations consider the full picture of their outward impacts when defining materiality, rather than just the impacts that have immediate consequences from a business perspective (such as financial costs or a damaged reputation).

Irrespective of the choice of the framework that is used to define ESG material issues for a company and an industry, a key takeaway is that materiality is a dynamic concept that evolves over time as new business models emerge, regulatory pressures increase, and consumer awareness and demands grow.

¹⁷ Herz, Monterio and Thomson, 'Leveraging the COSO Internal Control – Integrated Framework to improve confidence in sustainability performance data', page 50.

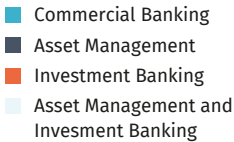
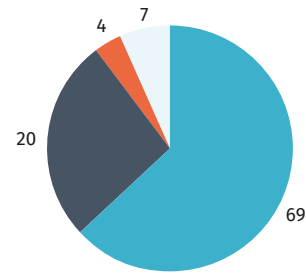
¹⁸ Source: <https://www.globalreporting.org/standards/questions-and-feedback/materiality-and-topic-boundary>

The main reason for investors to include specific sustainability information in their asset allocation decisions has been the current or potential materiality of ESG issues that are seen to be relevant to an industry.

Material issues for commercial banks

- **Access and affordability:** This issue revolves around a bank's deposit and customer base. Banks with significant and diversified deposit funding bases and strong management of credit and other forms for risk lower the bank's overall risk profile and should lead to a lower cost of capital, enhancing financial returns. The reputational benefits stemming from addressing the issue of access and affordability leads to a higher evaluation of a bank's intangible assets. For these reasons, issues such as lending to promote community development and small business growth, and financial inclusion, are material issues for commercial banks.
- **Labour practices:** Banks need to make sure that the service they provide is of the highest quality to attract more customers and increase their deposit base. High standards in the workplace and labour, with policies related to exploited labour, remuneration (fair wages and overtime pay), as well as appropriate benefits are crucial for attracting and retaining a strong workforce. A competent and loyal workforce can significantly enhance operational efficiency by reducing turnover and improving the quality of customer care, which is then able to help banks gain a larger client base. Moreover, the improved reputation stemming from fair workplace practices can increase a bank's overall value.
- **Data security and customer privacy:** Ensuring privacy and security is a crucial component of a bank's responsibility towards its customers. Potential accidents and breaches can lead to detrimental contingent liabilities, including fines, which can increase costs for a company and worsen its operational efficiency. The reputational damage associated with such breaches could also decrease the value of the bank's intangibles and the riskier profile would result in a higher cost of capital.
- **Lifecycle impacts of products and services:** Banks have to address multifaceted sustainability issues that can represent direct and often indirect risks and opportunities. Borrowers' risk profiles should be assessed by including ESG factors that can significantly impact their credit worthiness and impair loan repayments. In such instances, interest income could decrease, and the balance sheet would weaken due to the high risk associated with loans and collaterals. In the long-term, this could negatively affect a bank's credit rating, default risk and its cost of capital.
- **Business ethics:** This issue concerns a culture that promotes responsible practices, and compliance with the regulatory environment surrounding the commercial banking industry. An instance of regulatory non-compliance could not only harm a bank's reputation, but could also lead to costly contingent liabilities and reduced business activities, thus worsening a bank's operational efficiency. Overall, failure to comply with regulations and good practices could deteriorate a bank's credit rating, increase its cost of capital, and reduce shareholder value.
- **Systemic risk management:** Systemic risk management practices which respond to related regulations ensure a bank's resilience against financial and economic stress. High levels, quality, and consistency of capital ratios can thus provide a bank with a competitive advantage and improved operational efficiency. Overall, an adequately managed capital base improves credit rating and lowers cost of capital. Banks involved in litigations and external oversight due to regulatory non-compliance have to face costly contingent liabilities and reputational costs. As a result of worsened operational efficiency and lower value of intangible assets, market share and firm value can significantly decrease.

Diversified banks – Main industries (in %)



Diversified banks

As outlined, we have adopted an approach to materiality that is specific to an industry. Some commercial banks also have investment banking or asset management divisions, which creates the need to consider additional ESG material issues from these industries. The main industries of diversification for our sample are Asset Management & Custody Activities and Investment Banking & Brokerage (see chart).

For these industries, we followed the same approach described by the SASB to select ESG issues that are material to the two industries. These were:

- **Fair marketing and advertising:** Asset management companies have a fiduciary requirement to provide transparent information to ensure that clients appreciate the nature of risks undertaken. Failing to comply with fair marketing and transparent information requirements can result in higher regulatory oversight, higher administrative expenses, and higher risk of litigation, which lead to lower value for shareholders.
- **Compensation benefits:** Employee compensation can incentivise either short-term or long-term performance. Compensation practices that incentivise risk-taking in favour of higher short-term returns can disrupt client portfolios and decrease shareholder value. Long-term focused compensation schemes can limit losses, litigation and reputational damage, and safeguard shareholder value.
- **Diversity and inclusion:** Plentiful evidence suggests that diversity among company management and workforce in terms of age, race and gender, in addition to education, values and experience, is correlated with greater shareholder value and improved efficiency metrics. Enhanced disclosure on the topic of diversity will allow investors to assess how companies are managing risks and opportunities associated with this issue.
- **Integration of ESG risk factors:** ESG integration has been increasingly shown to contribute to improved market value. Asset management and custody activity companies failing to address these issues could suffer lower risk-adjusted returns and ultimately reduce shareholder value. Similarly, investment banking and brokerage companies that fail to include ESG issues in their advisory services and products offered would appear as negligent, leading to risks of litigation, reputational damage and decreased shareholder value.
- **Management of the legal and regulatory environment:** Failing to comply with relevant regulations can have detrimental effects on firm value due to contingent liabilities, reduced business activities, reputational risks, and increased regulatory oversight.
- **Systemic risk management:** Failing to comply with regulatory requirements and the lack of a prompt response to new regulations can result in intensified regulatory oversight, higher risk of litigation, contingent liabilities, reduced operational efficiency and a changed reputation, all leading to greater risk for shareholders and reduced firm value.

Immaterial ESG issues include sustainability fields and categories that the SASB did not reasonably consider would impact the financial condition or operating performance of commercial banks.

Immaterial issues for commercial banks

For this study, immaterial ESG issues include sustainability fields and categories the SASB did not reasonably consider would impact the financial condition or operating performance of commercial banks.

Similar to our previous materiality assessment, we follow the SASB's guidance as of November 2018 to identify immaterial ESG issues for our sample of diversified commercial banks.¹⁹

These issues are considered immaterial as they are assessed from the angle of the direct operational impacts of commercial banks (e.g., staff activities, use of offices, etc.). The issues (such as direct GHG emissions, health and safety, energy and waste management etc) are less material in the context of the operational impact of a commercial bank when contrasted with heavy industry, for example.

However, it is important to note that all these issues are considered as material for commercial banks through the impact of their investments and products. See for instance, the aforementioned issues of 'Lifecycle impacts of products and services' for commercial banks and 'integration of ESG risk factors' for diversified banks.

GHG emissions and climate change: The issue addresses a company's direct and indirect GHG emissions. The category further includes management of the regulatory risks, environmental compliance, and reputational risks and opportunities.

- **Energy management:** The issue addresses environmental impacts associated with energy consumption.
- **Water resource management:** The issue addresses a company's water consumption, use and wastewater generation, as well as the company's management of the resource through its operations and policies.
- **Human rights and community relations:** The issue addresses the relationship between businesses and the communities they operate in, including but not limited to: management of direct and indirect impact on core human rights, including socioeconomic community impacts, community engagement, environmental justice, and cultivation of local workforce.
- **Employee health and safety:** The issue addresses the company's ability to maintain a safe and healthy workplace environment that is free of injuries, fatalities and illness. It includes safety management plans, employee training, as well as regular audits.
- **Business model resilience:** The issue addresses the ability to manage risks and opportunities associated with incorporation of environmental, social and political transitions in the long-term business model and planning. It includes the ability to adapt to a low-carbon and climate-constrained economy. The category highlights industries (for example, construction, manufacturing and mining) in which evolving environmental and social realities may challenge companies to fundamentally adapt and reconsider their business model.

¹⁹ It is crucial that a bank's performance against all immaterial issues is quantifiable. We excluded all ESG issues that are either irrelevant for a commercial bank's business model or where data availability is significantly low. Excluded immaterial ESG issues are: *Air Quality, Waste Management, Ecological Impacts, Product Quality and Safety, and Customer Welfare.*

4. Research approach



100

top international banks by
market capitalisation



2007-2017

time period



**Materiality
Index**

banks scored
on material issues



**Immateriality
Index**

banks scored
on immaterial issues

Sample and data

The sample of commercial banks we analysed comprises the top 100 international banks by market capitalisation as of September 2018, falling under SIC's primary industry classification of Commercial Banking.

We used Bloomberg to source ESG data for our sample of commercial banks. In order to identify which Bloomberg fields to use for assessing performance against material and immaterial issues, we used a SASB-to-Bloomberg mapping of metrics. The Bloomberg dataset we used provides only observed (collected) raw data and not imputed or modelled data. Therefore, the presence of a large number of data gaps required extensive data imputation efforts. For that purpose, we used both a rules-based imputation approach, drawing from the observed distribution of the data, and compared our results with a k-NN imputation as a robustness check. Our time frame of analysis spanned 10 years, between 2007 and 2017.

Materiality and Immateriality index and portfolio formation

In order to score commercial banks from highest to lowest each year on both material and immaterial ESG issues, we developed a Materiality Index and Immateriality Index. To make commercial banks comparable across issues, we standardised all Bloomberg metrics to create issue specific scores. These issue-specific scores were aggregated into a Materiality Index and Immateriality Index, and both were scaled from 0 to 100 to allow for easy interpretation of the indices. We follow this methodology for each year in our sample in order to create a time series of Materiality and Immateriality indices to use in our stock selection process.

To form our materiality and immateriality portfolios, each year we select the top and bottom 20 scoring commercial banks in the Materiality and Immateriality indices, respectively, for that year. Equally weighted portfolios are held from the beginning of the year and rebalanced annually at the beginning of the following year.

Portfolios' alpha (or risk-adjusted return) is estimated using Fama and French (1993) monthly 5-factor regressions including market, size, book-to-market, momentum and liquidity factors. The meaning of the estimated alpha is the residual portfolio return predictability that is left unexplained by the systemic risk factors included in the model and that can instead be explained by the ESG materiality trading strategy here adopted.



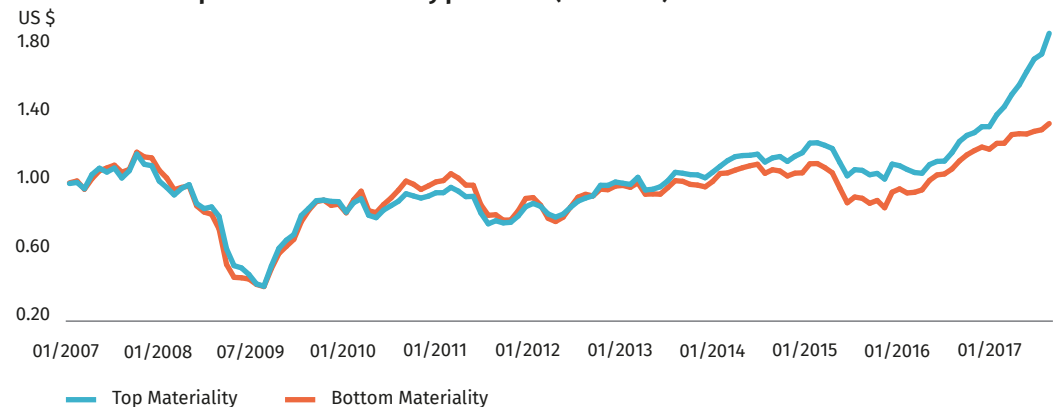
The top materiality portfolio outperforms the bottom materiality portfolio by 2.65% in average risk-adjusted returns, making our results consistent with the literature on ESG-tilted investment decisions.

5. Results

Materiality portfolios

Consistent with Serafeim et al. (2016), we found an outperformance of the top materiality portfolio with respect to the bottom materiality portfolio. The graph below shows the performance of \$1 invested in each portfolio at the beginning of 2007 and held until the end of 2017. Investing \$1 in the beginning of 2007 in the top materiality portfolio would have grown to \$1.76 by the end of 2017. In comparison, investing \$1 in bottom materiality portfolio for the same period, would have grown to \$1.32.

Performance of top vs bottom materiality portfolios (2007-2017)



We found that from the beginning of 2007 to 2013, the two portfolios behave very similarly and show very little difference in compounded performance. In 2014 we start to observe an increase in performance from the top materiality portfolio and a spike in outperformance throughout 2017 compared to the bottom materiality portfolio. Potential explanations for the change observed after 2014 include:

- **Improvement in ESG data quality and coverage:** ESG data has been evolving over time, both in terms of the quality of the reported information but also in terms of the coverage. Better data reduces the error margin during data gap imputation and can lead to more accurate portfolio results.
- **ESG issues becoming more important:** An increasing interest in sustainable products from a consumer perspective could be directly linked to improved performance of commercial banks that have better minimised their ESG risks and capitalised in ESG opportunities.

Using a 5-factor model, we tested the difference in performance of the two portfolios average risk-adjusted returns (alpha) over the period of analysis. Both portfolios deliver positive alphas, but the top materiality portfolio outperforms the bottom materiality portfolio by 2.65% in average risk-adjusted returns, making our results consistent with the literature on ESG-tilted investment decisions.

Immateriality portfolios

Results for the immaterial portfolios are also consistent with Serafeim et al. (2016), where high scoring companies in immaterial issues underperform low-scoring companies in the same issues. Though the extent of the difference in performance between the two immateriality portfolios is not as pronounced as for the materiality portfolios, our results suggest that investing in immaterial sustainability issues does not give commercial banks a competitive edge.²⁰

Similar to our materiality portfolios, we tested the financial performance of our immateriality portfolios using a 5-factor model. Again, both portfolios deliver positive alphas (though lower than the materiality portfolios). We found an outperformance of 0.66% in average risk-adjusted returns of our bottom immateriality portfolio over the top immateriality portfolio, confirming the strategic relevance of material ESG issues over immaterial ones.

Key results

- Commercial banks with good performance on material ESG issues outperform banks with bad performance on the same issues.
- Good performance in immaterial issues does not lead to firm value destruction.

What does this mean?

Material ESG issues are promising signals for informing investment decisions based on ESG performance.

²⁰ Russell Investments, 2018, 'Materiality matters: Targeting the ESG issues that impact performance.'

Robustness tests

What is a robustness test?

The point of a robustness test is to check if the conclusions of an analysis still hold by changing the underlying assumptions.

Changing the time period

Our first robustness test was to eliminate the time period from 2007 to 2010. There were two reasons for carrying out this test: the first one was to test the validity of our results outside the range of the financial crisis years that had significant impact on firm's financials, particularly for commercial banks. The second reason was the fact that raw data coverage improves drastically from 2010 onwards.

Results: Our results for the time period 2010-2017 corroborate our main findings, as we find a greater difference in alphas between top and bottom materiality portfolios. In contrast, the difference between top and bottom portfolio for immaterial issues is slightly smaller.

Changing portfolio size

In order to test the effect of different portfolio sizes on our results, we created bigger portfolios to test any potential bias embedded in smaller portfolio sizes (keeping in mind that our sample consists of 100 banks). To do so, we constructed median portfolios where we defined top and bottom performers as commercial banks with a Materiality and Immateriality Index higher and lower, respectively, than the median value of the indexes. By increasing portfolio size, we anticipate two effects: an ESG effect, whereby including stocks in the middle of the ranking would mitigate differences in performance between top and bottom portfolios; and a risk effect, whereby taking bigger portfolios allows us to address excessive company-specific volatility embedded in small sized portfolios.

Results: The results for the top and bottom materiality portfolio remained similar to our original results, suggesting that the ESG effect and risk effect are balanced out. With respect to the immateriality portfolios, we found that individual alpha estimates increased significantly compared to the original results, suggesting that the risk effect positively offset the ESG effect.

Changing stock selection and portfolio formation process

In our core analysis we selected stocks based on the absolute ranking of commercial banks in the Materiality and Immateriality index. As an additional test we orthogonalised 1-year changes in the Materiality and Immateriality Index with respect to 1-year changes in different firm characteristics over the time period of analysis. This allowed us to construct portfolios based on the unexplained portion of commercial banks' Materiality and Immateriality Index scores using the residuals of the indexes. This approach ensures that assessment of best and worst sustainability performance is not biased by firm characteristics correlated to ESG practices.

Results: We found consistent differences in alphas compared to the absolute ranking approach of the core analysis, although individual alpha estimates and differences were both always smaller in magnitude.

6. Conclusions

Materiality guidance can be helpful both for investors in improving the informativeness of ESG data, and for commercial banks in providing a prioritisation framework for ESG issues.

The work of the GABV has highlighted how value-based banks and banking cooperatives have continuously demonstrated financial returns while taking a strategic longer-term view of profit and prosperity. With this research we have provided more insights into the impact of improving ESG performance for banks on financial returns.

Our evidence supports the current thinking that adopting a strategic focus on ESG issues can lead to financial outperformance. We have found that commercial banks that score high on material ESG issues have better future performance than commercial banks that score low on the same issues. These results show that materiality guidance can be helpful both for investors in improving the informativeness of ESG data, and for commercial banks in providing a prioritisation framework for ESG issues.

Another important finding is that when looking at immaterial issues, although high scoring banks do not outperform low scoring banks, both portfolios deliver positive alpha, suggesting that investing in immaterial issues does not destroy firm value. Rather, banks that chose to focus on ESG issues that are immaterial to their industry failed to realise the same benefits as those that focused on material ESG issues. By contrast, there is no shortage of examples of companies where ESG shortcomings have caused major financial damage and destroyed company and shareholder value.

We recognise that the sample of 100 commercial banks we examine is concentrated both in terms of size and industry exposure, and that therefore our findings are not a recommendation for an investment strategy. However, we consider our evidence to be a valuable contribution in providing industry-specific quantitative ESG insights.

Materiality guidance can be helpful both for investors in improving the informativeness of ESG data, and for commercial banks in providing a prioritisation framework for ESG issues. Given the importance of these ESG factors to a company's financial performance, efforts to improve the ESG data landscape need to come from all actors. In this regard, the work of standards setting bodies the SASB or the Global Reporting Initiative is extremely valuable.

Our paper opens up many opportunities for further research:

- One key area of inquiry is better establishing the evidence regarding the influence of material and immaterial ESG issues on financial performance of commercial banks. Our study is only a first step.
- Another area of inquiry is a better understanding as to how ESG issues have an impact on financial performance.
- A third area of inquiry involves taking a dynamic perspective and trying to understand how ESG issues move from immaterial to material and in which time frame.
- Related to this, further research is needed to understand the increasing gap between banks performing well on material issues and immaterial issues after 2014:
 - Is it a case of capital markets becoming more informed about the effect of ESG performance and, as a result, pricing sustainability efforts better?
 - Is it a case of better ESG data availability driving our framework's results?
 - Or are customers, motivated by an increasing preference for sustainable products and services, choosing their bank based on its ESG and broader sustainability practices?

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8. Research supporters

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Global Alliance for Banking on Values (GABV) is a network of banking leaders from around the world committed to advancing positive change in the banking sector. Our collective goal is to change the banking system so that it is more transparent, supports economic, social and environmental sustainability, and is composed of a diverse range of banking institutions serving the real economy.

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9. Appendix: List of banks

Al Rajhi Banking and Investment Corporation	JPMorgan Chase & Co.
Australia and New Zealand Banking Group Ltd	KBC Group NV
Axis Bank Limited	KeyCorp
Banco Bilbao Vizcaya Argentaria, S.A.	Kotak Mahindra Bank Limited
Banco Bradesco S.A.	Lloyds Banking Group plc
Banco do Brasil S.A.	M&T Bank Corporation
Banco Santander (Brasil) S.A.	Malayan Banking Berhad
Banco Santander, S.A.	Mercantil Servicios Financieros, C.A.
Bank of America Corporation	Mitsubishi UFJ Financial Group, Inc.
Bank of Beijing Co., Ltd.	Mizuho Financial Group, Inc.
Bank of China Limited	National Australia Bank Limited
Bank of Communications Co., Ltd.	National Bank of Canada
Bank of Montreal	Natixis S.A.
Barclays PLC	Northern Trust Corporation
BB&T Corporation	Oversea-Chinese Banking Corporation Limited
BNP Paribas SA	Ping An Bank Co., Ltd.
BOC Hong Kong (Holdings) Limited	PT Astra International Tbk
CaixaBank, S.A.	PT Bank Central Asia Tbk
Canadian Imperial Bank of Commerce	PT Bank Mandiri (Persero) Tbk
Capital One Financial Corporation	PT Bank Rakyat Indonesia (Persero) Tbk
China CITIC Bank Corporation Limited	Public Bank Berhad
China Construction Bank Corporation	Qatar National Bank (Q.P.S.C.)
China Merchants Bank Co., Ltd.	Regions Financial Corporation
China Minsheng Banking Corp., Ltd.	Royal Bank of Canada
Citigroup Inc.	Shanghai Pudong Development Bank Co., Ltd.
Comerica Incorporated	Skandinaviska Enskilda Banken AB (publ.)
Commonwealth Bank of Australia	Société Générale Société anonyme
Credicorp Ltd.	Standard Bank Group Limited
Crédit Agricole S.A.	Standard Chartered PLC
Danske Bank A/S	State Bank of India
DBS Group Holdings Ltd	State Street Corporation
Deutsche Bank Aktiengesellschaft	Sumitomo Mitsui Financial Group, Inc.
Discover Financial Services	SunTrust Banks, Inc.
DNB ASA	SVB Financial Group
Fifth Third Bancorp	Svenska Handelsbanken AB (publ)
FirstRand Limited	Swedbank AB (publ)
Grupo Financiero Banorte, S.A.B. de C.V.	The Bank of New York Mellon Corporation
Hang Seng Bank Limited	The Bank of Nova Scotia
HDFC Bank Limited	The PNC Financial Services Group, Inc.
HSBC Holdings plc	The Royal Bank of Scotland Group plc
Huntington Bancshares Incorporated	The Toronto-Dominion Bank
ICICI Bank Limited	U.S. Bancorp
Industrial and Commercial Bank of China Limited	UniCredit S.p.A.
Industrial Bank Co., Ltd.	United Overseas Bank Limited
Intesa Sanpaolo S.p.A.	Wells Fargo & Company
Itaú Unibanco Holding S.A.	Westpac Banking Corporation

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