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Incorporating ESG in Switzerland - a discussion of prevalence and implementation approaches

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List of abbreviations

AuM	Assets under Management
CAPM	Capital Asset Pricing Model
ESG	Environmental, social and governance
ETF	Exchange-traded fund
EU action plan	European Commissions' Action Plan on Financing Sustainable Growth
FNG	Forum Nachhaltige Geldanlagen
GSIA	Global Sustainable Investment Alliance
JSS	Bank J. Safra Sarasin
MVO	Mean-variance optimization
n.d.	not dated
SSF	Swiss Sustainable Finance
SASB	Sustainability Accounting Standards Board
SDGs	Sustainable Development Goals
SFDR	Regulation of the European parliament on sustainability-related disclosures
UNPRI	United Nations' Principles for Responsible Investment
WMA	Federal Act on War Material

Executive Summary

ESG investments have reached mainstream. What few years ago was the exclusive playground of ethically motivated niche investors and asset managers is increasingly believed to not only do good but also perform well. Fueled by raising investor demand, traditional asset managers have started offering their own “responsible”, “green” or “ESG” products and use them as a prominent tool within their marketing campaigns. This paper looks at the prevalence of different ESG investment approaches worldwide and specifically within Switzerland and offers an overview of implementation methods accompanied by real world examples from renowned Swiss asset managers. It thereby illustrates the apparent ESG landscape just before new European regulations kick in and the rules of what counts as a sustainable investment and what does not might overhaul the current ESG offering and marketing.

1 Introduction

A recent study forecasts ESG fund assets to outnumber traditional funds in Europe by 2025 (Riding, 2020). More than 3,000 companies together managing or owning assets surpassing 100 trillion US Dollars have signed the United Nations' Principles for Responsible Investment (UNPRI), committing to incorporating ESG into their investment processes. Fueled by increasing investor interest in sustainability and new regulations such as the European Commissions' Action Plan on Financing Sustainable Growth (EU action plan), responsible investment is shifting from a trend to mainstream. For Swiss asset managers, offering responsible investment products and thus incorporating environmental, social and governance (ESG) factors into their investment-decision process is a prerequisite to partake in this growth opportunity. The objective of this document is to illustrate the current state of ESG incorporation around the world, while highlighting the developments in Switzerland specifically. While it does not match different approaches to regulatory requirements introduced by the EU action plan, it illustrates the current ESG landscape at the dawn of a game-changing legislative push to reorient capital flows towards sustainable growth and to foster transparency in this industry.

Section 1 introduces the main concepts and lists ESG investment approaches. In section 2, we look at data, analyzing the prevalence of ESG incorporation approaches worldwide, within Europe and Switzerland, respectively. Section 3 lays out implementation details with regards to the six ESG incorporation approaches introduced in the previous section. We start by looking at ESG scores, a prerequisite for most ESG incorporation approaches. Then, we discuss exclusions, ESG integration and sustainability-themed investments in detail. Each sub-section is complemented by real-world examples from renowned Swiss asset managers. Section 4 concludes.

1.1 Definitions

A general issue with responsible investment is the lack of an industry-wide accepted jargon. The same term does not necessarily mean the same when different asset managers, investors, politicians, regulators, media, or institutions apply it. Kwon and Paetzold (2019) illustrate the lack of a common standard by listing the terms and their respective definitions used by 20 different asset managers with regards to responsible investments. Next to responsible investment, the term sustainable investment is used approximately with the same frequency. Some asset managers use both terms, differentiating between the two. Note that the EU action plan recognizes the lack of a common standard as an issue. Consequently, the regulation of the European parliament on sustainability-related disclosures in the financial services sector (SFDR) defines the term "sustainable investment", meaning asset managers serving clients based in the European Union will have to review their own taxonomy and how they label their ESG products.

1.1.1 Responsible investment

Within this document, we will apply the UNPRI (2020) definition of responsible investment as "a strategy and practice to incorporate environmental, social and governance (ESG) factors in investment decisions and active ownership." Examples of ESG issues are:

Environmental	Social	Governance
▪ Climate Change	▪ Human rights	▪ Bribery and corruption
▪ Resource depletion	▪ Modern slavery	▪ Executive pay
▪ Waste	▪ Child labor	▪ Board diversity and structure
▪ Pollution	▪ Working conditions	▪ Political lobbying and donations

Table 1 – Examples of ESG issues (UNPRI, 2020).

A key idea is that investors explicitly acknowledge the relevance of ESG factors in their investment decisions and ownership policies, independent of moral or ethical goals. This serves as a distinction to ethical or socially responsible investing (UNPRI, 2020; Lee, 2020). On the other hand, ESG investing or sustainable investing are usually used as synonyms to responsible investment. SFDR will change this, but as this document is based on data and interviews gathered and conducted before the SFDR application, we will not apply its definition of sustainable investment to the approaches presented herein.

1.1.2 Responsible investment approaches

Like the overall definition of responsible investment, there is no globally agreed set of approaches or strategies that can be applied within the realm of responsible investments. However, there is a growing body of international organizations, both private and government-sponsored, that try to establish standards and encourage conversion of terms used.

Two such global institutions are the Global Sustainable Investment Alliance (GSIA) and the United Nations' Principles for Responsible Investment already introduced above. The GSIA is an informal grouping of different regional responsible investment organizations, collecting data on the development of responsible investments worldwide. Among its members is Eurosif, a European sustainable investment forum, as well as similar organizations covering the United States, Japan and Australasia. The UNPRI on the other hand is an international organization launched by the United Nations in 2006 with the goal to promote the inclusion of ESG criteria into investment decision-making. Its currently over 3,000 members include asset owners (e.g., Helvetia Holding, Novartis Pension Fund), investment managers (e.g., Swiss Life Asset Managers, Bank Julius Baer & Co.), and service providers (e.g., Inrate, MSCI). These members commit to six principles for responsible investment.

With regards to Switzerland specifically, Swiss Sustainable Finance (SSF) is a network promoting sustainable finance and collecting responsible investment data from Switzerland. Like the UNPRI, its approximately 160 members are asset owners (e.g., Suva, Luzerner Pensionskasse) and managers (e.g., BlueOrchard, Pictet) as well as service providers (e.g., Ethos, PwC) and often also signatories of the UNPRI.

As the above-mentioned organizations collect data with regards to responsible investments, they need to apply a categorization for their surveys and what they call sustainable investment strategies (GSIA, Eurosif), sustainable investment approaches (SSF) and responsible investment approaches (UNPRI), respectively. Usually, the following approaches are recognized:

- **Negative or exclusionary screening**: Asset managers apply a filter to the investment universe to avoid investments in certain companies, e.g., companies that are involved in arms production.
- **Positive screening or best-in-class**: The investment universe is restricted to the best performing companies within a sector with regards to ESG issues.
- **Norms-based screening**: The investments are picked in a way to comply with minimum standards of business practice based on an international norm such as the ILO declarations or the UN Global Compact.
- **ESG integration**: ESG factors are explicitly integrated into financial analysis or portfolio construction processes, i.e., they are to be considered for investment research, analysis and decision making, by means of quantitative or qualitative considerations.
- **Sustainability-themed investing or sustainable thematic investments**: Investments are chosen in line with a specific responsible investment topic such as the reduction of greenhouse gas emissions.
- **Impact investing**: Investments are targeted to not only generate a financial return but also contribute to solving ESG issues. The non-financial impact must be measured as it is an explicit objective of this approach.
- **Corporate engagement**: Can be either active management trying to influence investee companies to improve their business practices with regards to ESG issues or proxy voting guided by ESG considerations.

The exact terms used by investors and institutions as well as the grouping of approaches differ, sometimes also the interpretation of an approach. Comparing categorizations of Eurosif, GSIA, UNPRI, and SSF in table 2 illustrates

this. As data gathered by each of these organizations with regards to the development of responsible investments is used in the following sections, it is important to keep these differences in mind.

UNPRI	GSIA	Eurosif	SSF
Negative / exclusionary screening	Negative / exclusionary screening	Exclusion	Exclusions
Norms-based screening	Norms-based screening	Norms-based screening	Norms-based screening
Positive/ best-in-class screening	Positive/ best-in-class screening	Best-in-Class investment selection	Best-in-class
Sustainability themed investing / Thematic investing	Sustainability themed investing	Sustainability themed investment	Sustainable thematic investments
ESG integration	ESG integration	ESG integration	ESG integration
Engagement	Corporate engagement and shareholder action	Engagement and voting on sustainability matters	ESG engagement
N/A (subcategory of Sustainability themed investing)	Impact/community investing	Impact investing	Impact investing
Proxy voting	N/A (part of engagement)	N/A (part of Engagement)	ESG voting

Table 2 – Categorization of responsible investment approaches by different institutions

Within this document, we will broadly follow the terminology used by the UNPRI but include data from all the above organizations (also refer to comments in section 2.1).

1.1.3 ESG incorporation

The listed responsible investment approaches can be allocated to one of two objectives dependent on whether the investment has already been made or not (based on UNPRI, n.d.):

1. Incorporating ESG issues when building a portfolio and deciding which companies to invest in.
2. Encouraging companies that one is already invested in to improve their ESG risk management or develop more sustainable practices.

This leads to the following allocation of approaches:

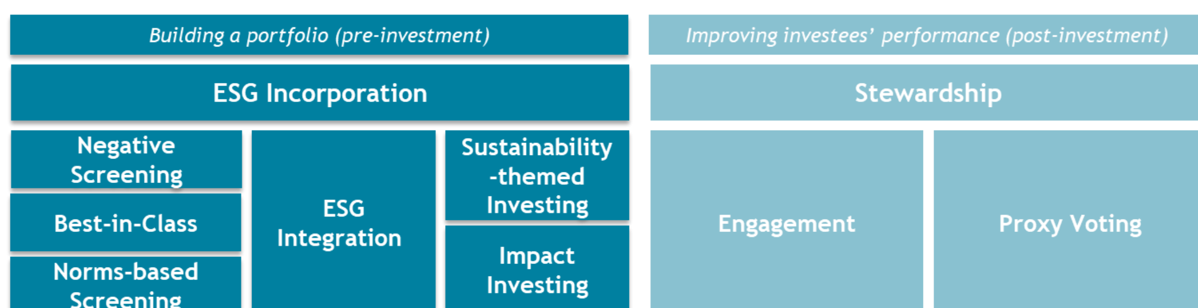


Figure 1 - Responsible investment approaches pre- and post-investment

Negative screening, best-in-class and norms-based screening are closely related, as these approaches focus on somehow restricting the investment universe. Note that the UNPRI includes impact investing as part of sustainability-themed investing, while we will disclose it separately. The main difference will be discussed in more detail in section 3.

This document focuses on ESG incorporation, thereby following what is laid out in the first principle of the UNPRI: “We will incorporate ESG issues into investment analysis and decision-making processes.”

2 ESG incorporation assets by approach and region

In this chapter we use data gathered by the institutions introduced in section 1.1.2 to gain an overview of the dispersion of ESG incorporation around the globe. The objective is to understand how well established each single incorporation approach is within a specific region and in general getting an overview about the prevalence of responsible investment assets. When we look at self-reported data, we need to be aware of the accompanying constraints. Section 2.1 discusses those shortcomings when it comes to ESG data. The following sections then lay out the distribution of ESG incorporation approaches across the world's major financial regions, within Europe and finally in Switzerland.

2.1 Comparability of data

Together with the lack of a common taxonomy mentioned in section 1 and possibly as a consequence thereof, the comparability of responsible investment approaches and reported data is one of the big issues in this growing field. Comparing data from different regions and collected by different organization that used slightly different categorizations (compare table 2) alone is intricate. Even worse, with regards to the ESG data presented below, the data has been reported voluntarily by asset managers and might be subject to greenwashing. Furthermore, usually asset managers and owners decide themselves to which approach a certain product is allocated, thereby interpreting descriptions of the approaches given to them.

Data used in the following subsections is taken from surveys by GSIA, Eurosif, Forum Nachhaltige Geldanlagen (FNG) and SSF, taking the latest publications with the most actual data available at the time of writing. As these organizations are interconnected, they partly use each other's data in their surveys. For the global data presented by GSIA, they use Eurosif as the provider of the European data. Eurosif, in turn, gets its data for Germany, Austria and Switzerland from FNG. Finally, while FNG until and including its 2019 study collected the Swiss responsible investment data themselves, they rely on SSF's work since 2020. Therefore, there is little merit in trying to establish the exact number of responsible investment assets or establishing the exact share of each approach. The following, rather extreme, example of data reported for assets invested in line with negative screening in Switzerland in 2017 illustrates this:

- Eurosif (2018, p. 83): 2'349 billion EUR
- FNG (2018, p. 49): 99 billion CHF
- SSF (2019, p. 10): 143 billion CHF

Consequently, responsible investment data must be viewed with skepticism. What can be derived from it is the general trend and magnitude of the different approaches. Seeing the big picture is the objective of the following sections.

2.2 Global ESG incorporation assets

First, looking at global data gathered by GSIA (2018) in figure 3, there seems to be a clear dominance by negative screening and ESG integration approaches, together making up more than 80% of global assets managed by at least one ESG incorporation approach.

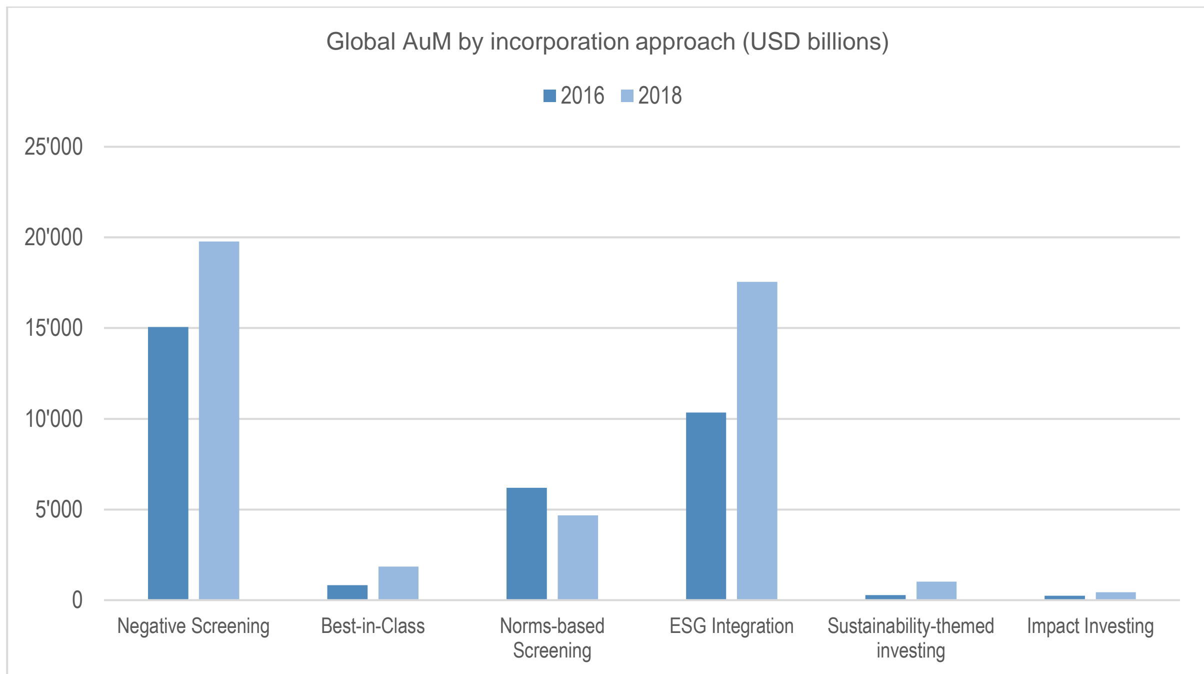


Figure 2 – Global AuM by ESG incorporation approach for 2016 and 2018 (GSIA, 2018)

In contrast, best-in-class, sustainability-themed investments, and impact investing seem still to be niche approaches. Their growth rates in the past years, however, have been considerably higher than those of the more established approaches (compound annual growth rates for the period 2016-2018 amount to 50%, 92% and 33.7%, respectively), although on a low absolute level. Note that usually an investment firm does not apply a single approach but might combine several. Thus, to reach totals for ESG incorporation approaches, adding the numbers seen below without adjusting for double counting would overstate the size of the market.

The relative share in an investment approach by global regions is illustrated in figure 4.

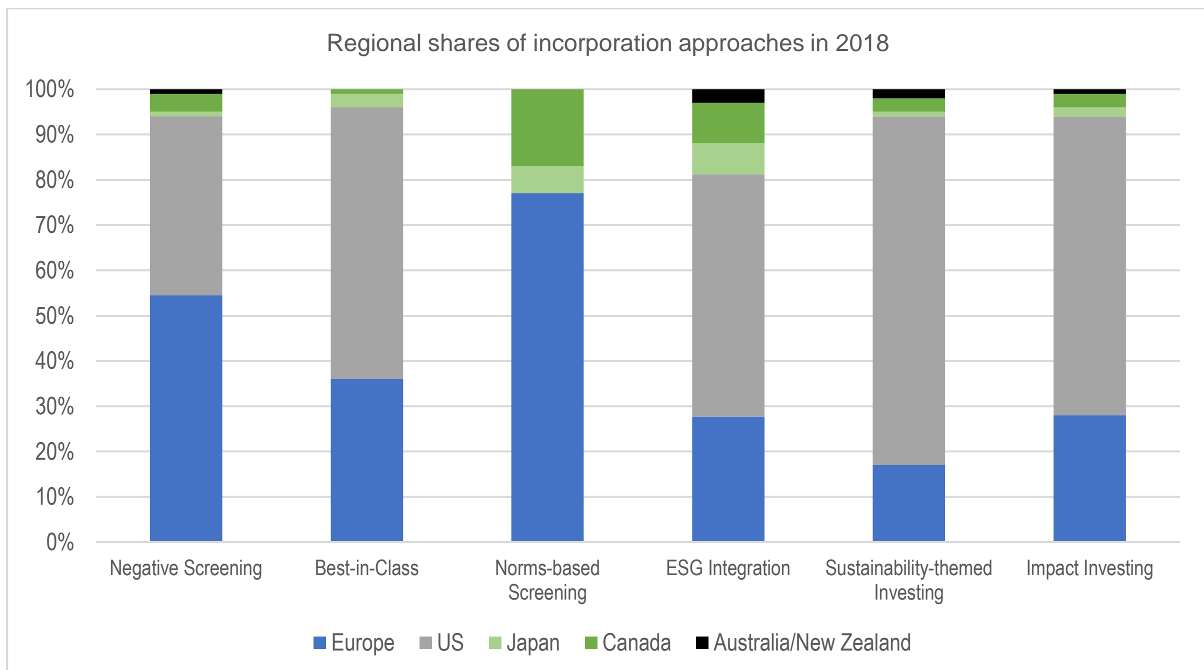


Figure 3 – Regional shares of ESG incorporation approaches in 2018 by asset weight (GSIA, 2018)

The US dominates sustainability-themed investing, impact investing and best-in-class with 77%, 60% and 66% share in total assets under management (AuM), respectively. It also makes up more than half of ESG integration assets. Europe on the other hand dominates the norms-based screening approach (77% share) while it also holds most of the assets for negative screening (55%). As the next section will show, the old continent is not at all a homogenous area and large parts of its respective dominance in a single approach can be attributed to a few individual countries (different ones depending on the approach).

As a closing note on global ESG incorporation assets, note that the regional comparisons are subject to inconsistencies, given that data is not reported and collected homogeneously among regions by GSIA's different member organizations. The US, e.g., does not track norms-based screening and Australasia only reports numbers for four of the six illustrated approaches[1].

2.3 European ESG incorporation assets

Eurosif's latest study on European responsible investments (2018) includes survey data from asset managers and owners with combined assets of EUR 20 trillion, representing approximately 80% market coverage for 2017. When looking at the distribution of ESG incorporation assets to different incorporation approaches in figure 5, there are some differences compared to global data:

- Negative screening is the single dominant incorporation approach accounting for more than half of all ESG incorporation assets.
- ESG integration has just recently swapped places with norms-based screening and is still far behind negative screening, although experiencing the strongest growth rates of all strategies.

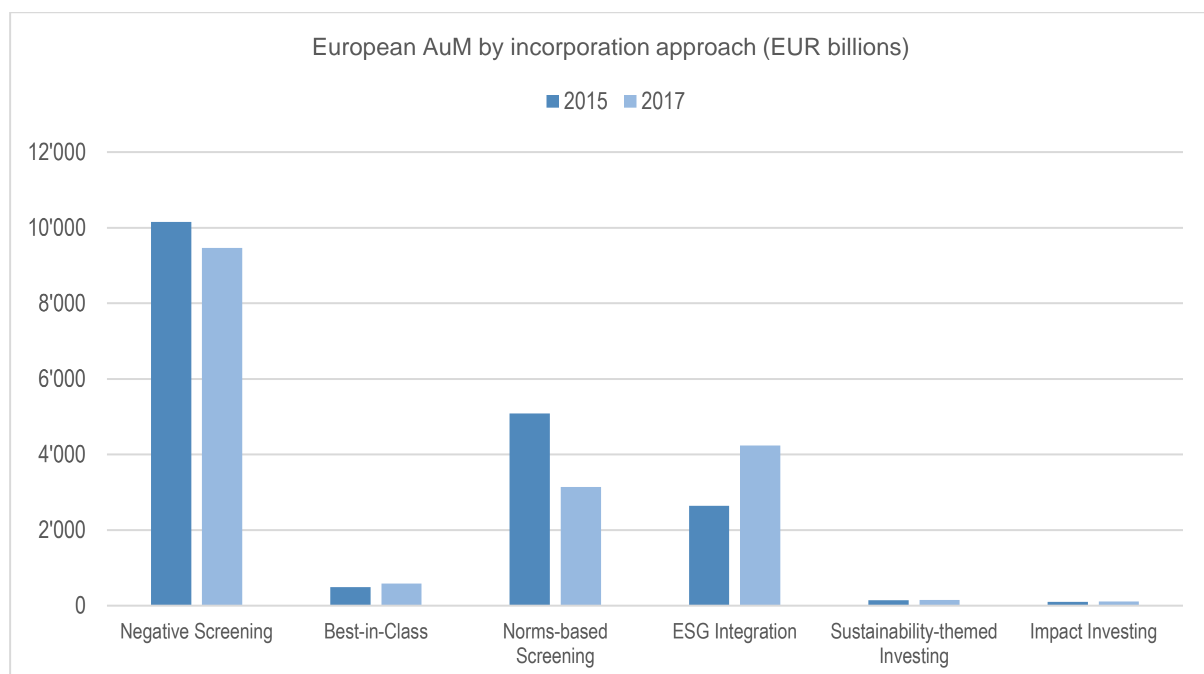


Figure 4 – European AuM by ESG incorporation approach for 2015 and 2017 (Eurosif, 2018)

Similar as on the global level, the other three approaches sustainability-themed investing, impact investing and best-in-class are niche, while, unlike the global trend, their growth rates were unimpressive, too. This might partly be explained by the one year older data compared to the GSIA data used in section 2.2.

[1] Negative screening, ESG integration, sustainability-themed investments, impact investing

Eurosif's data (2018) stems from 12 European countries: Austria, Belgium, Denmark, France, Germany, Italy, The Netherlands, Poland, Spain, Sweden, Switzerland, and the United Kingdom. Table 3 shows the relative importance of incorporation approaches by country. It should not be seen as presenting the absolute truth on country level having in mind the inconsistency in reported data mentioned in section 2.1. However, it is safe to assume that there is a clear trend for exclusion to be the dominant strategy and impact investing to be the laggard. Notable exemptions from these general rules are the role norms-based screening plays in France as well as the relative importance of best-in-class investments in Austria:

Relative importance of incorporation approaches by country in 2017						
	Negative Screening	Best-in-Class	Norms-based Screening	ESG Integration	Sustainability-themed Investing	Impact Investing
Austria	1	2	3	4	6	5
Belgium	1	4	3	2	5	6
Denmark	1	4	2	3	5	6
France	3	4	1	2	5	6
Germany	1	4	2	3	5	6
Italy	1	4	2	3	5	6
The Netherlands	1	4	2	3	5	6
Poland	1	4	2	3	4	4
Spain	1	5	4	2	3	6
Sweden	1	4	2	3	6	5
Switzerland	1	4	3	2	5	6
United Kingdom	1	4	3	2	5	6

Table 3 – Ranking of ESG incorporation approaches in terms of AuM in different European countries in 2017 (Eurosif, 2018)

Looking at the share of each country per ESG incorporation approach in the overall European responsible investment market in figure 6, we summarized the bottom half in terms of AuM into a category "Others" to get a clearer view on the largest ESG markets. What is striking is that four out of the six approaches are dominated by a single country making up close to 50% of total market share, while only one approach (exclusion) has no clear leader.

France reigns over best-in-class and norms-based screening approaches with 50% and 59% market share, respectively. France's overall big share in the market might be partly explained by article 173-VI of the 2015 "Energetic Transition for a Green Growth" law that requests asset owners and managers to disclose how they include ESG factors and climate risk into their investment decision process. They can choose not to include them, but they have to disclose that ("comply or explain") (Eurosif 2018).

While France has a relatively large share also in the approaches it does not dominate, the same does not hold true for Italy. Italy holds close to 50% market share in impact investing and still by far the biggest minority stake in Sustainability-themed investing (36%). It is noticeable that it does that even though the relative importance of those strategies for the country itself is lower than that of all other strategies in line with the situation in most European countries. This highlights that both sustainability-themed investing and impact investing are niche markets in Europe that can be dominated by a country with few assets on an absolute basis. The relative high numbers in impact investing in Italy stem from social housing programs operated by the Italian National Promotional Bank and open to private investors (Eurosif, 2018).

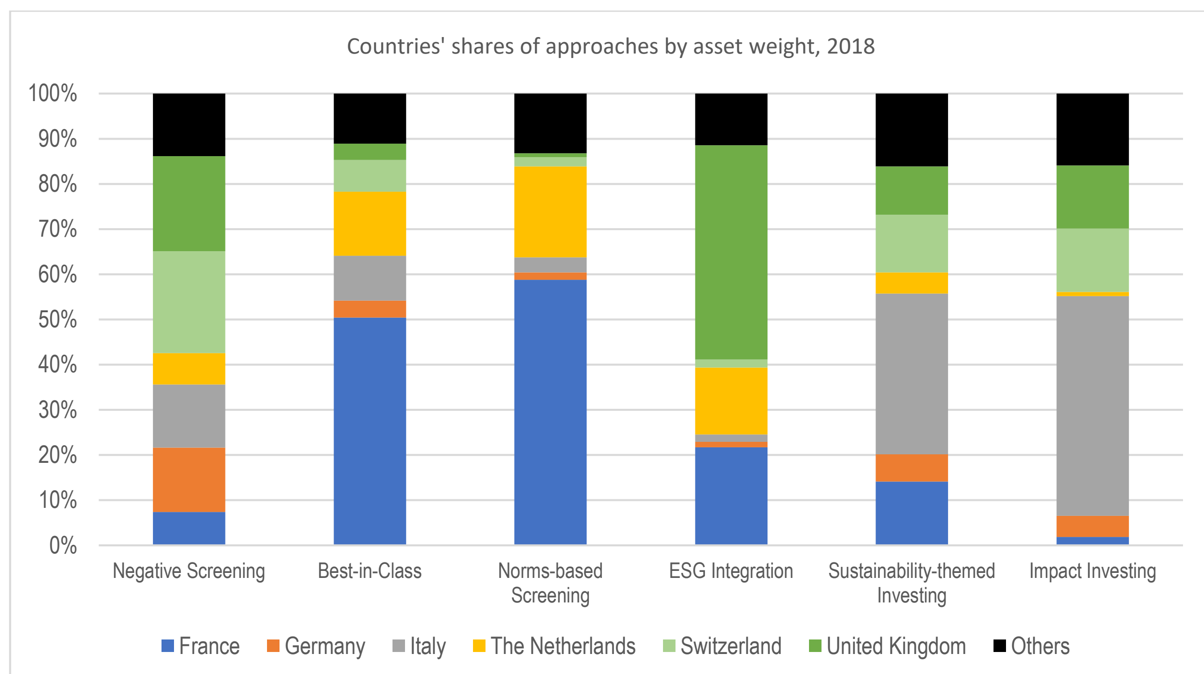


Figure 5 – European countries' shares of ESG incorporation approaches in 2018 by asset weight (Eurosif, 2018)

Finally, the ESG integration approach is led by the United Kingdom with 47% market share. This illustrates similarities between the UK's financial market and American market, which in turn makes up more than 50% of the global assets following ESG integration approaches.

These explanations for the dominance of a country with regards to a certain approach should be complemented by an alternative explanation: data might just be reported inconsistently leading to biases towards one or the other approach.

2.4 Swiss ESG incorporation assets

With regards to the Swiss market, we will go more into detail and look at the overall importance of responsible investments relative to the traditional market. Thus, data used for those comparisons includes not only the six ESG incorporation approaches, but also includes Stewardship approaches (proxy voting and engagement) to represent the whole ESG market. In this regard, SSF (2020) reports responsible investment assets of total CHF 1,163 billion for 2019. This number includes assets invested via funds, mandates, and assets of asset owners.

With regards to the split between institutional and private responsible investments[2] illustrated in figure 7, the latter's share increased to 21% in 2019 from only 12% in the previous year.

[2] Data from GSIA (2018), Eurosif (2018) and SSF (2020), respectively. The former two use the term "Retail" instead of "Private", GSIA defining it as "personal investments by individuals in professionally managed funds purchased in banks or through investment platforms with relatively low minimum investment levels, while assets classified as "institutional" are managed on behalf of institutional asset owners such as pension funds, universities, foundations and insurers through investment products with higher minimum investment levels" (GSIA, 2018, p. 12).

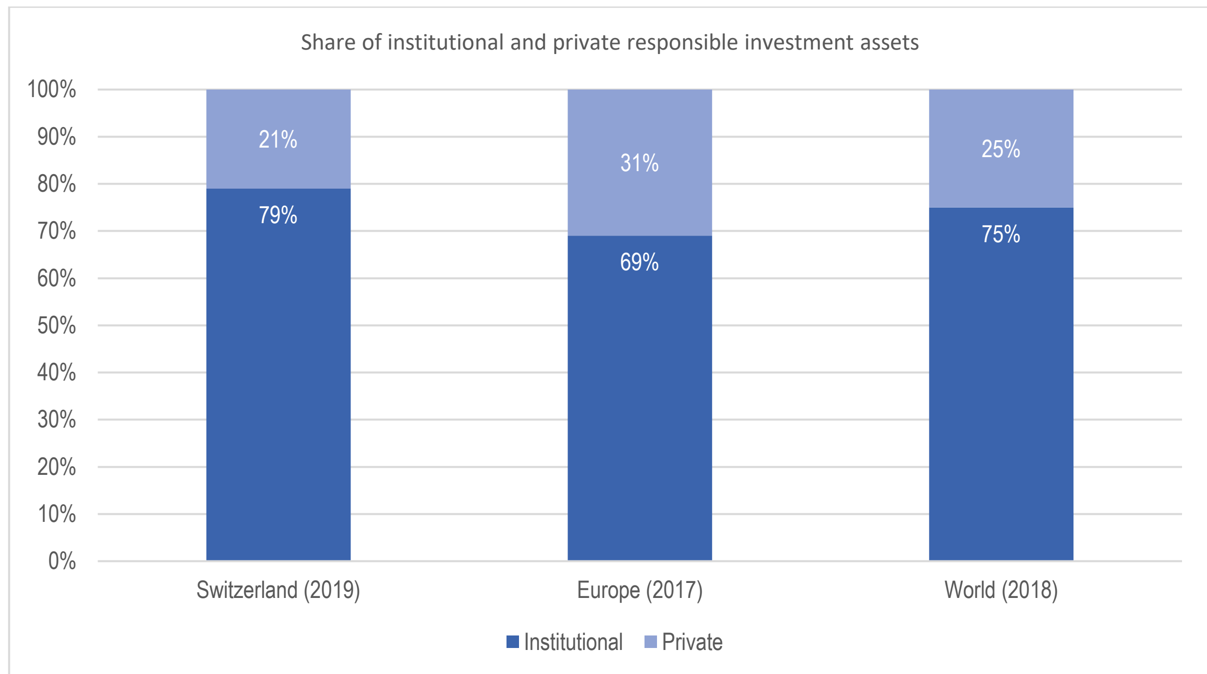


Figure 6 - Institutional and private investors' share in responsible investment assets in Switzerland, Europe and worldwide

The Swiss numbers in figure 7 are comparable to the rest of the world, although it seems that the private sector still has some more catch-up to do in Switzerland, especially given its traditional importance for the Swiss financial center, managing about one quarter of the worlds cross-border private assets (Swiss Banking, 2020).

With regards to future potential growth rates, the current share of ESG assets among all financial assets in Switzerland is of interest. Overall, at the end of 2019 that number stood at approximately 15%, comparing the CHF 1,163 billion responsible investment assets with CHF 7,893 billion total of assets held under management by banks in Switzerland (SwissBanking, 2020).

In some areas, however, the responsible investment share is significantly higher as figure 8 illustrates.

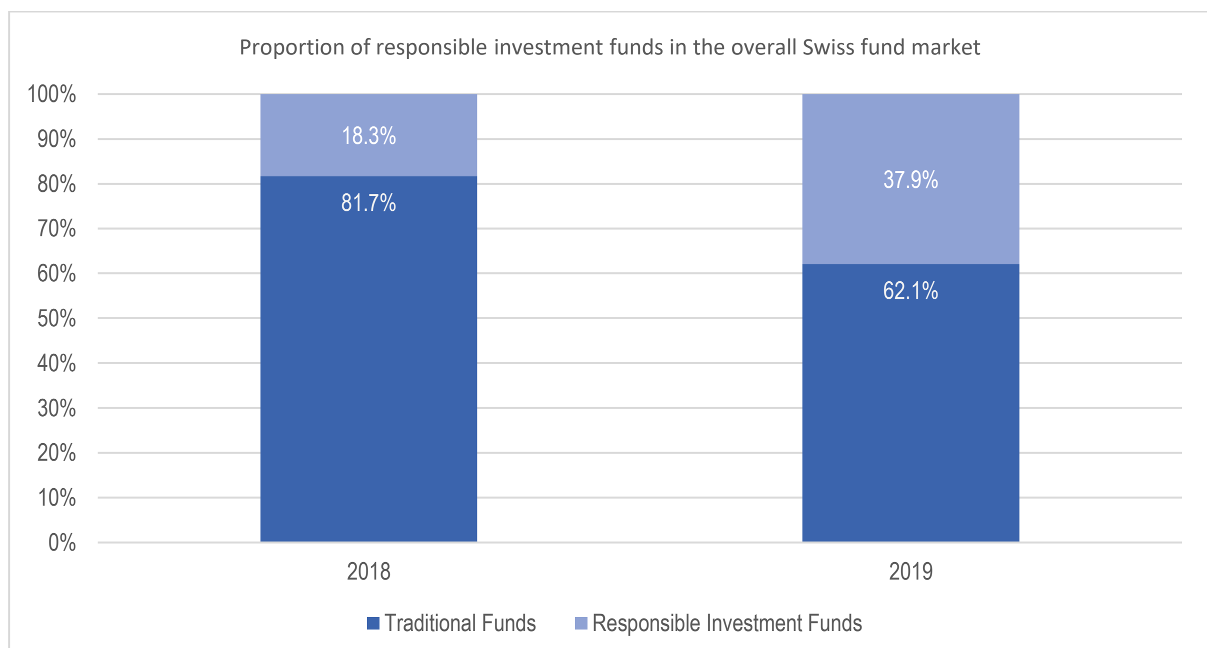


Figure 7 - Proportion of responsible investment funds in the overall Swiss fund market in 2018 and 2019 (SFF, 2020)

Looking at the segment of funds, the growth of responsible investment funds that are, at least according to SFF's (2020) survey respondents' answers, invested in line with at least one ESG incorporation investment approach or a Stewardship strategy, is far higher than the overall growth of the Swiss investment fund market. In absolute terms, SSF reports CHF 471 billion responsible investment fund assets vs. the overall volume of the Swiss fund market of CHF 1,240 billion in 2019. Responsible investment assets in that segment grew by 147% compared to the previous year, while the overall market grew 19%. Consequently, responsible investment assets now make up 38% of the Swiss fund market, a significantly higher share than compared to total assets under management in Switzerland.

This relatively high number is mirrored by the responsible investment share among pension and insurance assets in Switzerland, its total of CHF 484 billion accounting for approximately 30% market share.

These numbers indicate that responsible investments have already become mainstream in Switzerland, especially with regards to institutional assets. Figure 9, based on a SFF survey (2020), allocates 38 Swiss asset managers to three categories:

- those that have more than 90% of their managed assets labeled as responsible investments, usually being a specialized responsible investment company such as BlueOrchard or RobecoSAM.
- those that have between 20% and 90% of their managed assets labeled as responsible investments, usually being traditional asset managers such as Pictet or Schroders that have added responsible investments to their repertoire.
- those that have less than 20% of their managed assets labeled as responsible investments, astonishingly being the smallest group among survey respondents.

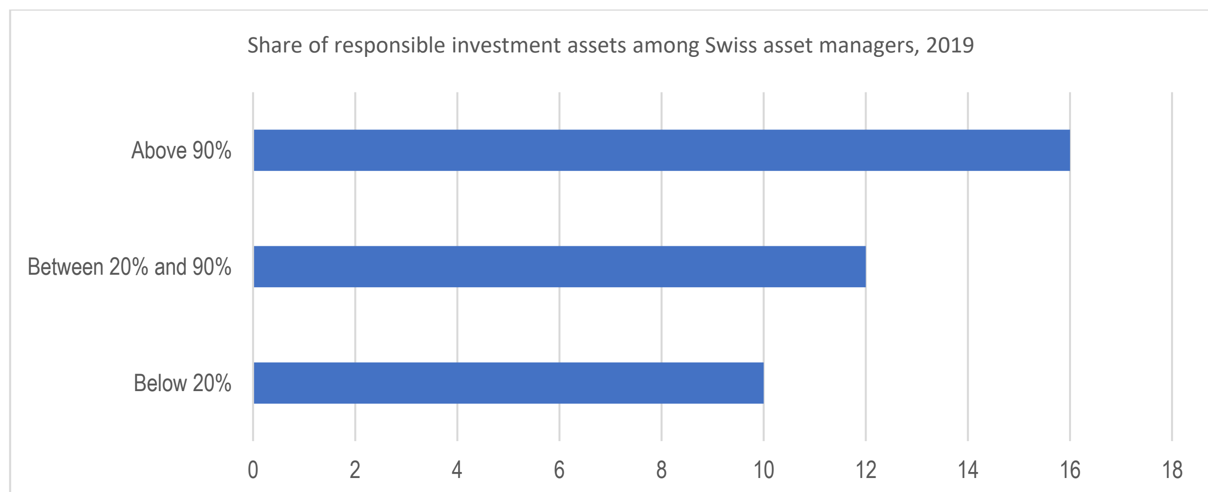


Figure 8 – Swiss asset managers' share of responsible investment assets as part of their total assets in 2019 (SSF, 2020)

Figure 9 carries a clear indication that responsible investments are not any longer exclusively the playground of ESG specialized first mover investment companies. This calls for having a closer look at responsible investment approaches now being more and more applied by traditional asset managers, too.

Coming back to the six incorporation approaches discussed in the previous sections, the relative importance of incorporation approaches in Switzerland is comparable to the overall European market according to Eurosif (2018) data. The more recent SSF (2020) data although paints a slightly different picture. Figure 9 represents the invested assets in 2018 and 2019 in line with one of the six ESG incorporation approaches. It stems from a total of 76 Swiss financial institutions that replied to the SSF survey – the survey was sent out to 219 asset owners and managers in Switzerland. As mentioned in the opening section to this chapter, there is quite astonishing differences in reported assets. Overall numbers are far lower than in Eurosif 2017 data, and ESG integration is the leading approach still before negative screening.

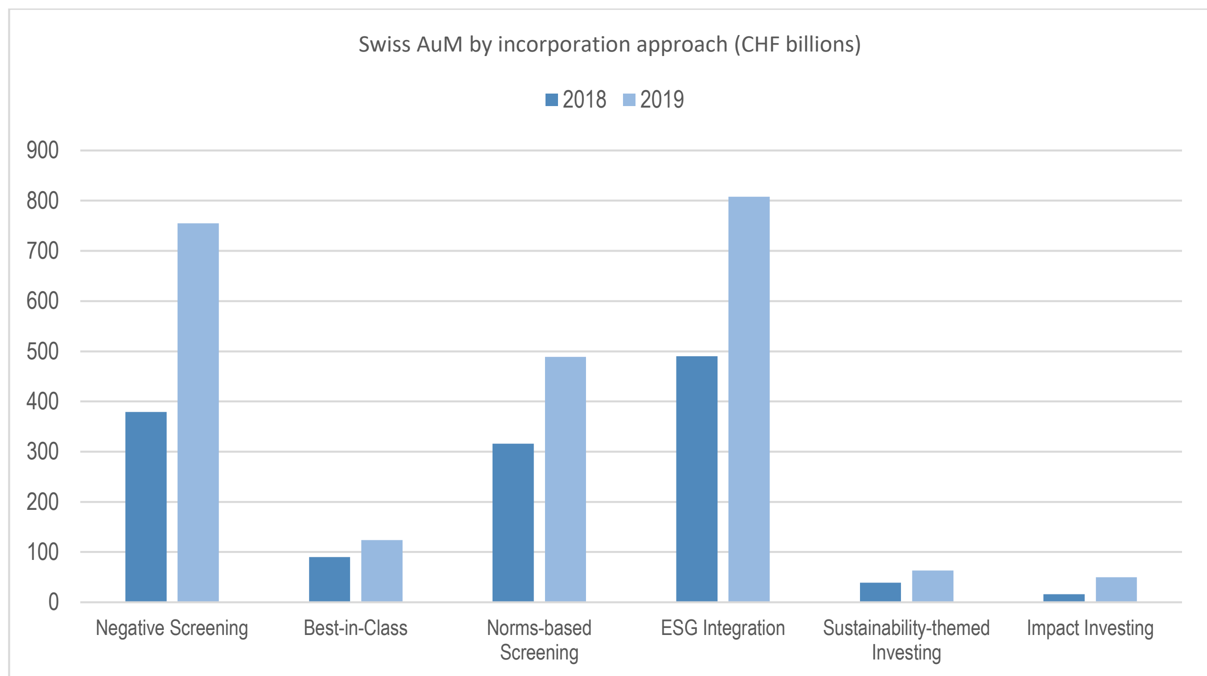


Figure 9 – Swiss AuM by ESG incorporation approach for 2018 and 2019 (SSF, 2020)

SSF's reported growth numbers are impressive along all the six incorporation approaches. This is partly indeed due to an underlying growth of responsible investment assets, but not only. In addition, approximately one fifth of the growth can be attributed to the positive overall market performance in 2019 while SSF also slightly changed their methodology between 2019 and 2020 (SSF 2020).

The reported assets presented in this chapter and their growth rates are impressive, also in Switzerland. However, without looking at implementation details it would be pre-mature to comment that the financial industry in Switzerland is already very advanced with regards to ESG incorporation. Consequently, chapter 3 will illuminate the six introduced incorporation approaches further and demonstrate implementation options, complemented by real world product examples to get a better understanding of implementation progress.

3 Implementing ESG incorporation approaches

This chapter focuses on implementation. While the previous chapter has provided an overview of the prevalence of ESG incorporation approaches, by itself it does not provide any information on how each approach can be incorporated into investment-decision making. In the following sections, different implementation options both for active and passive investment styles including their respective advantages and shortcomings will be discussed.

The described implementation options in this chapter are complemented by real world examples, illustrating how different asset managers adapt their processes and create ESG products. For some of these use cases presented in framed boxes, we talked to experts from the respective companies to get a better understanding of their approach. However, everything that is described within this document is based on public information. The respective sources are cited and can be found in the literature section.

When it comes to incorporating ESG factors into the investment process, quantitative information about how well a company manages its ESG risks and opportunities is often required. This is where ESG ratings or scores come into play. We will start this chapter with a discussion on ESG scores and build on this when describing the six different ESG incorporation approaches. First, we will look at negative screening, norms-based screening, and best-in-class approaches. They all represent an approach where the investment universe is restricted based on a screen. In turn, ESG integration is a broadly defined approach and we will discuss several implementation options belonging to it subsequently. Finally, we will look at sustainability-themed investing and impact investing, two also related approaches.

3.1 ESG scores

Investment managers have the choice to either develop their own scoring system or to buy data from a third-party provider such as MSCI, Sustainalytics, FSTE Russell, Vigeo Eiris, Inrate or SIX Financial Information, to name but a few. Alternatively, investment managers can combine third party data with their own scoring system to mitigate some of the shortcomings of ESG ratings described further below.

3.1.1 Developing an ESG score

Developing an ESG score for companies can be done as follows:

1. Identify potential ESG issues or risks and potentially opportunities (hereafter we just use the term “ESG issues”). The issues are usually categorized along groups such as Environment, Social and Governance as MSCI does, see box below.
2. Assess financial materiality of each ESG issue on industry level.
3. Analyze individual companies with regards to how well they manage the ESG issues that are material to them and rate them on each issue.
4. Aggregate the scores among all material ESG issues (either weighted or taking averages).
5. Optional: Normalize company scores within the same industry (e.g., MSCI’s approach). Alternatively, use absolute levels (e.g., Sustainalytic’s approach).

MSCI's ESG key issue hierarchy

MSCI uses the hierarchy depicted in table 4 when deriving their ESG scores for companies. Note that not all the 37 key issues listed below are relevant to all industries, only issues that are determined as material for an industry have an influence on a respective company rating.

3 Pillars	10 Themes	37 ESG Key Issues
Environment	Climate Change	Carbon Emissions, Product Carbon Footprint, Financing Environmental Impact, Climate Change Vulnerability
	Natural Resources	Water Stress, Biodiversity & Land Use, Raw Material Sourcing
	Pollution & Waste	Toxic Emissions & Waste, Packing Material & Waste, Electronic Waste
	Environmental Opportunities	Opportunities in Renewable Energy
Social	Human Capital	Labor Management, Health & Safety, Human Capital Development, Supply Chain Labor Standards
	Product Liability	Product Safety & Quality, Chemical Safety, Financial Product Safety, Privacy & Data Security, Responsible Investment, Health & Demographic Risk
	Stakeholder Opposition	Controversial Sourcing
	Social Opportunities	Access to Communications, Access to Finance, Access to Health Care, Opportunities in Nutrition & Health
Governance	Corporate Governance	Board, Pay, Ownership, Accounting
	Corporate Behavior	Business Ethics, Anti-Competitive Practices, Tax Transparency, Corruption & Instability, Financial System Instability

Table 4 – MSCI's ESG key issue hierarchy (MSCI Inc., 2019).

Final scores are derived by taking the weighted averages of key issue scores. The normalization by industry means company scores are not absolute but relative to the performance of a company's industry peers (MSCI Inc., 2019).

A critical part in the scoring process is the second step, the judgement on materiality with regards to an ESG issue. As SSF (2017) stresses, its crucial to identify the ESG issues that are material to an industry or company, i.e., factors that are likely to have a financial impact in the future, either positive or negative. Not every ESG issue is relevant for every company. As an example, data security and privacy are important ESG issues for tech companies, less so for the transportation sector. This is not an exact science, as Yeoh (2020) points out: there might be substantial differences between what each investor or rating company considers most material, even when looking at the same company.

The importance of assessing materiality is backed by empirical evidence. A study by Khan, Serafeim and Yoon (2015) found that companies with good scores on material ESG issues significantly outperform those with poor scores on material ESG issues. However, companies that have high scores on ESG issues that are not material to their business do not significantly outperform companies with poor ratings on the same issues. The implication for asset managers is that looking at ESG scores independently of materiality will likely not lead to better investment returns.

Assessing materiality of ESG issues is usually done by looking at magnitude and likelihood of impact on financial performance such as future cash flows. Many ESG score providers include a materiality assessment in their data. Alternatively, materiality maps from third party providers can be used as frameworks and guidance for a proprietary materiality assessment, e.g., the Sustainability Accounting Standards Board's (SASB) Materiality Map® that assigns likelihoods of financial materiality of 26 ESG issues to 11 different industry groups (The SASB Foundation, 2018).

LGT's and J. Safra Sarasin's ESG scores and materiality of ESG issues

LGT introduced their proprietary ESG score in 2017. To assess companies, LGT has defined around 20 ESG issues such as greenhouse gas emissions ("E"), quality of working conditions ("S") or the independence of supervisory boards ("G"). It is not disclosed whether these ESG issues are all considered material to all industries or not. Based on how well a company performs on those issues, they are given a score between 0 and 100. This score is translated into a rating from one star (poor) to five stars (excellent) (LGT Group Foundation, n.d.).

Bank J. Safra Sarasin (JSS) assesses both industries overall and companies individually with regards to ESG risks and opportunities. Company assessments are done relative to industry peers. While some ESG issues are considered relevant across industries (e.g., board structure), others are considered more material to certain industries or even specific to only a few industries (e.g., water risk). A company's score is defined by how well it performs with regards to the ESG issues material to its industry. Scores range from 0 (low) to 5 (high) (J. Safra Sarasin Holding Ltd., 2020).

3.1.2 Shortcomings of ESG scores

It is beyond the scope of this document to analyze the market for ESG data, but three prominent problems with regards to ESG scores should be briefly discussed. Those problems are (1) ESG scores of different providers show low correlation, (2) regional differences in business practices effect ESG scores, and (3) firm size positively correlates with ESG scores.

First, the methodologies of ESG rating providers differ largely and scores are not easily comparable. Depending on which issues are deemed material for an industry and how they are weighted, the same company might be rated as high ESG performer by one provider, e.g., based on its energy-efficient production sites, and as laggard by another, e.g., due to poor working conditions of employees at the very same production site. As an example, in 2018 MSCI ranked Tesla best within its industry, Sustainalytics gave it an average score, while FTSE Russell regarded it as the worst carmaker globally with regards to ESG issues (Mackintosh, 2018).

Consequently, ESG scores do not correlate as do e.g., bond ratings. Krosinsky (2018) found that the correlation between the ESG ratings of the two market leaders MSCI and Sustainalytics is only 0.32. Schroders (2018) compared the top ratings given by MSCI, Sustainalytics and Thomson Reuters and found that the probability of ESG scores being the same is less than 20%. This implies that if an asset manager based their ESG incorporation approach solely on ratings of, say, MSCI, and then switches to another provider, this might lead to a significant portfolio turnover. Thus, asset managers are increasingly combining external resources and internal analysis, to adapt the security selection process to their desired management philosophy and be less dependent on a single externa providers methodology (SSF, 217b).

Second, regional differences in business practices may bias ESG scores as Yeoh (2020) emphasizes. Take the composition of boards as an example. In Japan, there are on average much fewer independent directors than on European or US boards, which is reflected in Japan's Corporate Governance code. This might lead to a negative bias in "G" ratings for Japanese companies.

Third, ESG scores have been criticized for favoring big companies that have the resources for extensive sustainability reporting. A study by Drempetic, Klein and Zwergel (2020) found a significant positive correlation between companies' ESG scores and firm size. This might be because ESG rating providers punish companies that do not provide information on their sustainability practices. FTSE Russel, e.g., assumes the worst if no information is provided on an issue, arguing that giving the worst score will encourage more disclosure (Mackintosh, 2018).

3.2 Screening approaches

Several ESG strategies can be seen as screening approaches (sometimes simply labeled "exclusions"). What they have in common is that the investable universe is restricted based on a filter. This filter can be negative with the

intent to restrict investments in certain industries or companies (negative screening), e.g., to exclude the highest carbon-emitters from a portfolio. It can be positive to target industries or companies for positive ESG performance (positive screening / best-in-class), e.g., allowing only the lowest carbon-emitters of each industry to be added to the portfolio. Finally, the filter can be set against an existing framework such as the UN Global Compact (norms-based screening) (UNPRI, n.d.).

3.2.1 Negative screening

Negative screening is the oldest form of responsible investments. It originated in religious beliefs and the respective desire to avoid investments in certain companies e.g., those involved in weapons manufacturing or alcohol production and distribution. Exclusion screens are still today mostly applied with regards to investments in so-called sin stocks, i.e., alcohol, tobacco, gambling, and pornography. More recently, they are also applied based on ESG considerations e.g., with regards to nuclear power, animal welfare or human rights violations (Zuber, 2017).

With regards to the Swiss market, there is a particularity due to a 1996 law and its 2013 amendment, the Federal Act on War Material (WMA). Its article 8b prohibits the direct financing of the development, manufacture, or acquisition of prohibited war material, i.e., nuclear, biological, and chemical weapons, anti-personnel mines, and cluster mines. Direct financing refers to directly giving out credit or loans to companies producing such weaponry. Indirect financing, which would include participation in companies by stock holding or buying debt securities, is only banned if intended to circumvent the ban on direct financing (article 8c). So, by following the letter of the law this would not result in a mandatory negative screen for equity investments in Switzerland. However, SSF (2017) found that in practice asset managers tend to voluntarily go beyond the letter of the law and exclude all investments particularly in companies producing anti-personnel mines and cluster munitions. This applies to actively managed funds and discretionary mandates, not necessarily to passive funds. With regards to nuclear weapons, most asset managers still invest in companies that are involved, focusing on the civilian activities of those companies. Although technically an exclusion, this screen should not be reported as an ESG exclusion approach, as its intent is not to include ESG considerations in investment decisions but rather to follow the law and minimize reputation risk. At best, it can be considered the basis for norms-based exclusions, as the Swiss Funds and Asset Management Association (2020) states. However, the voluntarily submitted data presented in chapter 2 might be overstated in terms of negative screening assets in Switzerland, as some asset managers might flag all their assets as negatively screened based on WMA-triggered exclusions.

The exclusion criteria that were most often applied in Switzerland in 2019 are listed in table 5.

Rank	Exclusion Criteria	CHF billion
1	Weapons (production and trade, not counting WMA-triggered exclusions)	342
2	Tobacco	281
3	Corruption and bribery	276
4	Coal	273
5	Pornography	253

Table 5 – Top 5 exclusion criteria in Switzerland in 2019 (SSF, 2020).

Noticeable is the jump from coal exclusions from rank 10 in 2018 to rank 4 in 2019, hinting at increased demand for carbon divestment solutions and the rise of negative screens outside of the established sin stock exclusions. Note that this numbers cannot be added up to get to total assets under a negative screening approach, as exclusion criteria are usually applied in combination.

To apply a negative screen such as the one on weapons, there are two general implementation options: either exclude a sector entirely (e.g., the defense sector), or more sophisticatedly, define a threshold of how much turnover a respective company is allowed to generate within an undesired industry to still be considered for investment. Depending on which approach is taken, the results may differ greatly. As Schroders points out (2017), an MSCI tobacco screen that removes all companies with any tie to the tobacco sector excludes 111 companies from the

MSCI world Index. A screen based on the MSCI and Standard and & Poor's Global Industry Classification Standard, on the other hand, expels just 6 companies.

Negative screening can also be based on controversies. Controversy cases are instances or continuing situations in which company operations and or products allegedly have a negative ESG impact (Yeoh, 2020). Oil spills, excessively priced drugs or fraudulent accounting practices are E, S, and G examples for potential ESG controversies. Too many or extremely negative controversy cases may lead to investment managers adding red flags to potential investments and excluding those companies from their investment universe as those controversies are interpreted as large downside risks, mainly due to reputational and legal risks. There are many third-party data providers that offer a controversy reporting, among others Vigeo Eiris, RepRisk and the market leaders MSCI and Sustainalytics. Additionally, controversies and companies' responses to them can also be an input factor in an overall company ESG rating, both in third-party and proprietary ESG rating systems. Sustainalytic's company ESG ratings, for instance, can be changed between 6% to 15% based on a controversy and the company's management of it (Sustainalytics, 2017).

Julius Baer and ESG controversies

Julius Baer sources information from third-party providers, including data on controversy cases. If a company has controversies reported by the data provider, this does not automatically lead to a red flag and an exclusion from the investment universe. Rather, a specialized ESG committee, named "Responsible Investment Committee", reviews these cases together with the bank's analysts, discussing the magnitude of the associated risks and whether these risks are correctly reflected in an underlying's price (Julius Baer Group, 2019).

The two implementation approaches described for negative screens (industry-wide or turnover-based) can both be applied to passive and active investment styles. For the former, applying a negative screen just means altering the base index that is to be tracked or tracking an already ESG screened index. For the latter, the investment universe from which portfolio managers can pick stocks is restricted (Schroders, 2017).

Negative screening is maybe the most forward ESG incorporation approach for passive strategies. Just excluding some companies from the investable universe is a relatively passive activity and it can easily be done by replicating a respective index, using both threshold- and industry-based exclusions.

BlackRock's iShares MSCI Europe ESG Screened UCITS ETF

iShares offers several MSCI ESG screened exchange-traded funds (ETFs) for different regions. The common approach is tracking the respective MSCI ESG index, which excludes companies from controversial industries. Some of these screens are absolute, excluding all companies with any ties to the sector, some are threshold based:

Excluded, if any ties to:

- Controversial (e.g., landmines) and nuclear weapons
- UN Global Compact violations

Excluded, if deriving more than 5% of revenue from:

- Thermal coal
- Civilian firearms
- Tobacco
- Oil sands

With regards to the iShares MSCI Europe ESG Screened ETF, this leads to the exclusion of 25 companies from the parent's index 442 constituents. The resulting tracking error stands at 0.86% (as of October 3, 2020), in line with the exclusions of only about 6% of the companies in the investment universe (BlackRock, 2020a).

Although negative screening can be easily done via passive investments, active managers can use this approach, too, and they have more sophisticated options than an ETF can offer. Negative screens can alter the characteristics of the underlying investment universe, something an active portfolio manager can control. E.g., if an investor favors a high-income portfolio while at the same time wanting to exclude fossil fuels, a passive investment will reduce the dividend yield of the portfolio as fossil fuel companies tend to have above average dividend payments. An active manger can offset this effect by buying proportionally more high dividend stocks other than fossil fuels. Similar side

effects might be observed with different screens for investment objectives such as value or growth or with regards to a certain geographical allocation. The passive investor cannot offset these effects, an active manager however should consider them when applying a screen and adjust the investments accordingly (Schroders, 2017).

As the following sections will show, active managers often apply negative screening, but not as a single ESG incorporation approach, but rather as a first step in their investment-decision process.

3.2.2 Best-in-class

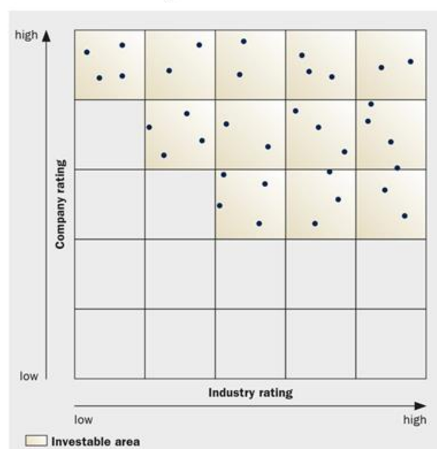
Best-in class strategies can be considered the opposite of negative screening. Often it is implemented by assigning ESG scores to companies and ranking them based on that within their industry. Then, only the top percentile (e.g., top quarter) is considered for investment. This leads to a diversified portfolio tilted towards companies displaying more sustainable practices, not completely excluding whole sectors as might be the case with negative screening. However, this approach usually limits the investment universe to a far larger degree than the negative screening approach. SSF (2020) found with regards to Swiss best-in-class funds that for 65% of them the investment universe is reduced by at least half.

A difficulty with regards to best-in-class approaches is the subjectivity of ESG ratings discussed in section 3.1.2. To not being fully dependent on ESG scores from third-party providers as input to their best-in-class products, active asset managers can leverage their own investment expertise to develop proprietary methods.

J. Safra Sarasin's Sustainable Equity funds

An original signatory of the UNPRI, J Safra Sarasin offers a range of actively managed investment funds applying a sustainable investment strategy, such as the JSS Sustainable Equity Switzerland or JSS Sustainable Equity Europe fund. These funds combine several ESG incorporation approaches, but the focus is on the best-in-class approach.

JSS relies on ESG scores to screen the investment universe. However, their approach is not solely based on individual companies ESG scores, but also takes industry ratings into account. JSS applies its proprietary sustainability matrix (pictured below), combining company and industry scores. To be considered for investment, there are minimum rating criteria both on industry and company level. For companies within lowly rated industries, the threshold to be included in terms of the company rating is higher. This best-in-class approach does not exclude industries as a whole, but the criteria for companies from industries highly exposed to ESG risks such as oil and gas or materials are stricter than for their counterparts from less affected industries such as telecommunications.



Best-in-class approaches usually reduce the investment universe far more than negative screening. In case of JSS's sustainable strategies, approximately 8,000 companies are evaluated with respect to their ESG performance, but only around 3,500 of them meet the criteria for inclusion in the sustainable investment universe and are available for the portfolio manager's stock selection. While JSS also applies negative screens, e.g., on coal production, the large part of the exclusions stems from not meeting the best-in-class criteria.

JSS combines several ESG incorporation approaches. In addition to the positive (best-in-class) and negative filters (negative screening), the traditional fundamental analysis as part of the active investment style is enriched by climate change data, representing the ESG integration approach further discussed in 3.3 below. JSS reports their ESG products to Eurosif, which served as data source for some of the statistics presented in chapter 2 above. As Eurosif limits the reportable approaches per product to two, JSS's sustainable equity funds are reported as best-in-class and ESG integration (not as negative screening).

Sources: Bank J. Safra Sarasin Ltd (n.d.) & J. Safra Sarasin Group (2020).

Another way of implementing a best-in-class approach without limiting the investment universe to a large part is to use ESG scores more like a negative filter. Instead of limiting the universe to the best rated ESG performers per sector, the worst ESG performers are excluded. This method shows that the borders between negative screening and best-in-class are overlapping.

Swisscanto Invest's responsible investment products

Swisscanto offers a range of products flagged as responsible investments, such as the Swisscanto Equity Fund Responsible Europe or Responsible Small & Mid-Caps Switzerland. These are actively managed products based on a restricted universe. The ESG incorporation focuses on defining the universe: once this established, traditional active management techniques are applied (selection of securities based on risk-return characteristics). To arrive at this so-called responsible universe, a twostep approach is applied:

1. Traditional negative screening, e.g., to exclude weapon manufacturers.
2. Laggard out, i.e., filtering out companies with a low ESG score.

This second step is an adapted best-in-class approach. Instead of restricting the universe to only the best ESG performing companies within each sector, the laggards of each sector are removed. These removals are based on a proprietary ESG scoring system including 45 ESG issues. While that system is proprietary, the raw data is sourced from third party ESG data providers (MSCI, RepRisk, Asset4 and Trucost).

This twostep approach leads to a responsible universe of app. 80% the size of the initial, non-screened universe. The exclusions based on the second step (laggard out) have a reduction impact of 10% to 15%. Although this approach leads to a significant reduction of the investment universe, its effect is smaller than with classic best-in-class approaches. This is illustrated by Swisscanto's sustainable product range. There, the second step removes all but the best-rated companies. In combination with an also stricter negative screen in step 1, this results in an investable universe reduced to only 30% of the non-screened universe (Swisscanto Invest, 2019).

As SFF (2017a) accentuates, the main advantage of best-in-class approaches is to facilitate good practice by giving precedence to the most sustainable companies in each sector, encouraging companies to improve their conduct and act more responsibly to be attractive for ESG-focused investors. It is thus particularly suited for asset managers with their own investment philosophy, implying a much better fit with active than passive investment styles. Best-in-class indices exist, so passively tracking them is possible, but the passive investor is then completely invested based on the ESG scores underlying the index.

FTSE Russell's FTSE4Good index series

This index series combines a best-in-class approach with some negative screens. The indices can be used to create ESG index-tracking products such as the Vanguard FTSE Social Index Fund which tracks the US Select Index from the above-named index series.

The best-in-class approach applied by the FTSE4Good indices is based on FTSE Russell's own ESG ratings. To be included in the index, companies need to have an overall ESG rating of 3.3 or higher for developed markets and 2.9 or higher for emerging markets, respectively. The lower criteria for emerging market companies reflects regional differences and their influence on ESG ratings. If a constituent's rating drops below 2.9 for developed markets or 2.4 for emerging markets, the company is removed from the respective index. Reviews are done twice a year.

In addition to this first positive screen, a second negative filter is applied to exclude producers of tobacco, weapons systems, controversial weapons, and coal (London Stock Exchange Group, 2020).

The combination of positive and negative screening is representative for ESG products: ESG incorporation approaches are often combined and not applied individually. That holds also true for the third exclusion approach, norms-based screening.

3.2.3 Norms-based screening

Another form of restricting the investment universe is norms-based screening. Here, investments are reviewed against minimum standards of business practice based on international norms. According to UNPRI (2017) this involves either of the following:

- defining the investment universe based on companies' performance on international norms related to ESG issues, or
- excluding companies from portfolios if they are found to be in violations of these norms (basically being a subcategory of a negative screen).

Instead of excluding companies if they are found to be in breach with the applicable norm, asset managers could also engage with companies (a stewardship strategy not further discussed in this document). However, more often they company is simply excluded (SSF, 2020).

There is no definitive or exhaustive list of norms that can be used for norms-based screening. The most common are the UN Global Compact, OECD Guidelines for Multinational Enterprises and the ILO Conventions as reported both for Europe by Eurosif (2016) and for Switzerland by SSF (2020).

As norms-based screening is another form of restricting the investment universe by applying filters, this approach can similarly be followed by passive managers as negative screening approaches described in the section above. In fact, negative screening is often combined with norms-based screening, a good example of this being the Impact Shares Sustainable Development Goals Global Equity ETF.

Impact Shares' Sustainable Development Goals Global Equity ETF (SDGA)

According to Impact ETFs (2020), this ETF tracks the Morningstar Societal Development Index, which was developed through a cooperation between Morningstar, Sustainalytics, Impact Shares and the United Nations Capital Development Fund. It is designed to provide exposure to companies that display commitment to the United Nations' Sustainable Development Goals (SDGs). The SDGs are a set of 17 goals established to guide international cooperation on issues such as water sanitation, poverty, climate change and gender equality (Lord, 2018).

Following Impact ETFs (2020), the index applies several screens vs. its parent index, the Morningstar Global Markets Large-Mid Cap index. They are:

1. Exclusionary criteria based on the UN Development Programme, excluding companies working in fields such as nuclear weapons, alcohol, etc. This is a classic negative screen.
2. Exclusion of companies that are not signatory to the UN Global Compact. This is norms-based-screening, filtering out companies that do not support the UN Global Compact.
3. A screen based on Sustainalytics' controversy ratings, excluding companies with a high controversy rating. This is another example of a negative screen based on controversies as discussed in section 3.2.1.
4. A screen against companies' overall ESG ratings. Companies with low ESG scores are excluded. This could be interpreted as a weak best-in-class approach, where low performing companies are excluded.

The combination of those four screens illustrates that the borders between the three different screening approaches are not always clearly identifiable and approaches overlap.

In a next step, companies with higher shares of revenues generated in the world's 47 poorest countries receive a boost so they are more likely to be included in the index, hinting at impact investing.

While the marketing material highlights the "Impact Investing" aspect of the ETF, the dominant approaches are those belonging to the exclusions group.

What is maybe surprising given the rather complicated and sophisticated screens and booster applied is that the top 10 holdings of the index as of October 2020 are standard blue chips companies, some not free of controversies (descending in terms of asset weight in the ETF): Microsoft, Nestle, JPMorgan Chase, Procter & Gamble, Roche, The Walt Disney Company, Pfizer, Merck & Co., Bank of America, AbbVie (Morningstar, 2020).

Also, for active products, incorporation norms-based screening by itself is the exemption. It is more common to add a norms-based screen in combination with other approaches.

J Safra Sarasin's sustainable universe and norms-based screening

JSS' sustainable equity products have been described already in section 3.2.2. While we highlighted the best-in-class approach and their scoring system, norms-based screening also plays a role in the definition of the sustainable investment universe. JSS's exclusions are largely based on several traditional negative screens such as tobacco and pornography, however there is also a negative screen with regards to violation of human rights. For this screen, compliance with established international norms such as the UN Global Compact is reviewed. Additional screening is done to identify whether companies are involved in breaches of other international norms such as the ILO conventions on labor standards or the OECD Guidelines for Multinational Enterprises. If a potential beach is identified, this leads to an internal assessment and possible exclusion from the company of the sustainable universe (Bank J. Safra Sarasin, n.d.2).

3.3 ESG integration

ESG integration means systematically and explicitly taking ESG considerations into account when making investment decisions. The UNPRIs official definition reads "the systematic and explicit inclusion of material ESG factors into investment analysis and investment decisions" (2017, p. 5). In other words, environmental, social and governmental factors are to be considered for investment research, analysis and decision making, by means of quantitative or qualitative considerations. Note that we are not basing this section on SFDR's use of the term integration of sustainability risks, but the methods described below have at heart the idea that ESG risks and opportunities have an impact on risk and return characteristics and should thus be considered.

ESG integration is not narrowly defined and thus allows for many interpretations of the approach which might party explain its widespread dispersion according to the data presented in chapter 2. As Zuber (2017) points out, there is also an overlap from ESG integration to other approaches as ESG factors are often systematically considered with best-in-class or negative screening approaches, so asset managers might report a best-in-class approach as ESG integration, too, for marketing reasons, even though that would not fulfill the UNPRI's definition. Moreover, analysis of ESG risks can also lead to yes or no decisions, where a negative decision is like a negative screen. The difference, however, is often that instead of a low ESG score leading automatically to an exclusion, it is rather followed up by an additional review and integration of the ESG risk in overall security analysis.

UBS Asset Management's ESG integration in active equities

The ESG risk assessment for UBS Asset Management's ESG integration strategy is based on a proprietary ESG database in combination with third-party ESG data. A proprietary risk dashboard flags companies with high ESG risks. Scores are an integral part of this assessment. While UBS Asset Management recognizes that scores vary widely between providers, consistently low scores across varying providers will trigger a risk signal. This methodology is used across all active investment teams, the integration of ESG however lies in the responsibility of the analysts and portfolio managers and may vary with different investment processes.

In general, if a company is flagged by the risk dashboard, an additional analysis is carried out by the fundamental equity analyst or the portfolio manager with the support of a dedicated ESG research team. The final decision to invest in a flagged company remains with the portfolio manager. While the ESG risk might lead to a reduction or sale of an investment, the portfolio manager could also conclude that the upside potential still outweighs the risks identified and stay invested. ESG engagement (a stewardship strategy) than becomes an additional possible tool to address the identified issues directly with investee companies (UBS, 2020).

With regards to equity, UNPRI (2016) differentiates four different methods within ESG integration along the active-to-passive spectrum: fundamental strategies, quantitative strategies, smart beta strategies and passive (indexing) strategies. The following sections will discuss those methods in detail. Note that we follow UNPRI's categorization and will thus not discuss passive investments when talking about fundamental and quantitative ESG integration methods, assuming that replicating those methods is outside the scope of passive investments.

3.3.1 Fundamental strategies

In a traditional fundamental equity strategy, investors assess a company based on different information sources of both qualitative and quantitative data to make a prediction about the company's future performance. Valuation models are fed with these predictions to calculate the fair (intrinsic) value, based on which a buy, hold or sell decision is made by the asset manager.

Integrating ESG factors into financial forecasts can be done by adjusting the respective estimates such as revenues or operating costs. E.g., an analyst might determine that due to industry-leading human capital management a tech company might be better able to retain and attract rare talent and thus adjust the innovation potential and earnings forecast upwards. An alternative is adjusting the company valuation models (such as the discounted cash flow model, the dividend discount model, or the adjusted present value model). This can be done by, e.g., increasing the discount rate due to a general lack of management attention to material ESG factors, thereby reducing the estimated fair value.

The ESG assessment of companies within the fundamental analysis process in practice relies heavily on ESG scores, either based on proprietary scoring systems or on third-party ESG scores.

Vontobel's rating changes due to ESG integration

Vontobel Equity Research developed their own ESG scoring system to rate the approximately 100 Swiss companies they cover. They have identified 15 metrics (i.e., ESG issues) against which companies are assessed on a five-point scale, implying the maximum score to be 60. This score is an input factor in the calculation of fair value, resulting in changed target prices for most of the covered companies. While 68 companies saw their price target increased due to good ESG scores, 13 companies suffered a reduction in their target price ("Vontobel nimmt Nachhaltigkeits-Kriterien in Bewertung der Schweizer Aktien auf", 2020).

Another common practice among fundamental investors is a relative valuation approach where a company's financial ratios, e.g., the price-earnings ratio, are compared to those of its peers and the market and it is then assessed whether the company is fairly valued. Integrating ESG considerations to the relative valuation approach could mean being willing to pay a valuation premium versus a peer due to better management of the respective industry's material ESG issues.

3.3.2 Quantitative strategies

As UNPRI (2016) emphasizes, quantitative strategies try to outperform by using mathematical models to determine portfolio weightings. Usually, this follows a three-step approach:

1. Analyze data to find patterns or mispriced securities.
2. Build models based on identified rules and back-test them.
3. Implement the model.

When it comes to integrating ESG factors into quantitative models, the ESG components need to be quantified, too. That means that ESG scores or similar concepts are applied as integral parts of quantitative strategies. As discussed in section 3.1.2, there are some issues when using ESG scores from third parties that must be considered, most prominently that ESG ratings of different providers tend to have low correlation caused by the heterogeneity of scoring methods applied.

The most intuitive quantitative model when it comes to ESG integration is probably a factor model. The simplest factor model is a Capital Asset Pricing Model (CAPM)-based single factor model, i.e., a model predicting the return of an investment based on its level of systematic risk. This single factor-model only can predict security performance correctly if the CAPM is the correct equilibrium model and only market (systematic) risk will be priced. This has been challenged by many (e.g., refer to Chan, Jegadeesh & Lakonishok, 1996; Fama & French, 1993; Fama & French, 1995), which has led to the establishment of multi-factor models. A well-known multi-factor model is the Fama & French (1993) three factor-model, which adds risk proxies for firm size (size premium) and book-to-market ratio (value premium) to the CAPM proxy from systematic risk. However, there are myriads of different multi-factor

models employing hundreds of risk proxies to predict security returns. Now, to integrate ESG into factor-models, the relevant ESG factors can be added alongside traditional factors such as size, book-to-market, or momentum. As UNPRI (2016) points out, this will result in ESG factors affecting the weighting of securities in the portfolio. Some approaches chose to just get rid of companies with low ESG factors (put their weight to zero), while others will adjust the weight of all securities based on ESG factors.

When adding ESG data to factor models, there is an additional shortcoming of ESG scores to be mentioned. The emergence of qualitative ESG data is a relatively recent development. This implies that ESG data sets are much shorter than traditional financial data sets which reduces the explanatory power of statistical tests and makes it more difficult to assess whether ESG factors are risk and return drivers. While research tends to show that the application of ESG scores helps reducing systematic and stock-specific tail risks, there is as of now no conclusive evidence that ESG scores can be interpreted as a risk premium like traditional financial factors such as value (Giese & Lee, 2019).

Integrating ESG factors into quantitative models is not limited to factor-models. There is a growing body of academic papers proposing new models to integrate ESG factors. Common are approaches to adapt traditional mean-variance optimization (MVO). E.g., Utz et al. (2014) propose adding an ESG score to securities and taking this into account together with expected return and variance, resulting in portfolios on a non-dominated surface rather than the efficient frontier. Pedersen et all (2020) also apply ESG scores to MVO, deriving an ESG-efficient frontier to conceptualize and quantify the costs and benefits of ESG investing. Also, there are proponents of adapted Black-Litterman portfolio optimization models, e.g., advocating integrating ESG scores in addition to conventional model inputs (Brandstetter & Lehner, 2015) or imposing a structure on the covariance matrix to effectuate weight shifting according to single ESG scores of individual securities in the portfolio (Zuber, 2017).

Despite of the many theoretical suggestions of new integration models, in practice it is more likely that asset managers use ESG scores in a first stage to screen the investment universe and then apply a traditional MVO model, reporting this approach as ESG integration (Zuber, 2017). We have described those approaches in section 3.2 focusing on exclusions as we do not see them fitting the UNPRI's definition of ESG integration. It is, however, much more difficult to find real world examples of quantitative ESG integration. This is somewhat surprising given the large amount of assets under management supposedly following an ESG integration strategy according to data presented in chapter 2. There seems to be a gap between what is reported as ESG integration assets, perhaps for marketing reasons, and what is implemented. UBS (2018) claims that this is due to a widespread belief in the investment industry that using third-party ESG scores in the investment process alone already represents ESG integration. Our impression is that most traditional asset managers in Switzerland only recently started to integrate ESG into their quantitative strategies and many of the new frameworks are still evolving. The following example provides an overview of integration efforts at UBS Asset Management.

UBS Asset Management's equity income suite and core quantitative models

Equity income suite

UBS Asset Management is aware of the limitations of ESG scores with regards to quantitative risk factors lied out above. Consequently, based on the MSCI ESG issues presented in section 3.1.1, they have analyzed which issues are most significant to stock prices. So instead of integrating an overall ESG company score, they only picked the two most material themes according to their research: human capital and corporate governance. The investment process of the equity income strategies managed by their Quantitative Investments team has been adapted with regards to stock selection criteria and weighting, which takes now into account the following:

- Yield (criteria 45%): Current dividend yield, current buyback yield (US strategies only)
- Quality (criteria 55%): Price stability, sustainability of dividend, financial leverage, profitability, size, ESG

The ESG component is a company's score for corporate governance and human capital. In addition to the absolute score, UBS Asset Management also considers the change in score, the “momentum”. This is based on research that implies improving ESG scores leads to lower systematic risk and a reduction in a company's cost of capital, therefore increasing its valuation (UBS, 2020b).

Core quantitative models

The understanding of ESG rather being a risk factor then return driver is reflected in the ESG integration in UBS Asset Management's core quantitative models. Their portfolio construction process starts with a regional proprietary multi-factor model. This model includes investment themes called return drivers: valuation, growth, capital usage, profitability, and market behavior. As these return drivers have exposure to each other and to other aggregate risk factors, among them ESG risk, output from the multi-factor models is used to create refined return drivers with only unit exposure to their underlying return drivers. While this sounds technical, it means that the refined return drivers still capture the original investment themes while limiting their exposure to other risk factors to 0. This includes ESG risk, which is eliminated in the refinement process step based on MSCI's overall company ESG score. As a result, UBS' quant portfolios should be less exposed to ESG risks compared to the broad market (UBS, 2020b).

3.3.3 Smart beta strategies

While fundamental and quantitative strategies are the realm of active investors, smart beta strategies lay on the frontier from active to conventional passive (i.e., market-cap weighted passive) investing, as a blend of both active and passive investment disciplines is deployed. While there is no industry-wide accepted definition of smart beta strategies, usually it includes a market-cap weighted index as a basis, but instead of exactly tracking the index, the weights of the constituents are adapted based on factors other than market-capitalization (Morrow, Rodrigues and Mooij, 2018). As such, smart beta is closely related to factor models discussed in section 3.3.2 above and the terms often are used interchangeably. However, as Rabener (2019) points out, a traditional long-short multi-factor portfolio has zero correlation with beta, while smart beta ETFs often have market correlations greater than 0.9. Carlson (2018) reinforces this argument alluding to the original factors' names (e.g., "high minus low" for the value premium or "small minus big" for the size premium) and how they illustrate the intention of traditional factor models to be long one characteristic and short another to become neutral to the market. Smart beta, in turn, is typically long only and weighted by company fundamentals.

A simple form of a smart beta strategy is equal weighing constituents to avoid a high exposure to a few dominant companies within a market-capitalization index. More advanced strategies change weightings based on factors such as value or momentum to outperform the index (without taking short positions). A resulting portfolio has different characteristics than the benchmark index. E.g., a smart beta portfolio based on price-earnings ratio (value factor) will have a tilt towards companies with lower price-earnings ratio while a conventional index has a bias towards large cap stocks (UNPRI, 2016).

To integrate ESG considerations into smart beta strategies, the adjustments to constituents' weightings can be made based on ESG scores, e.g., to increase weightings of companies with high ESG scores.

BlackRock's smart beta ETFs: Blending minimum volatility with an ESG rating

BlackRock offers several ETFs following smart beta strategies, targeting factors such as momentum, size or value or trying to reduce volatility of returns compared to traditional market-cap indices. The iShares Edge MSCI Minimum Volatility UCITS ETF tracks the MSCI World Minimum Volatility Index. This index is based on the MSCI large and mid-cap universe but aims to reflect the performance characteristics of a minimum variance strategy (MSCI Inc, 2020a).

Merging ESG with smart beta, or blending two major investment trends according to Morrow, Rodrigues and Mooij (2018), MSCI created the "ESG" version of the afore-mentioned index, the MSCI World Minimum Volatility ESG Reduced Carbon Target Index (USD). In addition to optimizing a market-cap parent index based on a volatility factor, a reduction of greenhouse gas emissions is targeted along with an increased average ESG score measured based on the MSCI ESG rating methodology (MSCI Inc., 2020b). The respective Blackrock product that tracks this index was launched in April 2020 and is named iShares Edge MSCI World Minimum Volatility ESG UCITS ETF (BlackRock, 2020b).

3.3.4 Passive ESG integration strategies

If passive investing is understood as tracking the performance of a market-cap index, ESG integration is not possible as this may cause performance to deviate from the benchmark. UNPRI (2016) argues however that passive strategies can integrate ESG factors by tracking respective ESG adjusted indices such as the MSCI Global Low Carbon Target Index. ETFs, e.g., can be set up to follow such an index, like the smart beta example provided in section 3.3.3.

3.4 Sustainability-themed investing and impact investing

As chapter 2 has shown, both sustainability-themed and impact investing are niche approaches in the realm of ESG incorporation. However, both recently showed high growth rates so there is merit in discussing them shortly.

3.4.1 Sustainability-themed investing

Following UNPRIs reporting framework (2017), sustainability-themed investments with regards to ESG are investments in themes or assets related to sustainability such as clean energy or sustainable agriculture. While thematic investments in general focus on specific economic activities because of their potential for superior long-term growth, sustainable thematic investments should also focus on companies that "do the right thing" (Buffle, 2017). What this encompasses is subjective. According to SSF (2020), in 2019 the main sustainability-themed investing areas in Switzerland in terms of AuM were:

1. Social (including housing, community development, health)
2. Water
3. Energy (including renewable energy, energy efficiency, climate)

As Buffle (2017) accentuates, a sustainable investment theme addresses a sustainability challenge by investing in companies developing solutions in the respective area, e.g., global water scarcity and quality crisis (theme "water") or access to information and educational technologies (theme "education"). Note, however, that there is no global standard for the applied investment processes and the achieved sustainability impact of an investment is not necessarily measured or reported. This is the key difference to impact investing.

Basellandschaftliche Kantonalbank' climate basket

Basellandschaftliche Kantonalbank (BLKB) targets the sustainability challenge climate change with its climate basket. Considered for investment are companies that offer services and products that reduce carbon dioxide emissions and thus belong to sectors such as mobility (e.g., Central Japan Railway Co.), renewable energies (e.g., First Solar), energy efficiency (e.g., Schneider Electric) etc.

While the main ESG incorporation approach of this basket and the respective investable tracker certificate is sustainability-themed investing, it also applies negative screening as a first step in defining the investable universe (BLKB, 2020). Even though the fund targets climate change, it is not clear how and if at all the non-financial impact is measured, which is not a pre-requisite for sustainability-themed investments.

Pictet's Water fund

Pictet's flagship thematic fund is its Water fund launched in 2000. The fund targets companies that specialize in providing specific solutions to the environmental problem of water scarcity. The fund invests in companies in the areas of water infrastructure (e.g., water recycling and desalination), water technology (e.g., filtration systems or technology reducing wastage through leaks) and waste management (e.g., waste water collection) (Pictet Asset Management, 2017a).

It is noteworthy that the main reasons Pictet Asset Management (2017b) names to invest in the fund are not related to the environmental impact of the investment. While they highlight that the fund invests in solutions to a global challenge, solving that challenge is not the main motivation presented to investors. The focus is put on the attractive investment opportunities that are provided by companies that seek solutions to this ESG issue.

The focus on return opportunities not on measuring ESG impact is characteristic for many sustainability-themed investment funds and represents the defining difference between sustainability-themed investments and impact investing, as the next section will illustrate.

3.4.2 Impact investing

As discussed in section 1.1.3 above, UNPRI looks at impact investing as a sub-category of sustainability-themed investing, other organizations such as SSF and Eurosif list it separately. This might be due to the rapid evolution of this investment approach. According to Paetzold (2017) the concept impact investing is an idea of the 1990s to blend financial returns with philanthropic investments. The term "Impact Investing" itself was then coined by the Rockefeller Foundation in 2007. While the other introduced ESG incorporation approaches mainly focus on the risk and return aspects of ESG factors, impact investing actively seeks to positively impact society. The key difference is the intention to generate a social and environmental impact alongside a financial return. To achieve this, some financial return can be sacrificed, and a below-market return might be accepted in some cases in exchange for a higher non-financial impact. Figure 10 illustrates this (based on Paetzold, 2017 and SSF, 2020).

<table>
<tr><th rowspan="2"></th><th rowspan="2">Traditional Investing</th><th colspan="5">ESG Incorporation Approaches</th><th rowspan="2">Philanthropy</th></tr>
<tr><th>Negative & Norms-based Screening</th><th>Best-In-Class and ESG Integration</th><th>Sustainability-themed Investing</th><th colspan="2">Impact Investing</th></tr>
<tr><td rowspan="4">Sustainability Focus</td><td rowspan="4">No explicit consideration of ESG and impact</td><td colspan="5">Avoid negative impact and mitigate ESG risks. Align investments with personal values.</td><td rowspan="4">Sole focus on environnemental / social positive impact</td></tr>
<tr><td></td><td colspan="4">Pursue ESG opportunities</td></tr>
<tr><td colspan="2"></td><td colspan="3">Select investees solving a societal / environmental problem</td></tr>
<tr><td colspan="3"></td><td colspan="2">Demonstrate measurable impact</td></tr>
<tr><td>Financial Risk / Return profile</td><td>Sole focus on financial risk / return</td><td colspan="4">General baseline expectation of market-rate financial risk / return</td><td>Below-market rate risk / return</td><td>No financial risk / return objective</td></tr>
</table>

Figure 10 – Sustainability focus of different ESG incorporation approaches

Consequently, an impact investor must report on its ESG impact along with its financial return. While thematic ESG funds also might have the goal of having a non-financial impact, impact investing must measure this effect. Several frameworks to do so have emerged, most notably the IRIS metrics developed by the Global Impact Investing Network (GIIN).

As UNPRI (2018) points out, traditional impact investing often involves illiquid investments. Consequently, some argue that impact investing is not applicable to public equity and reserved for private equity and real estate investments (Paetzold, 2017). Examples are BlueOrchards private equity funds targeting impact themes such as financial education or UBS's Impact Investing SME Focus Fund focusing on small and medium-sized enterprises in emerging and frontier markets (SFF, 2016).

Over the last years, the industry has expanded, and more mainstream investment opportunities were created that focus on liquid and mature businesses and are accessible for retail investors. In Switzerland, Yova AG is a start-up that markets its product as impact investing (Yova, n.d.) although investments are made in blue chips public equity from developed markets based on some ESG screens (negative screening and best-in-class). The measuring of the non-financial impact is done in terms of carbon dioxide savings versus a traditional portfolio and clean energy produced by portfolio companies. Overall, however, it is difficult to find use cases that are based on public equity and manage to meaningfully report their ESG impact.

SFDR will apply from 2021 and might change that. This document does not focus on regulatory aspects of ESG incorporation, but it is worth mentioning that the SFDR introduces new disclosure requirements for financial products that have sustainable investment as their objective. Under SFDR, such products are required to describe "the overall sustainability-related impact of the financial product by means of relevant sustainability indicators" (Ashurst, 2020). In other words: asset managers will have to provide disclosures in line with SFDR if they label their ESG products as having a sustainable investment objective. To meet the transparency requirements, they will have to measure and disclose the non-financial impact, thus moving towards what this document defined as impact investing.

Note that the SFDR will also apply to Swiss asset managers if they actively distribute their products and services to clients based in the European Union. This will have an impact on reported ESG incorporation approaches, leaving the asset managers less room for interpretation.

4 Conclusions

Responsible investments are no longer a niche approach only offered by specialized investment firms. Fueled by increasing investor interest in sustainability as well as by new regulations, they are on the merge of overtaking traditional assets and belong now to the repertoire of every serious asset manager. Incorporating ESG issues into the investment-decision process, i.e., considering them pre-investment decision, can be categorized into six different approaches: Negative screening, best-in-class, norms-based screening, ESG integration, sustainability-themed investing, and impact investing.

There are important issues when it comes to analyzing responsible investment data gathered by organizations such as Eurosif or SSF, mainly the lack of an overall established taxonomy and issues related to the voluntary, unaudited nature of the reported data. Consequently, exactly stating the share of responsible investment assets versus traditional assets or determining the amount of assets invested according to a certain ESG incorporation approach is not constructive. The data is however unambiguous on at least two observations:

- Overall, growth rates of ESG incorporation approaches are impressive in all major financial centers.
- Negative screening and ESG integration are the dominant ESG incorporation approaches reported.

While the former is perhaps not surprising against the backdrop of changing investor desires and emerging regulations, it is noteworthy that two quite different approaches are dominating. While negative screening is the oldest responsible investment approach, it is not very sophisticated in terms of the investment process. The opposite holds true for ESG integration: it is a newer concept and, if done right, requires a lot of investment know-how.

Looking at reported data alone, it would be pre-mature to conclude that the financial industry is already very advanced with regards to ESG incorporation. It is thus necessary to discuss implementation options.

Negative screening, best-in-class and norms-based screening are applied at the beginning of the investment process. They serve as filters through which a traditional investment universe is converted into a responsible investment universe. These approaches are easy to implement and communicate to investors, which does a great deal in explaining their global popularity. The most common screening strategy is negative screening, and it is also easiest to implement. While filters on sin stocks or coal can be and are prominently marketed towards investors, their effect by itself on the investment process is limited, mostly leading to rather small reductions of the investable universe. As such, active managers should go beyond just using a negative screen for their ESG products, an approach that can be easily applied by passive products.

ESG integration on the other hand, if done right, is better suited for active management. Whether it is always done right is questionable, though. Reported data implies that ESG integration is now the most widespread ESG incorporation approach in Switzerland. Researching the Swiss ESG market ourselves and talking to many representatives of Swiss asset managers this is somewhat surprising. It is indeed difficult to find examples of advanced ESG integration applied in practice. A possible explanation is that asset managers believe that simply applying ESG scores based on some form of screening represents ESG integration. This view fails to recognize the role of third party ESG rating providers as providers of data rather than investment analysis. Actual ESG integration requires the application of this information by analysts and portfolio managers themselves within the investment process. Given the shortcomings of third-party ESG scores, asset managers even more should not treat them as settled facts but an input to be used in a more sophisticated analysis.

This understanding of ESG integration favors active management and offers active managers an opportunity to differentiate themselves from simple negatively screened passive products. However, a difficulty with ESG integration is that it is not easy to communicate to investors. The respective integration methods are sophisticated and require a sound understanding of the respective investment process. A clear taxonomy that separates true ESG integration from simpler approaches would be beneficial for the industry.

Overall, reported numbers on the prevalence of ESG incorporation are probably inflated. For marketing reasons, applying a simple screen against controversial weapons and looking at some purchased third party ESG rating might often already be branded as an ESG product. Asset managers subject to new European regulation now face the challenge to make sure their responsible investment approaches and respective disclosures meet the transparency requirements applicable from March 2021.

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