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Investing in sustainability

Health: Pharmaceuticals and Medical Products

Sustainable Development Sector Analysis Framework

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This is a methodological document aimed at clarifying how Mirova takes into account sustainable development issues in the framework of the environmental, social and governance analysis of each sub-sector of activity.

An affiliate of: NATIXIS INVESTMENT MANAGERS

Sectors: Pharmaceutical companies, biotechnology and life science tools and services, health care distributors

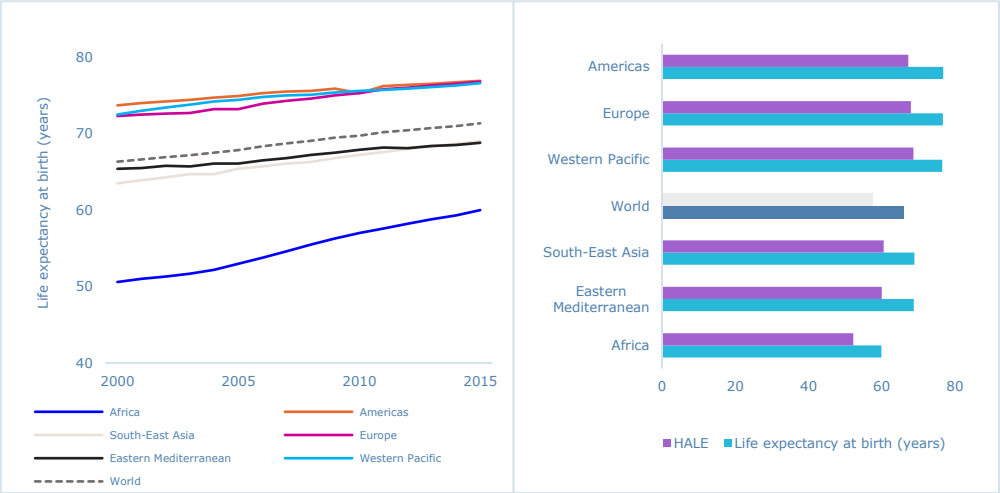
Companies within the healthcare sector and, more specifically, those involved in the research, manufacturing and distribution of medical products, face complex challenges ahead, such as providing treatment to an increasingly aging population, tackling medical conditions arising from changing lifestyle habits and rising urbanisation, and fighting the spread of tropical diseases caused by global warming. While medical research and innovation will be indispensable to tackle those and other issues in the sector, companies operating in medical research are also posed to benefit from new opportunities arising from the application of modern technologies, particularly those related to genomis and sequencing via the use of big data, as well as an increasingly available body of knowledge through improved information sharing mechanisms among the medical community. As competition in the sector increases and several blockbuster drugs get closer to expiration, companies are forced to innovate to stay competitive, however this could also lead to increased incentives for adoption of uncompetitive and unfair market practices to preserve market share. In addition, we anticipate that improved disclosure around business practices and the adoption of stricter anti-corruption measures will become standard requirements for a sector that never ceases to be mired in ethical controversies.

Table of contents

Healthcare Sector: answer to SDGs at its core

Since the second world war, global average life expectancy at birth has increased by about 25 years, according to the WHO, from a little less than 50 years to over 70 years today. However, health disparities across regions are growing, with Sub-Saharian Africa experiencing significantly higher probability of premature adult death than more developed, low-mortality regions (WHO, 2017).

Figure 1: Life expectancy at birth and Healthy Life Expectancy (HALE) at birth per region (years)



Source: Mirova/ (WHO, Global Health Observatory data repository, 2017)

Health indicators such as life expectancy at birth and healthy life expectancy (HALE) at birth, which reflects the number of years expected to be lived in full health at birth, show modest improvements since the early 2000s, but a significant gap across countries persists (Figure 1). While average life expectancy at birth is over 70 years in the Americas, Europe and Western Pacific regions, this indicator shows almost eight years gap between these regions and South East Asia and Western Europe, and over fifteen years gap with Africa. HALE indicators also vary widely across regions and countries: while this is unsurprisingly lower than average in most African countries, the indicator drops below 60 years and may even attain less than 50 years in some African countries. As a result, finding a solution to unmet medical needs remains a global priority, especially in least developed countries.

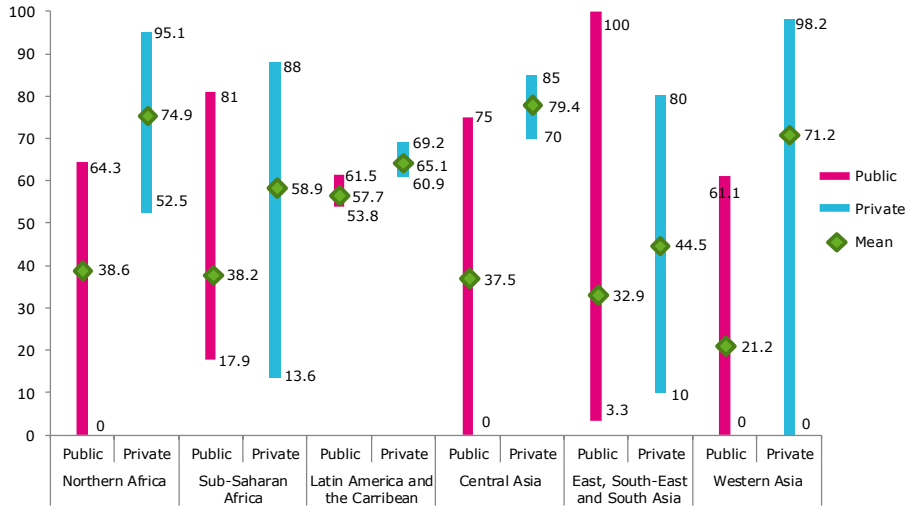
As responsible investors, we thus look at the global healthcare sector as directly addressing the Sustainable Development Goal 3 (i.e. SDG3) - ensure healthy lives and promote wellbeing for all at all ages. However, we have identified some key drivers providing high-impact investment opportunities: access to medicine, addressing unmet medical needs of vulnerable populations – including tropical and rare diseases – as well as research that responds to the biggest challenges of our times through impactful innovation.

Sustainability Opportunities

Access to Medicine

Access to Medicine (ATM) is a serious development challenge as it affects a substantial part of the population in most developing countries. According to the World Health Organisation (WHO), underfinancing results into scarce availability of medicines in public sector – on average ~35% (Figure 2) - forcing patients to either purchase medicines from the higher-priced private sector or forgo treatment altogether. In addition to developing countries, some low-income patients in developed countries may also have more limited access to some essential treatments when these are not covered by public spending.

Figure 2: Availability of a selected sample of medecines in private and public sector between 2001 and 2007 (percentage) – WHO survey

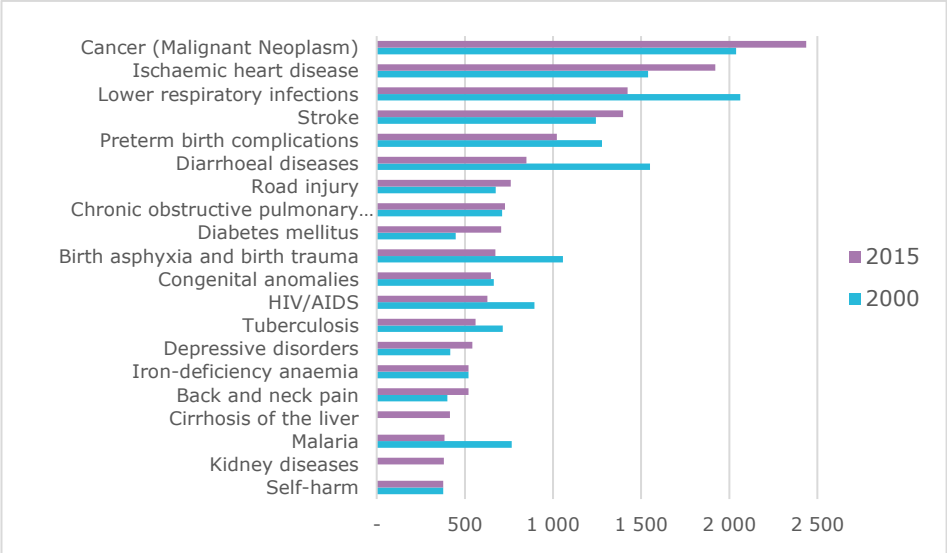


Source: Mirova / (WHO, s.d.)

Both the public and the private sector have a role to play in order to provide equitable and adequate access to essential medicines. As investors, we are primarily concerned with the role of the private sector.

A useful global indicator to understand the global health burden is the Disability-Adjusted Life Year (DALY), which measures a year lost of healthy life. For diseases with high DALY rates one can assume that a high percentage of the population either does not get treated (properly) or that these diseases affect an increasingly high number of people. As Figure 3 shows, some leading causes of DALY have seen an increased global incidence, while others that are primarily present in developing countries such as HIV, diahorreal diseases and lower respiratory infections show a remarkable decrease, although they still figure within the top 20 according to the WHO figure. Therefore, it is extremely important that access to medicine improves in least-developed countries, while also increasing research into tropical and endemic diseases that continue to claim lives among the most vulnerable populations.

Figure 3: 20 leading causes of Disability-Adjusted Life Year (DALY) globally (in million), 2000 vs 2015



Source: Mirova/ (WHO, Health statistics and information systems, 2017)

According to the Access to Medicine index[1], pharmaceutical companies can act on improving drug accessibility in developing countries in several ways, such as differentiated pricing strategies for lower-income patients; research and development (R&D); and intellectual property sharing mechanisms which allow for a broader target base. While the index fundamentally focuses on companies targeting five diseases that are highly relevant in this area[2], we believe that all medical product companies can increase their efforts towards enabling advanced access to medicines among low-income populations.

In addition, generic drugs, which are marketed after a branded drug's patent expires, can also contribute to increased access to medicines for low-income populations, particularly so in developing countries. Biosimilars, which are generic versions of existing complex biologic medicines whose patents have expired or are due to expire soon, bear the same potential social benefits but their regulatory framework is still fragmented.

We believe that access to medicine may have some financial implications to companies involved in the manufacturing and distribution of drugs through first-mover access to new markets and the need to broaden the customer base by also tapping into developing countries where low-income households represent a larger share of the population.

We expect companies to be significantly involved in providing equitable access to medicine in all markets of operation, especially in developing countries. Access to medicine should be embedded into the strategy of companies operating within the healthcare sector and form an integral part of their core values and profitability drivers. We thus expect medical product companies to adapt their drug prices to the purchasing power of consumers, particularly in least developed countries and also across different socio-economic segments. We also look at initiatives aimed at increasing research collaboration in developing countries; allowing early diagnosis of infants in third-world countries; and helping build local infrastructure for treatment.

1 The Access to Medicine Foundation is an international not for profit organisation dedicated to addressing global healthcare challenges, which publishes an annual Index that ranks pharmaceutical companies with respect to their effort to improve global access to medicine.
2 Lower respiratory infections, diabetes, hepatitis, HIV/AIDS and malaria

Finally, we regard highly companies that are involved in the marketing of generics (including biosimilars) in low-income countries, due to their positive impact on market access.

KEY INDICATORS

- Indicators of revenue (either forecasted or realised) from ATM strategies per country of operation;
- Transparent pricing policy highlighting strategy for differentiated pricing across the countries of operation and how these favour ATM.
- Percentage of product portfolio made up of generics and biosimilars sold in low-income countries.

Neglected Diseases

Another way medical product companies can provide a wider access to medicine is by targeting diseases where patients do not benefit from sufficient coverage. Among these there are neglected tropical and endemic diseases, where recent outbreaks in developing countries, such as the Zika virus in Latin America and Ebola in Central Africa, have recaptured attention. Such diseases are not yet addressed by current treatments and usually the healthcare sector is less involved due to lower profitability. In addition to such endemic diseases, other illnesses suffer from under-coverage such as rare diseases, i.e. those affecting very few patients around the world. Every country sets its threshold to categorise rare diseases; in the EU a rare disease affects fewer than 5 people in 10,000. These range from cystic fibrosis to syndromes such as the Opitz trigonocephaly affecting about one case per million people (Orpha.net, 2007). With such rare incidence, no country can afford offering treatment for the full spectrum of rare diseases, also due to the complexity of conducting research and clinical trials, where critical mass is needed. This is why many governmental and non-governmental associations of patients around the world play a pivotal role in promoting international collaboration to develop therapies for rare diseases. Private companies within the pharmaceutical and biotechnology sectors as well as those involved in the full medical research spectrum (e.g. clinical trials, diagnostics) can also play a pivotal role in fostering research and treatment of rare diseases. However, focus on these unmet medical needs requires intense coordination with governments, which reimburse a high share of the expensive treatments (generally over $100,000 per patient), as well as a closer approach with the patients and their representative associations. Therefore, companies involved in treatment of such illnesses need to be especially transparent about their pricing policies and abuse of market dominance (as there is generally little competition) and relationship management with patients and government officials.

We consider medical product companies that focus on rare diseases and unmet medical needs such as tropical and endemic diseases, as offering high value-added investment opportunities from a sustainability point of view by providing treatment to underserved patients.

KEY INDICATORS

- Indicators of revenue from rare diseases treatment or related service offering
- Investment (both Capex and R&D budget) dedicated to rare diseases

Impactful Innovation

Innovation is a key driver of growth for the pharmaceutical industry and medical product companies. By developing new treatments for known diseases, some forms of innovation have the potential to sensibly improve the health outcomes for patients. Within this context, the development of a personalised medicine approach, which aims at customising therapy

based on the genetic composition of each patient, allows for increased effectiveness of treatments and lower development costs and drug time (e.g. time that a treatment passes the research and regulatory burdens to be viable to patients). Such benefits, which contribute towards improving the quality of life of patients, prove to outweight the high costs involved in developing targeted treatments, although at present they are not yet available to a large share of the affected population.

While some drug developers and diagnostic manufacturers have recognised the potential economic opportunity of personalised medicines and have formed partnerships and increased spending in this field, the market for biomarkers (i.e. the proteins in the body that may signal the presence of disease activity) and molecular diagnostics are still at an early stage. Based on the same principles, immunoncology and genome medicine also present a transformative potential for the treatment of many diseases – primarily cancer and rare diseases - although further advances in medical research and cost-reductions are needed to move them to first-line treatment.

At the other end of the spectrum, innovation in the way known molecules are administered to patients both in terms of drug sumministration, indications and formulation (i.e. the so-called value-added medicine3), can address existing inefficiencies in the value chain and improve health outcomes without necessarily finding new treatments. For example low adherence to treatment of common respiratory diseases in developed countries such as asthma and chronic obstructive pulmonary disease (COPD) contributes to poor patient outcomes and high healthcare costs despite the availability of efficacious drugs (Medicines For Europe). Further innovation is also needed to address existing and potential global health threats such as antimicrobial resistance, which lowers the efficacy of existing antibiotic treatments for several diseases and medical procedures such as management of major surgeries, diabetes management and malaria, to name only a few. Within this context, there is increased research in point-of-care diagnostic technologies that allow the rapid, precise detection of infectious diseases, thus contributing towards a more selective and reduced use of antibiotics. However, further research is needed also in order to develop new drugs and therapies, while at the same time changing the way certain treatments are carried in various countries so as to reduce the spread of antimicrobial resistance.

Both the pharmaceutical industry as well as biotechnology companies can contribute to the advancement of personalised medicine and genome medicine. However, the prospect of personalised treatments being an integral part of disease prevention and management will depend on medical research progress and cost management. Thus research advancement remains key, and so does closer collaboration among companies, governments, clinical laboratories and universities. Such collaboration will also be indispensable in order to advance efforts towards the fight against antimicrobial resistance and other global health threats.

From a sustainable investment perspective, we favour investments in companies involved in the development of personalised medicines, genome medicine and more generally disruptive technologies that provide new treatments to known diseases with a significant improvement in patients' health outcomes, as well as value-added medicines that increase efficiencies and reduce the global health burden. We also find opportunities in companies providing products and/or advancing research aimed at fighting antimicrobial resistance and other similar global health challenges.

KEY INDICATORS

- Revenue from medicines and service offering related to personalised medicine and/or genome medicine and/or point-of-care diagnostics and other value-added medicines or diagnostics
- Investment (Capex and R&D budget) dedicated to personalised medicine, value-added medicine and/or technologies preventing antimicrobial resistance

3 http://www.medicinesforeurope.com/value-added-medicines/did-you-know/ 3

Exposure to Opportunities

	Indicators considered : % of revenue dedicated to providing effective access to medicine, personalised medicines, orphan drugs or endemic and tropical diseases treatments, value-added medicines and treatments % of revenues dedicated to providing generic medicines in low-income countries % of expenditure (both CapEx and R&D) dedicated to the above-mentioned opportunities Number of patients covered by a company's "access to medicine" strategy	
High exposure	Proven, significant involvement in any of the following areas, on the basis of the above-listed indicators, without threshold: • Access to medicine, • Neglected Diseases, • Impactful Innovation	The analysis of CapEx and R&D budget devoted to activities at high opportunity as well as the revenues generated by these activities will also be supported by qualitative indicators such as the presence of a clear strategy toward the development of such solutions.
Significant exposure	All other companies within the medical services sector that are involved in research and development of medical products intended for humans, including testing laboratories within the medical space. The medical conditions targeted by the companies are not discriminant for the rating.	
Low or no exposure	• Healthcare ancillary services (e.g. distribution, marketing, database management) despite a degree of specialisation for the health sector • Diversified Pharmaceutical and Life Science Services companies with >50% revenues in consumer products and/or chemicals	
Negative exposure	n/a	

Environmental and Social Risk

Product Safety

Product safety is an important issue for the healthcare industry overall, and especially for drug manufacturers. As with many issues related to the healthcare sector, regulation around drug safety differs across countries: not only the Food and Drug Administration (FDA) in the US and the European Medicines Agency in the European Union have different standards, but also within the Union, countries impose their own requirements. For the rest of the world, the WHO (World Health Organisation) has developed a version of Good Manufacturing Practice (GMP) indicators that are less stringent that the European and US ones. It is also worth noting that over the past decade, the pharmaceutical industry started to increase drug manufacturing outsourcing to contract manufacturing organisations (CMOs) often located in developing countries. In particular, China and India are the world's largest drug manufacturers, due to low costs and relatively well-established technical skills in the field. However, an increase in safety accidents with a few high-profile safety scandals prompted the US to issue the Drug Safety Enhancement Act (2011) to increase FDA-led inspections of foreign drug manufacturing sites.

Drug safety incidents range from contamination to mix-ups, deviations, as well as packaging and labelling errors, which represent the highest percentage of incidents. The roots of the incidents can be related to human error as well as to procedures and standards, thus we expect medical product companies to hold diligent control of the track record and quality management process of their CMOs. In addition, as suspicions around safety prompt drug recalls, both mandatory and voluntary, the increased safety scrutiny has led over time to an increase in product recall, which can result in drug shortages. In the US the number of drug shortages quadrupled from 2005 to 2011, which is why the FDA encourages use of dual sourcing (Société Générale, 2015). We therefore expect companies to differentiate their sourcing base so as to circumvent such risk.

We believe that product safety represents a material risk for companies and, ultimately, investors as it may lead to the suspencion or withdrawal of drug marketing licenses, substantive fines, reputational risks and, in some cases, share price drop.

We engage with medical product companies to show effective quality management systems that encompass periodical audits of their CMO partners, and encourage transparent reporting around the identified causes of product recalls. Additionally, we expect companies to show back-up plans for product recall and drug manufacturing plant suspension.

KEY INDICATORS

- Track record of product recall and, when available, classification of seriousness in the US (class I, II and III of FDA) and other nation-specific and international classifications of recall seriousness if available.
- CMOs audit mechanisms and transparency on results
- Quality certifications for product manufacturing

Marketing Practices

Marketing practices bear a considerable weight on the overall sustainability risk of companies within the healthcare sector. Although medical products can significantly improve people's quality of life, and thus create investment value-added from a sustainability perspective, such benefits may be counteracted by inappropriate business practices related to the commercialisation of treatments. We will address the issues surrounding marketing practices in more detail below:

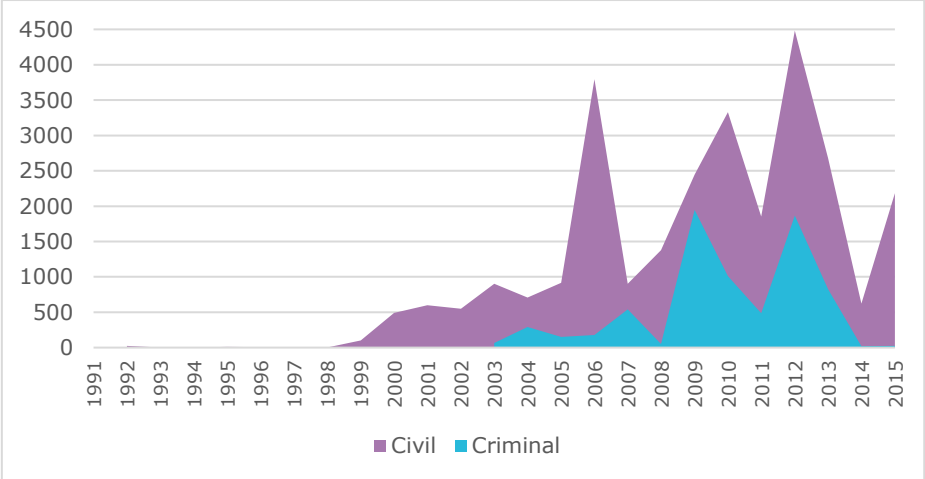
Product pricing: Marketing issues related to product pricing stem from unequal pricing policies across different markets for the same product, to business misconduct related to drug price manipulation and fraud. With regard to "fair" pricing, pricing regulation differs widely across countries, with the US being the only developed country that does not regulate prescription drug prices. Within this complex context, companies currently do not report their pricing policies across different markets, thus making it hard for stakeholders to evaluate the fairness of their approach. In an era of innovative but more expensive treatments, the challenge of balancing access and the cost of care is a focus for the healthcare system. Hence drug pricing will continue to be the centre of the debate for medical product companies.

With regard to drug price manipulation, cases have long been reported, especially in the US where prices are negotiated at the state level via intermediaries, usually the pharmacy benefits managers (PBMs). In the US, fraud usually consists of artificially manipulating the amount to be reimbursed to the Medicaid/Medicare systems. In addition, another form of price manipulation also consists of cartels (e.g. price fixing) of over the counter (OTC) drugs, where price regulation is less stringent across countries.

Off-label promotion consists of marketing drugs or treatments for use outside their approved indications. Although off-label use is accepted in most countries, off-label promotion is generally illegal unless information is specifically requested by practitioners. Due to lack of scientific evidence for non-approved product indications, off-label use can result in adverse health impacts with consequent charges for unlawful promotion. Numerous cases of off-label marketing, especially in psychiatry, have led to major fines and settlements over the past years.

Misrepresentation of drug performance and side effects: drug manufacturers involved in research and development of prescription drugs usually direct most of their marketing efforts towards third-party physicians that are responsible for prescribing drugs to patients. Within this context, companies make use of the results of their clinical trials to inform on the efficacy and potential side-effects related to their products. However, there have been cases where companies have failed to appropriately quantify serious health risks and, sometimes, this has led to very high adverse ruling or settlement costs. In addition, since the liberalisation on restrictions to broadcast advertising, the amount of Direct-to-Consumer advertising has increased in the US from $ 150M in 1993, to $4.7bn in 2007. Drug advertising, which is still banned in the EU and Japan, focuses primarily on lifestyle-related drugs and on those where consumers can influence physicians. Occasionally this has also led to lawsuits over alleged misleading advertisements to customers.

Figure 4: Pharmaceutical Industry Financial Penalties, 1991 – 2015: Civil vs. Criminal



Source: Mirova, (Public Citizen, 2016)

Together with product safety, issues related to improper marketing practices could lead to serious financial consequences for companies that fail to adopt appropriate practices across

their global operations. As Figure 4 shows, between 1991 and 2015 big pharmaceutical companies have accumulated over USD30 billion in settlements in the United States to resolve government allegations, according to Public Citizen, with a spike between 2012 and 2013. However, this represents less 5% of the largest pharmaceuticals' net profits over a similar period, according to the same source.

Although we appreciate that full transparency around a pricing strategy is a sensitive issue for pharmaceutical and medical product companies, we engage with companies to improve disclosure around pricing policies so as to improve market access. We also encourage improved transparency around the results of clinical trials. In addition, whenever companies have been involved in drug performance and side-effect misrepresentation, or off-label marketing, we seek for improved training of sales representatives and evidence of concrete steps taken to improve marketing practices.

We consider the incentivization of the sales force and other staff using business ethics indicators, the use of self-regulation codes and external certifications on marketing practices with audits of mechanism as key ways to reduce risks. In addition, we look at companies' track records to detect inadequate marketing practices.

KEY INDICATORS

- Training of sales representatives and general staff around responsible marketing
- Qualitative incentive policy for sales representatives, including business ethics indicators
- Average marketing spending vs R&D spending and comparison to industry peers
- Public policy on clinical trials and percentage of product portfolio fully disclosed on public databases with all associated results
- Use of the self-regulation codes on marketing practices such as the PhRMA Code in the US on interaction with healthcare professionals
- External certification of marketing practices and internal/external audit mechanisms
- Track record of involvement in litigations related to product liability and inappropriate marketing practices

Ethical R&D Practices

Research and development (R&D) is the core of pharmaceutical and medical product companies, as innovation is the most important growth driver within the sector. After a drug is discovered, companies need to undertake both pre-clinical tests on animals as well as clinical tests on humans (healthy volunteers) before seeking registration and marketing approval from healthcare authorities.

Pre-clinical trials: these trials are conducted on animals so as to determine the suitability of the new medical compound to become a drug and their safety for continued testing on humans. During this phase, the potential toxicity as well as the effectiveness of the new candidate drug is studied over an average period of two years. Although the actual effectiveness of animal tests is highly debated, no strict regulation banning the use of animals in pharmaceutical testing generally exists, and most of those currently in place in the medical field fail to provide sufficient protection to the animals. Therefore, pharmaceutical and medical product companies should commit to the three Rs (reduction, refinement, replacement) which entail the minimisation of experiments on animals whenever substitute tests are possible, the avoidance of animal suffering and a commitment towards finding alternatives to animal testing.

Clinical trials: once approved for safe testing on humans, new drug applications can pass through up to four clinical trials to determine safety and efficacy of treatment for the specific medical conditions that the drug is targeting. While no globally-unified standard exists yet around good practices in clinical trials, the WHO has published the Good Clinical Research Practice (GCP) guidelines in 2002 in order to identify and promote best-practice. Key aspects of the GCP guidelines include: the identification of a trial protocol that includes national

regulations, the development of written standard operating procedures, as well as monitoring and auditing procedures, both from the sponsoring company (drug developer) and the contract manufacturing organisations (CMOs). Selection of trial sites and experienced and qualified investigators is also of utmost importance, alongside the review of all studies by an independent ethics committee. Clinical studies have in the past been the cause of controversies surrounding the enrolment of subjects into the study. This is why obtaining written informed consent has become a best-practice standard. Clinical trials should also be conducted according to basic ethical principles, which have their origin in the Declaration of Helsinki, and impact the responsibility of each party in the process.

Transparency in clinical trials is not a requirement, but increasingly regarded as a best-practice in the industry: companies wishing to market a new drug application (NDA) for a specific use in humans need to undertake a series of safety tests: both pre-clinical (on animals) and, if these are successful, clinical trials on humans. Although the medical authorities have access to the full results of clinical trials when deciding on the approval of a drug, public disclosure of clinical trial results is generally not mandatory. Although a few initiatives and public databases exist (such as clinicaltrials.gov), disclosure around results, especially when these are negative, is still poor (around 20% of registered trials report the results). Such a lack of public information magnifies product liability risk (i.e. risk related to side effect minimisation) and also reduces the amount of information available to the scientific community, thus contributing to increasing overall healthcare research costs.

We encourage companies to display high standards of practice when conducting studies and tests both on animals and on individuals. While acknowledging that medical product companies today still rely heavily on pre-clinical trials on animals, we value companies developing alternative tests that do not exploit animals. We also expect companies to abide by the WHO's GCP guidelines and the Declaration of Helsinki and to be particularly demanding and vigilant toward their contract manufacturing organisations (CMOs) when externalising pre-clinical and clinical studies.

KEY INDICATORS

- Use of written protocol for conducting clinical studies according to the Helsinki Declaration as well as the GCP guidelines
- If studies are externalised, presence of an auditing and monitoring mechanism of the contracted external third-parties (i.e. the CMOs)
- Commitment to the use of the 3 Rs

Environmental Impact of Products

Medical product companies can have significant environmental impacts through drug manufacturing. In particular, industrial medical waste can cause severe water pollution and consequently profoundly impact local biodiversity. In addition, drug waste from pharmaceutical manufacturing processes contributes to increased antibiotic resistance, which constitutes a serious threat to global health.

As multinational pharmaceutical companies expand their manufacuring operations abroad, and notably in low-cost countries such as India and China, such risks have become a reality in some cities, where environmental pollution of river effluents has been observed (Larsson, de Pedro, & Paxeus, 2007). Villages located next to major drug manufacturing plants, such as those located in Hyderabad and Visakhapatnam areas in India have reported depleted fish stocks and health problems related to water pollution (Nordea, 2016). Worringly, such levels of contamination also raise concerns about antibiotic resistance development. Without supply-chain engagement and monitoring from multinational pharmaceutical companies, this problem is set to increase as the industry continues to grow. In addition, water contamination also happens on the other side of the value chain, through drug residues after use. This is an area where pharmaceutical and medical product companies still have a small margin of maneuver

to reduce the impacts of their products, but where further research is required as global access to healthcare treatments is set to increase.

On the other hand, the pharmaceutical sector depends heavily on biodiversity resources, which provide a rich and unique source of bioactive lead compounds, especially in the field of anti-cancer and anti-infective agents (i.e. about two-thirds of these agents are derived from natural products). The Convention on Biological Diversity (CBD) in 1992 marked a turning point in the industry, which before used to freely collect plant and microbial sources from around the world for research purposes. Through the CBD, countries maintain sovereignty over their genetic resources and may limit access to these. Hence, pharmaceutical companies, among other users of biological resources, need to pay greater attention to the laws surrounding biodiversity protection and share the benefits derived from their discoveries.

We expect companies to follow the principles of the Convention on Biological Diversity when using natural resources to obtain potential drugs, through publicly acknowledging and incorporating the principles into the company's bioprospecting practices. We also encourage companies to follow best-practices that go beyond local regulatory requirements when it comes to hazardous waste management

KEY INDICATORS

- Acknowledgement of Convention on Biological Diversity (CBD) and integration into procurement practices and training mechanisms of relevant personnel
- Use of best-practice standards of medical waste disposal
- Supply-chain environmental policy and audits
- Biodiversity conservation policy and strategy for use of natural resources
- Spending on resource protection and environmental performance improvement

Human Resources

Pharmaceutical and medical product companies rely on highly-skilled workers employed across various business areas, from research and development (R&D) through to sales operations. While employees in R&D are key to foster innovation and growth, those involved in commercial roles have a prominent role in driving the ethical conduct and reputation of the companies in the sector, though their marketing practices and ethical conduct.

In a sector that is exposed to a large number of ethical controversies where big pharmaceutical companies tend to pursue acquisitions strategies, thus integrating different companies and the related cultures, it is thus of particular importance that companies strive to infuse a corporate culture based on transparency and high ethical conduct. This in turn will contribute to retain talent and thus have a positive contribution towards medical research and innovation.

In addition, through external growth strategies, companies within this sector are often exposed to restructuring, which can affect large number of employees.

Faced with these risks, companies in this sector can put in place appropriate policies and mechanisms to incentivise employees that interact with physicians and patients to abide by strict ethical standards. These mechanisms can integrate qualitative targets within sales incentives (as opposed to aggressive quantitative targets only) and a larger sensibilisation of the workforce towards work ethics. In addition, We expect to see human resources policies aimed at controlling the age pyramid, supporting the development of employees' career paths and their employability, as well as encouraging social dialogue. Companies are encouraged to create optimal working conditions for the well-being of their employees. During restructuring, it is also important to ensure the quality of support (training, compensation, etc.). Transparent communication is also needed to assess performance.

KEY INDICATORS

- Remuneration schemes with incentives that include qualitative indicators
- Strong work ethics, reflected in internal recrutement and training processes, also via the use of an anonimous speak-up line managed by an independent committee and the creation of internal audit committees in charge of enforcing work ethics
- Restructuring: number of people concerned, share of beneficiaries of mitigation measures (early retirement, training and job-search assistance, compensatory measures, etc.)

Business Ethics

Besides ethics related to product marketing and clinical trials, which have been dealt with in the previous sections, medical product companies may engage in ethically questionable business practices that range from disease mongering (i.e. the selling of sickness) to highly fraudulent practices such as corruption of healthcare professionals or authorities to boost sales. We examine these practices in detail below.

Corruption: aside from drugs distributed over-the-counter (e.g. OTC drugs), medical product companies need to market their new drugs to third-party physicians, which increases corruption risk in the sector. Over the past years, international pharmaceutical companies have been systematically involved in high-end corruption scandals whereby their salesforces were systematically engaged in offering kickbacks to medical personnel in order to promote their products, especially in developing countries. Such issues have highlighted the need to change the way sales representatives are incentivised, with a shift towards a more qualitative approach. In addition, companies need to pay greater attention to training and monitoring of their sales representatives to their code of conduct. Another recurrent form of corruption that is increasingly scrutinised consists of unduly influencing healthcare professionals via entertainment, expensive gifts and luxurious travelling arrangements so as to favour a positive recommendation of the company's new drugs. In addition, sponsoring continued medical education may also lead to an informational bias and is thus increasingly regulated. Finally, distribution of drug samples to medical professionals is also seen as a form of corruption and often regulated.

Disease mongering: is the creation of the need for more drugs, which consists in increasing the scope of illnesses in order to expand the market of specific drug sales. This practice goes along with the creation of disease awareness campaigns and/or the development "lifestyle drugs" that address conditions that were not previously recognised as actual medical conditions. Some cases also involve misleading statistics about the actual prevalence of the "dysfunction". However, such practices are hard to identify and address, also due to scientific uncertainty or differing expert opinions around some conditions and their treatment.

Anti-competitive practices: generally drugs' patents expire after 20 years, allowing competitor companies the possibility to file for production and marketing of an equivalent product, marketed with a different brand name (a so-called generic medicine). Increased competition and expiry of several blockbuster drugs over the past years led some companies to engage in fraudulent practices so as to delay competitors' launch of generic equivalents. This practice consists of abusing government procedures so as to artificially delay the generic launch, or in some cases it involves "pay-for-delay" arrangements where competitors are paid to hold the launch of a generic product in some markets. These arrangements are generally prosecuted in the EU as anti-competitive practices, while in the US they are increasingly challenged but not yet deemed illegal.

Lobbying: although lobbying is perfectly legal in both the EU and the US, some practices are ethically questionable, especially when they are against the interest of consumer groups. For instance in the US the pharmaceutical industry, which is the second largest lobbying contributor, has focused a lot on safeguarding non-regulation of prices in order to prevent

Medicare from negotiating drug prices. Also, corporate inversion tax regulations are among the key areas of focus for pharmaceutical lobbying in recent times. Lobbying can also be carried indirectly via participation in trade associations. Despite the important role of lobbying in the sector, companies tend to display relatively poor reporting on their lobbying expenditure and spending linked to trade associations. In addition, fewer companies report a policy on lobbying with clearly stated objectives and how these align with the interests of stakeholders.

We expect companies to adopt strict codes of business ethics publicly available and applicable to all employees as well as contractors. We encourage companies to explicitly prohibit anti-competitive and unfair business practices. Oversight and monitoring of the implementation of such practices, as well as appropriate remuneration systems that incentivise good practice, are also recommended. In addition, we look for disclosure of a company's lobbying policy and objectives as well as its expenditures and list of supported trade associations. We also expect companies to put into place whistleblowing mechanisms available to all employees and third parties, and to have a third-party ombudsman. In cases of corruption fraud, we encourage a clawback bonus provision for both management and employees.

KEY INDICATORS

- Code of business ethics applicable to all employees, management and contractors, translated in local languages;
- Audit and monitoring systems of ethical business practices
- Incentivisation of employees in sales-related functions with qualitative criteria
- Clawback bonus provisions for both management and employees in presence of corruption fraud
- Whistleblowing mechanisms applicable to all employees and third-parties and presence of a third-party ombudsman

Sustainable Development Governance

Companies within the medical service sector should integrate the management of social and ethical business issues at the Board-level so as to bring them into the heart of their business strategies: access to medicine, anti-corruption, ethics in research and marketing standards are issues that require concerted effort for companies with global reach and a multitude of stakeholders such as medical product companies. To this regard, we expect companies to integrate key corporate social responsibility (CSR) criteria within the remuneration of their employees with managerial responsibilities, as well as the top management and the executives of the Board. In particular, we expect variable compensation of sales-based representatives to be based less on purely quantitative criteria and increasingly more on qualitative criteria so as to encourage the use of ethical business practices in marketing to healthcare professionals worldwide.

Due to the importance of such issues, companies should also have board representatives with extensive experience in key sustainability issues for the sector, and also when necessary set up a sustainability committee to the board with oversight of environmental and social risks, including business ethics, so as to inform the board of its decision-making.

In addition, business ethics plays a pivotal role in the pharmaceutical sector, due to the sector's value-added role in society through medical innovation. Among the key business ethics challenges that the sector faces, as we described above, there are: unfair product pricing, off-label marketing, kickbacks, disease mongering, anti-competitive practices, transparency and ethics in clinical trials, lobbying, and misrepresentation of drug performance and side-effects.

We encourage companies to set up stretching sustainability targets and reflect these in the variable remuneration of top management and employees with managerial responsibilities so as to incorporate sustainability into business performance. We also

look for proactive participation of the Board in such matters via ad hoc sustainability committees that provide periodical oversight to the Board and the appointment of Directors with expertise in sustainability, including anti-corruption. We also press for transparency around lobbying activities and trade association sponsorship.

KEY INDICATORS

- Presence of sustainability performance indicators and targets within the annual reports
- Presence of measurable CSR criteria within the variable remuneration of the executive Board members and employees with managerial responsibilities
- Presence of qualitative criteria within the remuneration of sales representatives aimed at reducing kickback practices

Risk Assessment

	Criteria
Positive	Not fulfilling the criteria that move the opinion to « risk » AND - Absence of severe and recurrent controversies AND appropriate management of operational H&S topics AND appropriate management of human right issues and human resources issues AND appropriate environmental risk-management
Neutral	All other cases
Risk	- Response of the company to repeated ethical controversies deemed inadequate or inappropriate OR - Inappropriate management of operational H&S topics OR - Inappropriate management of human right issues and human resources issues OR - Inappropriate environmental risk-management

Conclusion

Pharmaceutical and medical product companies can address the Sustainable Development Goal 3 through their involvement in addressing unmet medical needs that improve health outcomes. However, only companies that demonstrate a clear involvement in fostering access to medicines, tackling rare diseases and accelerating the transition towards impactful innovation by tackling global health challenges will be rated “high”. In addition, companies will have to demonstrate superior management of the sustainability and business ethics risks with which the sector is riddled: product safety, anti-corruption measures and fair business practices are particularly important to determine the suitability of companies to investment. We also expect companies to show increased transparency around lobbying expenditures, trade association and pricing policies in order to meet best-practice. However well-positioned from a sustainability opportunity standpoint, companies that are recurrently involved in malpractice allegations and controversies and with poor risk management systems will not be eligible for investment without a concerted effort to improve business practices and transparency. We will thus continuously engage with companies to ensure adoption of best-practices and periodically evaluate our investment decisions.

Our Approach to sustainability assessment

Acting as a responsible investor requires interpreting the economic world within its social and environmental context. This approach calls for understanding the interactions between different private-public players, small-medium-large companies, developed and developing economies to ensure that each player's growth is consistent with the balance of the rest of the system. It is a long-term approach that guarantees that today's choices will not lead to negative consequences for future generations. Understanding these complex relationships demands:

- Clear understanding of sustainable development issues facing our societies,
- Assessing the possible interactions between the assets of our investment strategies and these sustainability issues.

The SDGs as a Guide

Following the Millennium Development Goals created in 2000, the United Nations set out a new framework for sustainable development in 2015. It contains 17 Sustainable Development Goals (SDGs), broken down into 169 specific targets designed to address the main social and environmental issues between 2015 and 2030. In addition to having been adopted by all members of the United Nations, the SGDs offer several advantages.

First, they establish a comprehensive framework concerning environmental and social issues, applicable to all economies regardless of their level of development. Thus, while some issues such as ending hunger or ensuring access to water for all are often more relevant for low- and middle-income countries, other objectives such as fighting climate change or making cities safe, resilient and sustainable, are applicable at all levels of development.

Moreover, the SDGs can be considered as a frame of reference for sustainable development issues for a variety of actors, from governments to companies and investors. The private sphere is increasingly considering environmental and social issues, illustrating new forms of governance where subjects of general interest are no longer solely the prerogative of the public sphere. Considering the SDGs can help companies to think on how they create environmental, economic, and social value.

Finally, the SDGs help investors to question the long-term resilience of their assets and portfolios to the ongoing transformations. Then, investors can go even further by looking at their exposure to new solutions and economic models that will respond to long-term economic transformations. For example, the targets associated with the SDGs to significantly increase the share of renewable energy and to double energy efficiency by 2030 imply a profound transformation within the energy sector.

We consider the SDGs squarely in line with our mission. As a result, in 2016, Mirova decided to use this framework to define its responsible investment approach.

Figure 5: The 17 Sustainable Development Goals

	End poverty in all its forms everywhere		Reduce inequalities within and among countries
	End hunger, achieve food security and improved nutrition and promote sustainable agriculture		Make cities and human settlements inclusive, safe, resilient and sustainable
	Ensure healthy lives and promote well-being for all at all ages		Ensure sustainable consumption and production patterns
	Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all		Take urgent measures to combat climate change and its impacts
	Achieve gender equality and empower all women and girls		Conserve and sustainably use the oceans, seas and marine resources for sustainable development
	Ensure availability and sustainable management of water and sanitation for all		Protect, restore and promote sustainable use of territorial ecosystems, sustainably manage forests, combat desertification, and halt and reverse land degradation and halt biodiversity loss
	Ensure access to affordable, reliable, sustainable and modern energy for all		Promote peaceful and inclusive societies for sustainable development, provide access to justice for all and build effective, accountable and inclusive institutions at all levels
	Promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all		Strengthen the means of implementation and revitalize the global partnership for sustainable development
	Build resilient infrastructure, promote inclusive and sustainable industrialization and foster innovation		

Source: United Nations

Assessing Environmental and Social Quality by the SDGs

We believe that the SDGs will transform the economy as we know it. Acting as a responsible investor starts with taking a broader view of the way investors think about the environmental and social profile of the assets they finance. These interactions can be grouped into two categories:

- **Materiality**: how the current transitions are likely to affect the economic models of the assets financed either positively or negatively.
- **Impact:** how investors can play a role in the emergence of a more sustainable economy

We believe that these two approaches are closely linked. Our evaluation methodology thus seeks to capture the extent to which each asset contributes to the SDGs. From our perspective, this approach provides a relevant vision on both the “Materiality” and “Impact” aspects.

A Five-level Qualitative Analysis

Mirova has based its environmental and social evaluation method on four principles:

A RISK/OPPORTUNITY APPROACH

Achieving the SDGs requires taking two different dimensions into account that often go together.

- Capturing opportunities: when companies center their strategies on innovative business models and technologies focused on technological and societal transformation, they can often capture opportunities related to the SDGs.
- Managing risks: by proactively managing risks related to these transitions, companies can reduce and re-internalize their social and environmental externalities, which often takes the form of general management of sustainability issues.

This analysis structure gives equal importance to opportunities and risks. It is the first prism through which we analyze sustainable development issues.

A LIFE-CYCLE VISION

To identify the issues that could impact an asset, the analysis of environmental and social issues must consider the entire life cycle of products and services, from raw material extraction to end-of-life phase.

TARGETED AND DIFFERENTIATED ISSUES

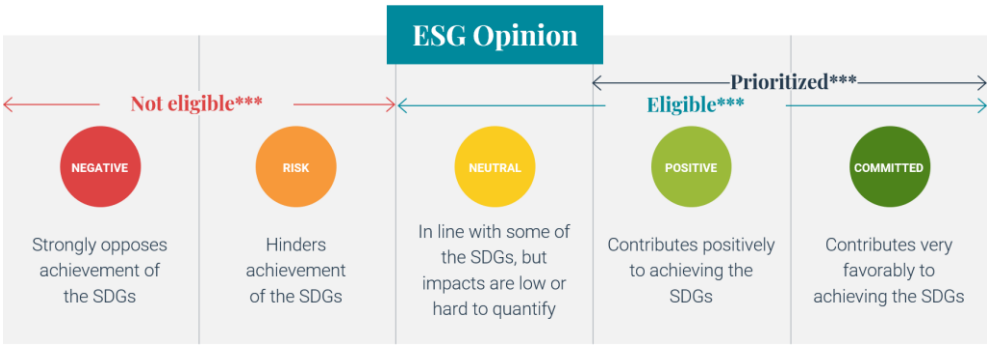
Our risk/opportunity analysis focuses on the elements most likely to have a real impact on the assets studied and on society in general. Additionally, the issues that economic players face

are very different depending on the sector, and can even vary within the same sector[4]. For example, it is important for us to focus on work conditions for suppliers in the textile industry, while for automobile manufacturers, the focus will be more on energy consumption during product use.

So, our analysis focuses on a limited number of issues adapted to the specificities of each asset.

A QUALITATIVE RATING SCALE

Our analyses are summarized through an overall qualitative opinion on five levels. This opinion assesses to what extent an asset contributes to the SDGs.



***[5]

This rating scale is based on the SDGs and their achievement. As a result, opinions are not assigned based on a distribution set in advance: we are not grading on a curve overall or by sector. Mirova does not exclude any industry on principle, and carries out a thorough analysis of the environmental and social impacts of any asset. For some sectors, this analysis may lead to the exclusion of all or some of its actors. For example, companies involved in fossil fuel extraction are considered “Risk” at best, while renewable energy companies are generally well rated.

An indicative grid provides some overall guidelines regarding the links between opportunities, risks and the overall sustainability opinion.

Sustainability Risks Review					
	Positive	Risk	Positive	Positive / Committed	Committed
	Neutral	Negative / Risk	Neutral	Neutral / Positive	Positive / Committed
	Risk	Negative	Negative / Risk	Risk	Risk
		Negative	Low or no	Significant	High
		Sustainability Opportunities Exposure			

4 For every sector, defining key issues is the subject of a specific study. This document is available on Mirova *website.* https://www.mirova.com/fr/recherche/comprendre#vision

5 *** For Mirova’s investments

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