Degree Program in Corporate Finance

Course of Financial Statement Analysis

Assessing ESG in emerging economies

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To one of the bravest Nations in the world

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INTRODUCTION

My generation is living in a period when we cannot ignore some important issues anymore, environmental and social especially. Were some of these problems present when our parents and grandparents were young? Yes, of course. However, a lot of things have changed during last years. Globalization (and after the Covid-19 pandemic quite a reverse trend), migration problems, more attention paid to work-life balance especially among the millennials, economic transformations and crisis (like the 2008 Financial crisis), climate change and its visible negative effects, higher life expectancy, (but increasing rate of illnesses like cancer or diabetes), information technology revolution with all its pros and cons, increased access to information regarding poor working and living conditions in the developing world, more importance given to women's rights, (at least in the developed world, even if a lot still needs to be done), the global pandemic, the current terrible and horrifying war… Is there something common among all these events? In my opinion, yes, there is. Since the modern world is corporate-based, the business world cannot ignore problems that humanity is facing today. In the 1970s the predominant opinion was different: the main (if not only) objective of corporations was to create high profits and distribute them to their shareholders. Nowadays, it is not enough anymore. Apart from choosing to perform activities that lead to high profits, they have a moral duty to participate in tackling the problems I have mentioned, as well as a lot more, especially before it becomes too late…

Many businesses are starting to recognize it and take significant action. There is a growing realization that corporate management must prioritize respect for people and things over only the caliber of the goods and services they produce. Society is becoming more and more aware of the ESG issues every day: investors, banks, rating agencies. Indeed, all they are incorporating non-financial data about companies they have to deal with in their decision-making process. Very often, when we think about ESG, we think about Europe, or maybe the USA. However, emerging countries are also extremely important from this point of view. Indeed, more growth often leads to more pollution and other climate-related issues, less

natural resources availability, an increased portion of pension-age population, and so on.

I questioned how developing countries perform in terms of ESG and ESG reporting, compared to the developed world. I chose to analyze China, because it is the second largest world economy ($17.7 trillion GDP, 2021)[1] and is significantly growing (+8.45% GDP growth, 2021 vs 2022)[2], but still considered a developing country. I chose to compare its performance to the main representative of the developed world, the USA, given its economic importance on the global level ($23.32 trillion, 2021)[3] and the number of its corporations.

In conclusion, I would say, the only certain thing we know today is that the so-called Shareholder theory alone does not make sense anymore: there are many other objectives to take into consideration nowadays, and this regards also (if not especially) developing countries.

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[1] GDP (current US$) - China. World Bank Open Data.
[2] China: GDP growth rate 2028. Statista. (2023, April 12).
[3] GDP (current US$) - united states. World Bank Open Data.

CHAPTER 1: ESG OVERVIEW

1.1 Literature overview

Although the ESG concept is quite new, the related issues are not, and academic literature began to treat this topic decades ago. Therefore, it may be a good idea to analyze[4] some important theories that have been developed in order to explain the issues regarding the relationship between companies and their stakeholders, including shareholders. Indeed, ESG issues are normally related to the interests of different stakeholders of a company.

1.1.1 Shareholder Theory

A shareholder can be defined as an entity (or an individual) that owns shares of a firm, meaning that he or she has invested some of his or her money into a company's equity. They differ from the directors who oversee the company's daily operations. Shareholders often aim to achieve capital gains through an increase in the value of their shares as well as a share of the company's income profits. They take part in general meetings where decisions are made on specific business issues[5].

In 1970, New York Times published an essay written by Milton Friedman[6]. According to his theory[7], *"the main responsibility of a business is to maximize its revenues and increase returns to shareholders"*. Basically, shareholders should be able to make key decisions regarding the company, such as social initiatives, and not company's directors, on their behalf. The economist stated that a CEO is like being an *"employee of the shareholders and he or she must act in their interest",* thus giving them the highest return possible.

Essentially, according to this theory[8], the primary goal for any business entity should be to increase its profitability since that is what the shareholders are interested in. When allocating financial resources, those activities that are not strictly relevant to maximizing shareholder value should not be given priority. Profit maximization is more important compared to the needs of other company's stakeholders. Since

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[4] Johannes Distler. "Acquisitions by Emerging Multinational Companies", *Springer Science and Business Media LLC*, 2018
[5] *Shareholder definition: Legal glossary*. LexisNexis.
[6] Posner, E. (2019, August 22). Milton Friedman was wrong. The Atlantic.
[7] What is the friedman doctrine?.The Beautiful Truth. (2021, September 9).
[8] Friedman doctrine. Corporate Finance Institute. (2022, December 6).

shareholders are a corporation's true owners, managers and boards must put shareholders' interests first by safeguarding and expanding the company's assets. This theory claims that the value of shareholders' investment (equity given to the company) can be assessed based on the two measurable indicators of dividends and stock price. As a result, corporate management must take actions that make dividends and share price grow as much as possible[9].

The Origins of Shareholder Value Theory

In those years (late eighteenth century) countries like USA required significant investments in order to finance innovative manufacturing businesses. Indeed, that period saw a translation from traditional small, run by single families to big public companies whose shares were spread across several shareholders and that were run by professional managers.

The academic world calls this change in corporate governance Managerialism. One of its main characteristics was the primary focus on shareholder value maximization. Since this debate began in the USA, it makes sense on concentrating on this country in the first place. During the 1970s American companies faced competition from other countries and as a result, numerous American corporates saw a decline in their share price. Consequently, the debate during the 1980s-1990s concerned the performance of management of those companies and their duty towards shareholders regarding the creation of shareholder value. In this regard, Agency theory tried to explain the relationship between management and shareholders, taking insights from human psychology studies. This theory states that the main reason for underperformance was the intrinsic tendency of people to be, in general, quite egoistic. Therefore, since directors are humans like everybody else, they were believed to be tempted to make decisions that would be beneficial for themselves and not for shareholders.

This debate led to a belief in shareholder wealth maximization as the main objective of corporations: a very simple, but potentially effective way to run companies.

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[9] O'Connell M., Ward A.M. (2020) Shareholder Theory/Shareholder Value. In: Idowu S., Schmidpeter R., Capaldi N., Zu L., Del Baldo M., Abreu R. (eds) Encyclopedia of Sustainable Management. Springer, Cham. Online ISBN:978-3-030-02006-4 doi:10.1007/978-3-030-02006-4

Directors agreed to follow this approach, especially for two reasons. First, in their view, focusing on only one goal, corporates would avoid being the target of a takeover bid (which often led to a replacement of the current management). As a matter of fact, mergers were very common in the 1980s. Another reason why managers were glad to respect the shareholder value maximization approach was the fact that it envisaged alignment of managers' and shareholders' goals, thanks to managers' incentives. Indeed, linking a part of managers' pay to share price increases was seen as a very effective way to incentivize directors to perform well in terms of company profitability. We should not forget, however, that this strategy resulted in rewarding particularly short-term success to the detriment of long-term investors and other stakeholders concerned with the company's sustainability[10].

So far, we nominated the business model transition towards big public corporates and loss of competitiveness of US corporates to other countries.
Another characteristic of the 1980s was extensive financialization, when financial institutions became substantial corporate investors. It is well known that their main investment objective is wealth maximization. It means banks or other financial institutions were demanding the highest possible returns from the corporates they invested into. In case high returns were not achieved, there was a substantial risk for a company to be taken over or even broken up. As a result, corporate management began placing a higher priority on efficiency, namely cost-cutting, divesting, outsourcing, and offshoring in order to satisfy the market's expectations for profitability[10].

We cannot also forget the fact that information technology improved significantly between the 1980s and 1990s. There were suddenly more potential investors and more market liquidity as a result of the instant ease of access to business information. This means also that more investors who were focused only a short-term share gain began to invest and liquidate their shares whenever they were able to get high returns, sometimes to the detriment of long-term corporate sustainability.

[10] O'Connell M., Ward A.M. (2020) Shareholder Theory/Shareholder Value. In: Idowu S., Schmidpeter R., Capaldi N., Zu L., Del Baldo M., Abreu R. (eds) Encyclopedia of Sustainable Management. Springer, Cham. Online ISBN:978-3-030-02006-4 doi:10.1007/978-3-030-02006-4

1.1.2. Shareholder Theory: Pros and Limits

Pros

Friedman's theory gained popularity in part because it appeared to safeguard firms from morally challenging decisions and shield them from criticism from the public for as long as they generated profits[11].

In addition, among others, the economists cite the following reasons for popularity of this theory especially in the past decades.

Agency theory: Directors are required by contract to give shareholder value maximization precedence above other stakeholder interests[12]. Shareholders, who are a company's actual owners but are external to it, are unable to manage it. In order to safeguard their interests and manage the corporation on their behalf, shareholders therefore employ agents (boards), who should focus only on maximizing dividend returns for shareholders. The adoption of several goals for diverse stakeholder categories, in Friedman's opinion, may lead to managerial errors and hamper the increase in shareholder value.

Residual claims: to function, any company needs initial investments, and usually these funds are provided by shareholders. Nonetheless, shareholders are the ultimate claimants in case a company must wind up, therefore they will get their money back only after other categories of stakeholders, like suppliers and employees. Basically, they can have the right only to receive the residual value of the company once the other claimants are satisfied according to their contractual (fixed) agreements. Therefore, compared to other stakeholders, shareholders face greater risks than other stakeholders. Since all decisions of the board will influence the residual value for shareholders and they would be subject to major losses in case of insolvency,

[11] Posner, E. (2019, August 22). Milton Friedman was wrong. The Atlantic.
[12] O'Connell M., Ward A.M. (2020) Shareholder Theory/Shareholder Value. In: Idowu S., Schmidpeter R., Capaldi N., Zu L., Del Baldo M., Abreu R. (eds) Encyclopedia of Sustainable Management. Springer, Cham. Online ISBN:978-3-030-02006-4 doi:10.1007/978-3-030-02006-4

directors' main goal should be to focus on maximization of shareholders' long-term wealth.

Congruence with social wealth: according to this argument, shareholder value maximization leads to creating more value for society in general. Specifically, by focusing on shareholder wealth maximization, other stakeholders also receive multiple benefits. Some examples provided by the literature are the following.

a) Managers may choose to enhance customer service or offer a bigger selection of products in order to satisfy as many customers as possible in order to grow sales. This may lead to a higher increase in revenues compared to costs, and thus to higher profits, therefore to maximization of value for shareholders. At the same time, customers will also be satisfied, having more products available and higher quality products purchased.

b) In order to reduce employee turnover, managers may decide to provide more staff training, better work-life balance policies, and so on. This would lead to increased productivity and fewer costs for the company, and thus to higher profits, but of course, also to more employee satisfaction.

c) We also need to take into account the fact that a sizable portion of the public participates in stock markets, particularly in industrialized economies. This means that when we talk about shareholders, we should remember that they can be represented also by the employees of the same company (who directly buy the company's shares or invest in them indirectly for example through pension funds). Therefore, by maximizing shareholders' value, companies would create benefits for multiple categories of stakeholders. Politicians in many nations do, in fact, pay close attention to the stock market's performance in order to demonstrate the beneficial quantifiable effects of their policies.

Limits of Shareholder Theory

Michael Porter declared in 1992 that a concentration on maximizing shareholder value leads to economic instability and insecurity[13].

[13] O'Connell M., Ward A.M. (2020) Shareholder Theory/Shareholder Value. In: Idowu S., Schmidpeter R., Capaldi N., Zu L., Del Baldo M., Abreu R. (eds) Encyclopedia of Sustainable Management. Springer, Cham. Online ISBN:978-3-030-02006-4 doi:10.1007/978-3-030-02006-4

In 2015, Clarke asserted that corporate scandals like those involving Enron and WorldCom at the beginning of 2000s and the careless behaviour that contributed to the 2008 global financial crisis were mostly caused by the continuous pursuit of shareholder value. The fact that government bailouts of banking businesses during that time had to be paid for with taxpayer money shows that a relentless pursuit of maximizing shareholder wealth not only harms shareholders but also society overall. The main critiques to Friedman's theory are the following.

Agency theory: As we stated above, according to Agency theory, directors may sometimes pursue their own interests at the expense of shareholders and thus may put at risk the long-term sustainability of a corporation. This theory thus argues that by controlling directors' behaviour and by aligning their interests with those of shareholders, e.g. through the issuance of share options etc., the maximization of profits should be maximized. Nonetheless, we can find different opinions in literature regarding whether common ways to face agency problem actually benefit shareholders. Some empirical examples are Nortel (the issuance of share options has not prevented directors' dysfunctional decision-making) and Enron (a corporate failure case notwithstanding positive auditors' reports)[13].

Residual claims: we shouldn't consider shareholders as the only stakeholders who do not have the right to a secure return from a corporation they invest into. Indeed, we can consider also for example taxpayers and employees.
Taxpayers, through government agencies, may give grants or subsidies to companies. Thanks to the activity of a corporation, which functions thanks to these grants, society receives tax payments in return.
Employees, on the other hand, invest in "corporation-specific" human capital or for example work overtime hoping that this will increase the company's value and will guarantee its future success. Particularly, highly specialized or older workers have limited possibilities to find another job and there is a bigger possibility of losing future returns (wages). Furthermore, they find it more difficult to diversify their investments than shareholders do, who can do so at any time. For employees or taxpayer investments, this is more difficult.

In conclusion, we can argue that other stakeholders, like taxpayers and employees, also incur big risks, making shareholders not the only ones who do so. In fact, when a corporation fails, their loss may even be greater than the losses of the shareholders[14].

Congruence with social wealth[14]*:* Pargendler affirmed in 2016 that maximization of shareholder value and social benefits are not significantly correlated, since just the small most well-off part of population usually owns the majority of the corporates' shares, compared to the majority of the population which hold just a small amount. This indicates that share price increases benefit mainly a few shareholders, and not society overall. Therefore, the interests of shareholders and of society in general do not overlap significantly.

1.1.3 Negative and Positive Externalities

Before talking about Stakeholder theory, it may be useful to explain the concept of externalities, in terms of external harm and benefits corporates are able to create due to their activities. Indeed, another critique against Friedman's theory is that if businesses must care only about their shareholder's wealth accumulation, why should they take into consideration pollution or other types of harm their activities produce?

Negative externalities

They are considered a type of market failure. It is a problem resulting in an outcome that does not optimize efficiency in the market economy. Negative externalities, or repercussions that no one pays for, frequently affect goods of all kinds, but especially environmental goods. They can arise originate from production or from consumption.

When a company's production lowers the well-being of people who are not paid by the firm, this is referred to as a negative **production** externality. Because of this,

[14] O'Connell M., Ward A.M. (2020) Shareholder Theory/Shareholder Value. In: Idowu S., Schmidpeter R., Capaldi N., Zu L., Del Baldo M., Abreu R. (eds) Encyclopedia of Sustainable Management. Springer, Cham. Online ISBN:978-3-030-02006-4 doi:10.1007/978-3-030-02006-4

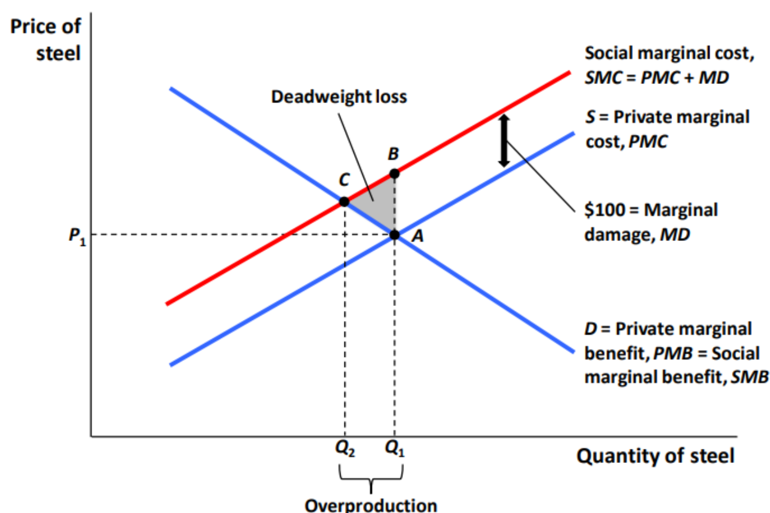
companies produce greater quantities of goods (with undesirable externalities) than is necessary.

We may talk about the distinction between private marginal cost and social marginal cost in more formal terms.

We call the direct price that producers pay to produce their goods[15] *private marginal cost* and additional costs associated with the production of the good that are not paid by the producers, but by other individuals, *marginal damage*. Then the *social marginal costs* are the sum of these two variables. In the case of a negative externality, the *social marginal cost* is higher than the *private marginal costs*.

A good example would be a steel plant that pollutes a river but is not subject to any environmental regulations, so the steel manufacturing company overlooks the pollution when determining how much to produce. Indeed, it produces too much steel, compared to what would be socially desirable, given the costs sustained by society, but not paid by the company. Producers often tend to not consider the negative externalities costs in their decisions.

Negative externality



Source: Gruber, J. (2010). *In Public finance and public policy.* Worth Publishers.

When a person's or a company's **consumption** lowers the well-being of others who are not paid by that person or company, negative consumption externalities are present[15].

[15] Lecture 7: Externalities - scholars at Harvard.

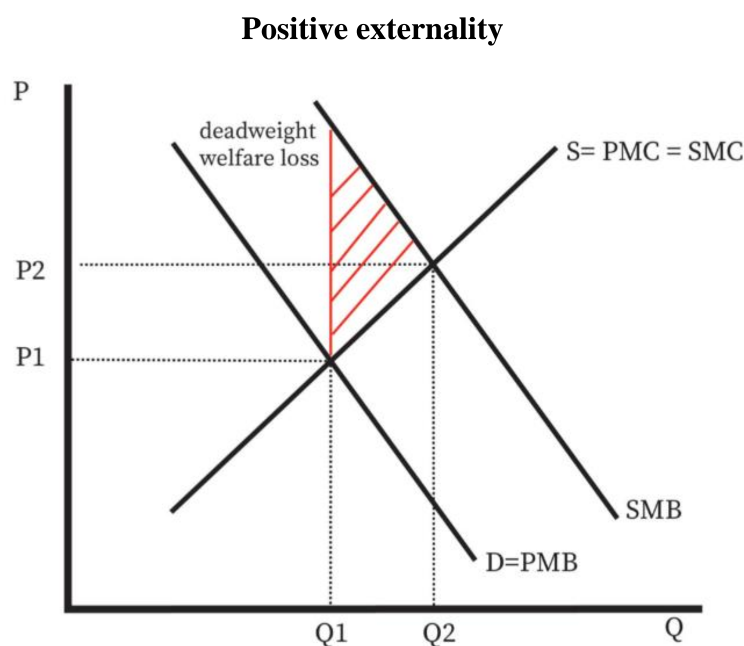
The most common ways employed by policymakers to prevent or decrease negative externalities are 1) *Price policy*: which represents tax per every additional unit of good produced that is not socially desirable. 2) *Quantity regulation*: which makes companies decrease their production levels to the ones that are socially acceptable.

Positive externalities[16]

Positive production externality is created when benefit caused by an economic actor is not enjoyed by that same actor. It happens when a company's output enhances people's well-being without being paid for it.

Example: Research and Development

Positive externality



Source: Bartleby

In this case, a social minimum quality (Q2) is greater than the competitive market equilibrium quantity (Q1), and the *social marginal cost* is lower than the *private marginal cost*. The socially favourable production would be higher than it actually is and there is some deadweight welfare loss.

In a case like this, a government might intervene by subsidizing the production of that good, that is underproduced by the market[17].

[16] Lecture 7: Externalities - scholars at Harvard.

[17] Federal Reserve Bank of St. Louis. (2023, April 25). Externalities - the economic lowdown podcast series. Saint Louis Fed Eagle.

Indeed, while positive externalities lead to underproduction, negative externalities lead to overproduction.

Enlightened Shareholder Value[18]

Shareholder value theory assumes that dividends and share price increases represent a single uniform measure of shareholder value, and the only objective shareholders are interested in are their financial returns. However, further empirical studies claimed that this may not represent properly the reality. Indeed, in the 1970s activist shareholders began to pay more attention to social issues during annual general meetings. This means they were not interested only in the financial returns of companies they invested into anymore. Moreover, different countries' jurisdictions started to oblige boards to carry out the responsibility to other stakeholders, other than shareholders, like employees and suppliers. In many countries investors claimed that even though the primary duty to shareholders remains the most important, it does not mean that the company should not act also on sustainability issues. Literature calls this idea "enlightened shareholder value approach". Even though it still maintains as the main goal maximization of shareholder value, it also considers as important long-term value creation and the interests of various stakeholders. Indeed, if stakeholder interests are considered important to maximize shareholder long-term wealth, boards have to take them into account. For example, boards should not make decisions that would create harm to employees or the environment. Other stakeholders are not given priority over stockholders in this approach. However, it makes the case that if a board addresses the long-term survival of a company by taking into consideration the interests of other stakeholders, shareholders can also profit financially. According to multiple studies, maximization and sustainability can and should be complementary in order to keep a corporate successful.

Obviously, Policy makers are also in favour of this approach. Indeed, regulators around the world are constantly increasing legal requirements on corporates

[18] O'Connell M., Ward A.M. (2020) Shareholder Theory/Shareholder Value. In: Idowu S., Schmidpeter R., Capaldi N., Zu L., Del Baldo M., Abreu R. (eds) Encyclopedia of Sustainable Management. Springer, Cham. Online ISBN:978-3-030-02006-4 doi:10.1007/978-3-030-02006-4

regarding disclosure of their social and environmental activities, issues, goals. We can think for example about European Union Directives, but also Stock Exchanges are moving in this direction. The statements regarding corporates' non-financial information are usually required to describe their environmental practices, how they treat their employees, whether they respect human rights, and if provide enough diversity and inclusion, how they deal with corruption, and so on[19].

Rethinking is also in line with the Also a growing number of institutional investors are reconsidering the shareholder theory and take into account sustainability issues when have to decide where to put their cash. Even Michael Jensen, a fervent advocate of agency theory, acknowledged that managers must take into account all company stakeholders in order to maximize value. (Jensen 2002)[20].

1.1.4 Stakeholder theory

It was first proposed by Freeman in 1984[21]. He affirmed that *"business organizations should be concerned about the interests of other stakeholders different from shareholders when making strategic decisions, given the increasing complexity of business operations already in those years"*. Freeman was the first researcher who gave great importance to other types of stakeholders, different from shareholders, such as clients, employees, and suppliers, local community, environmentalist organizations, government authorities[22].

Through the following years this theory increased in importance among researchers. As other theories, it also has been subject to critiques over the years, creating a vivid academic debate. It became clear over time that companies that consider also the needs of their stakeholders perform better financially, despite the fact that several scholars attempted to dismiss or ignore stakeholder theory over the past few decades

[19] Non-financial reporting directive (NFRD) - directive 2014/95/EU and the proposal for a corporate sustainability reporting directive (Csrd). Non-Financial Reporting Directive (NFRD) - Directive 2014/95/EU and the proposal for a Corporate Sustainability Reporting Directive (CSRD) | Green Finance Platform.

[20] O'Connell M., Ward A.M. (2020) Shareholder Theory/Shareholder Value. In: Idowu S., Schmidpeter R., Capaldi N., Zu L., Del Baldo M., Abreu R. (eds) Encyclopedia of Sustainable Management. Springer, Cham. Online ISBN:978-3-030-02006-4 doi:10.1007/978-3-030-02006-4

[21] "Contemporary Economic Issues in Asian Countries: Proceeding of CEIAC 2022, Volume 2", Springer Science and Business Media LLC, 2023

[22] Wagner Mainardes, E., Alves, H. and Raposo, M. (2011), "Stakeholder theory: issues to resolve", Management Decision, Vol. 49 No. 2, pp. 226-252. https://doi.org/10.1108/00251741111109133

because they believed it would divert managers from the primary goal of maximizing shareholder value[23].

Even though the term "stakeholder" is widely used in the business world, media, academic world etc., there is no a single agreed definition. However, the prevalent idea is the following: companies should take into account the demands and interests, of individuals that have an impact on or could have an impact on their operations.

Once the scholars tried to define stakeholders, they needed to establish how companies should prioritize their interests. Indeed, it would be impossible to give the same level of importance to all types of stakeholders due to time, money, and other resources constraints during the corporate's life.

Stakeholder groups may be subdivided into 1. the *primary* ones, who have formal contractual relationships with the company, e.g. suppliers, employees, etc.; and 2. the *secondary* ones, who do not have such contracts, e.g. government authorities or the local community[24]. Later, other researchers tried to group these types of stakeholders according to their common interests. Gibson (2000), for example, distinguished stakeholders between *economic*, *institutional*, and *ethical*.

Normally, companies need to establish how to address all the issues coming from the external world. To do so, managers and the Board of Directors or other subjects inside a company need to identify:

1-who can be considered as stakeholders they should deal with

2-who among these stakeholders are able to exercise more influence towards the company

3-what is their attitude towards the corporate

4-given the above answers, which strategy the company should follow in order to answer to their needs.

Mitchell at al. (1997) have defined 3 factors, upon which to identify and prioritize stakeholder groups:

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[23] Wagner Mainardes, E., Alves, H. and Raposo, M. (2011), "Stakeholder theory: issues to resolve", Management Decision, Vol. 49 No. 2, pp. 226-252. https://doi.org/10.1108/00251741111109133

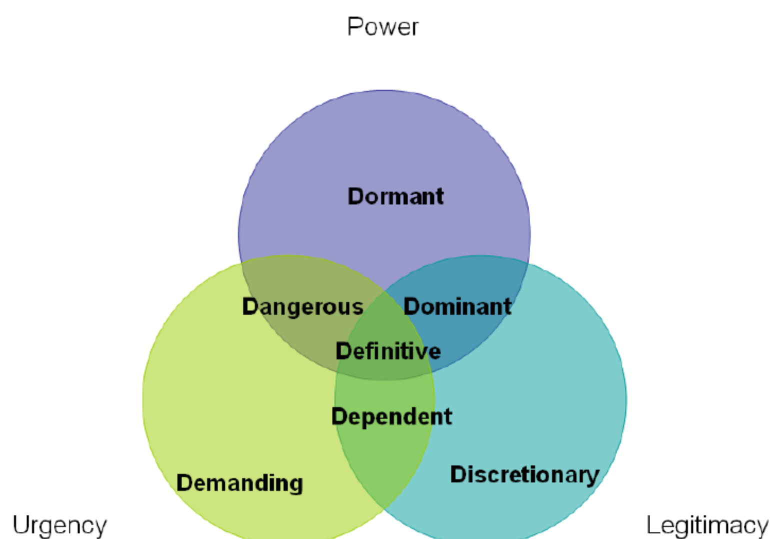
[24] O'Connell M., Ward A.M. (2020) Shareholder Theory/Shareholder Value. In: Idowu S., Schmidpeter R., Capaldi N., Zu L., Del Baldo M., Abreu R. (eds) Encyclopedia of Sustainable Management. Springer, Cham. Online ISBN:978-3-030-02006-4 doi:10.1007/978-3-030-02006-4

1) *Power* –is a measure of **how much influence** certain stakeholders have over a company. Possible reasons for a high level of power potentially exercisable over a company are the following. A director can enjoy hierarchical status or prestige within the organization, a shareholder has invested a significant amount of money in the company, a supplier has access to important resources upon which the success of a firm depends on, and so on. The power of a stakeholder can be coercive, normative or utilitarian.

2) *Legitimacy* – is a measure of how much of a right has a determined stakeholder over a company's activities. Legitimacy can be based on a contract, legal right, moral interest, etc[25].

3) Urgency – is a measure of how urgent and immediate the response of the company to certain stakeholders' demands should be.

Stakeholder classification



Source: ResearchGate

Depending on how important a stakeholder is, namely depending on the area where they fall in this Venn diagram (according to 3 elements of saliency), an organization has to try to prioritise the needs of the most important stakeholders. Mitchell, Agle, and Wood defined them in the following manner.

Dangerous stakeholders

[25] Harrin, E. (2022, May 9). The stakeholder salience model and how to use it.

Characterized by high degree of both urgency and power. Have high power and expect their needs to be met with a high degree of urgency, even if lack legitimacy.

Dependent stakeholders

Have legitimacy and expect their needs to be met with a high level of urgency but do not have real power to influence the direction of company's activities.

Definitive stakeholders

Meet all the 3 criteria: power, legitimacy, urgency. Therefore, need have to be prioritised.

These types of categorizations may help corporates to establish whose interests they should prioritize when important decisions have to be made. Overall, we can say that while until some decades ago the default goal of business was of having the only goal: prioritizing investors' interests, nowadays the approach is very different.

An example of what has been concretely done in the USA in the last year regarding creating value not only for shareholders, but to all stakeholders, is the so-called Business Roundtable.

Business Roundtable

The Statement of 1997, which said that a corporation's primary goal should be to maximize shareholder return, was reversed by 181 CEOs of the nation's top companies in August 2019[26].

They adopted a new Statement on the Purpose of a Corporation, which argues that businesses should serve more people than just their shareholders by providing value to their clients, investing in their workforce, treating suppliers fairly, and giving back to the communities where they do business[27]. Larry Fink, CEO of BlackRock, affirmed: *"Purpose is not a mere marketing campaign; it is a company's fundamental reason for being—what it does every day to create value for its stakeholders"*[28].

The 1997 Statement stated that the corporation's investors were the management and board of directors' primary responsibility, with the interests of other stakeholders

[26] One year later: Purpose of a Corporation. Business Roundtable - Purpose of a Corporation. (2020, September 18). https://purpose.businessroundtable.org/

[27] Business Roundtable Redefines the Purpose of a Corporation to Promote 'An Economy That Serves All Americans'. (2019, August 19). Business Roundtable. https://www.businessroundtable.org/

[28] Jeffrey S. Harrison, Robert A. Phillips, R.Edward Freeman. (2019). "On the 2019 Business Roundtable "Statement on the Purpose of a Corporation"", *Journal of Management*.

being relevant as an aftermath. A commitment to all of our stakeholders is shared by all of the companies that signed the New Statement, despite the fact that each of them serves its unique corporate purpose.

It is very likely that the most prominent managers would agree that businesses nowadays cannot neglect its employees, customers, or suppliers anymore, unless they will be forced to face negative consequences later[29]. The Statement is one of the examples of embracing stakeholder theory. It is a more complex theory, compared to the shareholder theory, since it takes into consideration multiple interests and objectives to be satisfied, and not only stockholders. For this reason, a number of scholars think it may address managers' complicated business realities more effectively than the shareholder wealth creation theory, which has gained traction in recent years. Therefore, the Business Roundtable Statement acts as a crucial indication that the corporation's focus has changed[30].

1.2 ESG: origins and current situation

1.2.1. CSR vs ESG

Before explaining the ESG concept, we should mention first the so-called Corporate Social Responsibility.

What is the difference between these two expressions?

In a nutshell, ESG is a term used by investors to assess a company's corporate behaviour and predict the future of its financial performance, while CSR is a type of self-regulation guaranteeing a business actions have a good influence on the environment, consumers, employees, and communities.

The ISO 26000 established 7 key areas of CSR that are very similar to the ones we mean when define ESG, only more specific. One of the main differences is the perspective. As a matter of fact, the CSR activities reporting has been born in order to show the company’s non-financial situations to its stakeholders (employees, business partners, civic groups, local communities, and so on). On the other hand,

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[29] Wagner Mainardes, E., Alves, H. and Raposo, M. (2011), "Stakeholder theory: issues to resolve", Management Decision, Vol. 49 No. 2, pp. 226-252. https://doi.org/10.1108/00251741111109133

[30] Jeffrey S. Harrison, Robert A. Phillips, R.Edward Freeman. (2019). “On the 2019 Business Roundtable “Statement on the Purpose of a Corporation””, *Journal of Management*.

ESG refers more to shareholders than to anybody else. Indeed, the ESG concept was born when investors, before making their investment decisions began to pay more attention to corporates' non-financial reports, in addition to their reported financial information[31].

CSR can include different approaches and initiatives.
From an environmental standpoint, it could mean for a company: to reduce its carbon emissions, improve its energy efficiency, consume less water and so on. From the social point of view companies could support community initiatives, make donations, consult community when making decisions that could impact it, in addition to paying more attention to workplace diversity, equity and inclusion, caring more about health and safety of the employees, trying to eliminate discrimination and harassment at workplace.

During the last years, more and more companies began and are continuing to pay attention to CSR issues. Some of them decided to transform radically their business model, so to make their social or/and environmental impact one of the main priorities. The most careful companies can even, upon respecting certain criteria, become social enterprises. **Social enterprises[32]** try to maximize profits while at the same time maximizing benefits to society and the environment, and the profits from selling goods or services are mainly used to fund social initiatives. Although, unlike "traditional" companies, maximizing profits is not their primary goal, they still have to obtain revenues in order to operate. What differentiates them then from traditional charity? Charities rely on outside funding in order to be operative, while social enterprises rely on their revenues. An example could be a coffee shop that sells fair-trade coffee and hires candidates from at-risk communities, or a retailer that donates a piece of product it sells to someone in need for every piece sold. Such enterprises do not just have one goal (create profit) but may have a "double

[31] Polley, C. (2022, June 27). ESG vs CSR VS sustainability: What's the difference? 2023 examples. The Sustainable Agency. https://thesustainableagency.com/blog/esg-vs-csr/
[32] Barone, A. (2022) The aims of social enterprises, Investopedia. Available at: https://www.investopedia.com/terms/s/social-enterprise.asp (Accessed: 30 May 2023).

bottom line" (profits and their social or environmental results) or even a triple one (profits and their social and environmental impacts)[33].

One of the most popular examples of social enterprises that focus on a triple bottom line are B-Corps, namely Benefit Corporation. B Lab, the nonprofit behind B Corps defines them as *"companies that uphold the strictest requirements for social and environmental performance, openness to the public, and legal responsibility to balance profit and purpose"*[34].

In order to be considered a B-Corp through a certification, a company has to perform accordingly to some high social and environmental standards. These parameters refer to Community, Customers, Environment, Governance, and Employees[35].

Not only companies that put effort into being considered "good" are beneficial for society overall, but very often it translates into their better economic performance. Indeed, usually by beginning to respect more the needs of its stakeholders, a corporate can reduce its waste and costs, improve productivity, and efficiency of its employees, and their engagement, in addition to increasing their retention rate. Moreover, being considered respectful to the environment where a firm operates can improve its customer loyalty and increase its sales.

1.2.2 Carroll's pyramid

Still today the concept of CSR lacks a certain unique definition. The situation has been even worse in the last decades. Several economists tried to give it a clear meaning. One of the most important was Archie Carroll who in 1991 elaborated his famous "pyramid"[36].

Carroll's Pyramid

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[33] Barone, A. (2022, July 8). The aims of social enterprises. Investopedia.
[34] B Corp certification demonstrates a company's entire social and environmental impact. https://www.bcorporation.net/en-us/certification/
[35] What is a B corporation? everything you need to know. Cultivating Capital. (2022, September 28). https://www.cultivatingcapital.com/b-corporation/
[36] Green Business Bureau (2022) The CSR pyramid: Economic, legal, ethical, and philanthropic responsibility, Green Business Bureau. Available at: https://greenbusinessbureau.com/topics/csr/the-csr-pyramid-economic-legal-ethical-and-philanthropic-responsibility/ (Accessed: 30 May 2023).

Source: The CSR Journal

According to Carroll, a company has 4 types of responsibility:

a) Economic responsibility → make profits

b) Legal responsibility → follow the rules (law)

c) Ethical responsibility → to do what is right

d) Philanthropy

A pyramid is the perfect shape to represent this concept, since more importance has to be given (according to Carroll) to economic profitability. After that, a business has to consider its legal and ethical responsibilities, and eventually, it has to care about philanthropy.

A brief explanation of each "pyramid step" follows.

a) Any company normally exists in order to satisfy people's needs. To do so, and thus to be sustainable, a company has to be financially stable, also because otherwise it would not be able to take care of the other goals. Therefore, a company must effectively manage its revenues, costs, perform profitable investments, and so on.

b) Any company should respect its national (and local) laws and regulations. Otherwise, sooner or later it will face costs: not only legal, but also in terms of image and reputation towards its customers and other stakeholders.
c) There can be several reasons why obeying just the law would not be enough in order to maintain a sustainable business. Indeed, very often law is too slow compared to societal changes. In addition, it can happen that certain regulations have been created only because of the influence of lobby groups, thus do not represent the dominant public opinion.
d) In the ideal world, this stage would mean for a corporate in altruistic way, without expecting anything in return. However, in the reality it can happen more often that business perform philanthropic activity just to improve their reputation and be seen among their stakeholder as morally responsible.

Over the years, several researchers expressed their critics towards Carroll's theory. Nonetheless, further research showed that being socially responsible leads to several positive results: improves company reputation, improves employee and customer satisfaction, reduces business risk and costs etc.

Now we can finally give an overview about ESG, its implications, some of related issues, and its regulation nowadays around the world.

1.2.3 ESG overview

The term "ESG" refers to environmental, social, and governance factors regarding companies that influence investors' investment decisions. ESG elements are nowadays increasingly being taken into account by investors utilizing non-financial data on governance, social effect, and environmental impact of companies. The fundamental reason is that people are starting to understand how ethical, sustainable, and responsible corporate behaviour may have a positive impact on businesses' financial performance. Previously, "socially responsible" investors were more likely to recognize this, but today, mainstream investors also frequently do.
ESG investing happens when an investor, together with the financial evaluation of a company, considers also its ESG risks and opportunities. ESG risk refers to potential losses if the company will not face certain ESG issues, while ESG opportunity refers

to potential gains if the company will seize certain ESG opportunities. Financial returns are still the main objective of ESG investing.

Now we can briefly describe some common investment strategies.

Best-in-class: this investing strategy is an example of a positive screening, and it focuses on picking the top performers within a category using ESG indicators. It can be utilized throughout industries, sectors, or specific businesses, providing some flexibility in its application. Fund managers can include companies operating in "less-green" industries (e.g. coal production, weapons, tobacco etc.) in their investable universe by integrating ESG and financial measures, provided that only the most ethical companies are chosen.

Sustainability themed: are a type of investment strategy that lets investors concentrate on a particular ESG-related subject.

Engagement: is a pro-active strategy that involves using shareholder activism to change how businesses deal with sustainability issues. Ad hoc dialogue with the management can be used to execute it, as can more conventional methods like proxy voting.

Exclusions: is also referred to as negative screening or the "other side of the Best-in-class coin." It entails avoiding to include in a certain fund, organizations, industries, or nations that engage in contentious activities or pose additional risks from a risk management standpoint (e.g. weapons, tobacco, etc.)[37].

Impact investing: specifically calls for investors to make a positive, quantifiable impact on sustainable development, since it is typically focused on fixing specific social or environmental concerns. In this context, impact investment is frequently includes green, social, and sustainability bonds. In other words, it is the act of purposefully investing in causes that generate certain social and environmental benefits while generating profits. For example, an individual interested in reducing the use of fossil fuels could decide to put his/her money in funds that mainly invest in companies that research innovative renewable energy systems[38].

[37] Pellegrini, B. C., Pellegrini, L., Catizone, M. (2022). Climate change adaptation, governance and new issues of value: Measuring the impact of ESG scores on Coe and Firm Performance. Palgrave Macmillan.

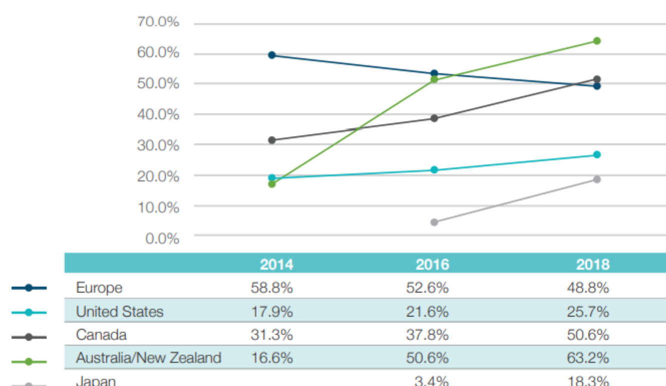
[38] What is impact investing?. Fidelity Charitable.

Once defined the main types of sustainable investment nowadays, we can focus now on where the idea of socially responsible investments originated.

Current situation

Sustainable investment has evolved over the past few decades from a specialized market segment to an important component of the activities of asset managers to a wide adoption among retail investors and the general public[39]. According to a recent US SIF Trends Report[40], Sustainable and responsible investment strategies have a market value of more than $30 trillion, a share of professionally managed assets. Taking global data into account, we can see that Europe continues to be the biggest and most important market in this regard. It continues to be the biggest market, and then the USA[41].

Sustainable investments growth



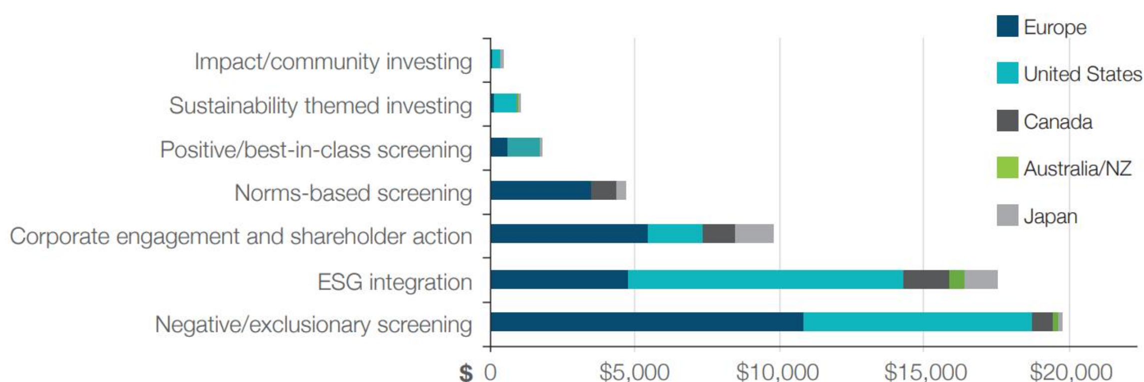
	2014	2016	2018
Europe	58.8%	52.6%	48.8%
United States	17.9%	21.6%	25.7%
Canada	31.3%	37.8%	50.6%
Australia/New Zealand	16.6%	50.6%	63.2%
Japan		3.4%	18.3%

Note: In 2014, data for Japan was combined with the rest of Asia, so this information is not available.

Source: Global Sustainable Investment Allianc

Currently, negative screening and ESG integration are the most common sustainable investment strategy globally.

[39] Pellegrini, B. C., Pellegrini, L., Catizone, M. (2022). *Climate change adaptation, governance and new issues of value: Measuring the impact of ESG scores on Coe and Firm Performance.* Palgrave Macmillan.
[40] US SIF Trends Report. (2022). The Forum for Sustainable and Responsible Investment.
[41] GSIA.



Source: Global Sustainable Investment Alliance, "Global Sustainable Investment Review 2018"

1.2.4 The pillars: E, S, G

Now we can describe more in detail all the three components of the ESG concept. As we mentioned before, with the term ESG, we mean a set of standards regarding companies' activities, which is used by investors to screen their potential investments[42].

E

At the end of the 1960s[43], the Western world began to seriously question the "limits to growth" after the turbulent post-second world war economic development[43]. Since then, the term "sustainability" has been used frequently to describe the prudent growth of economic activity and resource use, as well as social and corporate governance issues. Thus, in the 1990s, the first "Ethical Funds" were established with the purpose of choosing their investments based on sustainability criteria. Even though it can be challenging to separate rhetoric from substance at times, the suggested topics would have gradually influenced people's actions and decisions. Indeed, the current century is characterized by worries regarding the climate change and global warming.

Environmental factors concern company's attitude towards the environment, e.g. its energy consumption, waste production, direct and indirect greenhouse gas emissions, natural resource preservation, treatment of animals, compliance with environmental regulations, and so on.

[42] Team, T. I. (2023a, April 14). What is environmental, social, and governance (ESG) investing?. Investopedia.
[43] Pellegrini, B. C., Pellegrini, L., Catizone, M. (2022). *Climate change adaptation, governance and new issues of value: Measuring the impact of ESG scores on Coe and Firm Performance*. Palgrave Macmillan.

From the practical standpoint, being sustainable environmentally for a company could mean reducing its waste (including improving its toxic materials waste practices), preferring renewable energy sources, trying to lower its greenhouse gas emissions, etc.

S

The "social issues" emerged at the beginning of the first industrial revolution, at the end of the 18th century, and at the beginning their main reason was the conflict over the distribution of wealth[44]. Then, since the beginning of the 21st century, other pressing issues, gained importance. Indeed, it is not uncommon nowadays to hear on traditional and social media about issues concerning civil rights, racial or sexist discrimination, gender disparity, etc.

Social factors represent company's attitude towards its internal and external stakeholders, such as employees, suppliers, customers, the local community, activist groups, government, shareholders, and so on. In order to evaluate whether a company is sustainable from the social standpoint, investors might consider whether a company is involved in child and forced labour, how much it cares about its community (e.g. employees perform volunteering activities, make donations, etc.) and its employees' well-being.

What can companies do in order to be preferred by investors who would like to invest in a socially responsible activity? They can avoid overseas labour (that often does not offer enough safety and health conditions to its workers), organize a proper ethical supply chain, pay fair wages, put in place policies that protect against harassment at workplace, and have inclusion policies that encourage diversity, etc.

G

Governance criteria concern a company's leadership, the relationship between corporate board and its shareholders, the relationship between corporate management and its board, board independence, their gender composition, conflicts of interest (for example, in company's choice of its board members and senior executives), executive compensation, transparency and disclosure (e.g. transparent accounting methods), internal controls, audits, shareholder rights etc.

[44] Pellegrini, B. C., Pellegrini, L., Catizone, M. (2022). Climate change adaptation, governance and new issues of value: Measuring the impact of ESG scores on Coe and Firm Performance. Palgrave Macmillan.

What can a company do in terms of its governance practices? It might favour board diversity, have separate CEO and Chair, favour corporate transparency, and so on.

Some practitioners have raised some sort of concern regarding the gap between E, S and G. For example, an article published in Harvard Business Review by Leo E. Strine, Justin L. Brooke et al.[45] states that while Environmental and Social factors usually are related to a long-term sustainability of a firm, Governance issues are usually solved just in the interest of shareholders, and not other stakeholders. In addition, big institutional investors normally pay more attention to "G" than to other two components. As we mentioned above, Governance issues focus on shareholder rights, and do not directly concern employees, the environment, human rights, the communities and so on. The problem is that Governance policies often imply shareholders primacy over the company. It can mean for a company to sometimes have to focus on creating short-term gain for its shareholders, to the detriment of long-term stakeholders, e.g. leveraging a company too much, sell it and distribute the cash etc. However, to be successful, a company should not lose sight of its long-term sustainability, given especially market unpredictability. It means that not always pursuing shareholder (short-term) interests is beneficial for a company, especially when they are not in line with the needs of other stakeholders. As a matter of fact, there may be situations where it becomes necessary to decrease dividend pay-outs in order be able to pay sufficient salaries or comply with consumer or environmental standards.

Famous controversies

Although, unfortunately, several examples could be provided, below have been selected three relevant cases caused by misalignment of corporate management interests with one or more ESG factors.

Volkswagen emission scandal[46]

The Environmental Protection Agency discovered in September 2015 that many Volkswagen vehicles sold in the US had a "defeat device" in their diesel engines that

[45] Leo E. Strine, Justin L. Brooke, Kyle M. Diamond, and Derrick L. Parker Jr. (2018). It's time to focus on the "G" in ESG. Harvard Business Review.

[46] 8 controversies that led to the rise of ESG. ESG Simplified. https://www.nossadata.com/blog/8-controversies-that-led-to-the-rise-of-esg

could detect when they were being tested and alter operation to increase emission scores. As a result, these vehicles were actually spewing nitrogen oxide emissions up to 40 times above the US limit. In a later admission of cheating on emissions testing, the corporation claimed that 11 million cars globally had this device installed. Volkswagen acknowledged a second emissions issue in November 2015: 800,000 vehicles had also underestimated carbon dioxide levels. This has resulted in $31.3 billion in fines and settlements and brought attention to all diesel automobiles' negative climate effects.

Volkswagen's management team and top executives have undergone significant changes. In order to contribute to the global shift to a post-carbon future, the automobile corporation has also committed to e-mobility and electric vehicles, under their "Transform 2025" strategy.

Enron scandal

A US-based energy trading company Enron filed for bankruptcy in 2001, representing a major business scandal. Mark-to-market accounting and SPEs were being manipulated by the organization to hide significant debts from investors and to give the appearance of bigger current earnings by documenting estimated profits as actual profits. Between 1996 and 2000, Enron claimed to have increased revenues from $13.3 billion to $100.8 billion, but in reality, they had only losses. In the four years before 2001, their bankruptcy caused shareholders to lose $74 billion, and it had a devastating financial impact on the employees who lost all of their pension benefits. George Bush passed the Sarbanes-Oxley Act as a result of the severity of this incident, which increased the penalties for falsifying, deleting, or manipulating financial accounts as well as for deceiving shareholders. The Financial Accounting Standards Board significantly improved its standards of moral behaviour as well. Several senior executives from Enron were found guilty of conspiring, engaging in insider trading, and securities fraud.

Rana Plaza collapse

Profit goals frequently clash with those for worker safety. Almost all businesses prioritize producing money, but they also owe it to their employees to guarantee reasonable safety. When company executives focus primarily on earnings and disregard worker safety, some immoral and deadly actions can happen. This was the case in 2013, where the Rana Plaza building in Bangladesh collapsed, resulting in

the deaths of over 1,100 people. Building materials of poor quality were used to construct the clothing factory. The day before it fell, an engineer examined the structure and informed the owners that it was dangerous. However, the proprietors told the workers to come back the following day, which sadly led to the deaths of many people.

1.2.5 Reporting standards around the world

Currently, not all market players are required to disclose climate-related risks, making it difficult for investors to compare companies operating in the same industry and measure their relative resilience to climate-related shocks[47].

In order to give investors a fair depiction of the goals the disclosing business has achieved—or has not—uniform disclosing requirements should be established . The primary barriers to adopting ESG data for investment decisions, according to a growing body of literature studies, are the lack of reporting standards and the costs of collecting and analysing ESG data are frequently cited as key barriers. There seems to have been more development on the Environmental and the Governance factors than on the Social one. Due to its complexity and urgency, defining the "S" disclosure's boundary appears to constitute a developing issue. The urgency stems from the fact that women and millennial investors, who make up a sizable and active segment of the market, seem to be particularly concerned with the social implications of investing.

To curb the gap between the demand for ESG information by investors and the supply of such information by companies, several countries have begun to require mandatory detailed ESG disclosure to be published within traditional financial disclosures or in specialized standalone reports. In addition to these country-level initiatives, significant efforts are put in place at the global level in order to create harmonized international ESG disclosure standards.

Reporting

[47] Pellegrini, B. C., Pellegrini, L., Catizone, M. (2022). Climate change adaptation, governance and new issues of value: Measuring the impact of ESG scores on Coe and Firm Performance. Palgrave Macmillan.

ESG disclosure or Sustainability reporting indicates qualitative and quantitative disclosures of data regarding an organization's operations across ESG standards. Its purpose is to present companies' ESG policies, practices, and performance, and their goals to their actual and potential stakeholders.
Normally, investors especially are interested in understanding the quality of the company they invest in, in terms of ESG criteria. Indeed, not being compliant with ESG standards can represent risk for the company's success and future performance.

The current trend seems to be that more and more companies tend to provide voluntarily they sustainability information, while law makers are creating more and more mandatory requirements. Indeed, this tendency is growing, since all stakeholders for different reasons require more disclosure: regulators, investors, clients, employees, activist organizations. The focus on short term profits for shareholders is not enough anymore, instead it is required from companies to be accountable for their behaviour towards the people and the planet: employees are becoming and less and less willing to work for companies characterised by pay, gender, racial discrimination, while customers want to know how "good" the companies they buy products or services from are, etc. For these purposes, regulators around the world are and will be busy in the next future in creating homogeneous clear frameworks for the ESG disclosure practices. Moreover, transparency is extremely important in order to guarantee efficient markets, that should be able to price risk effectively in order to enable individuals to make informed, efficient capital-allocation decisions. Therefore, financial markets need accurate and timely disclosure from companies. Otherwise, investors would not be able to correctly price or value assets, and this can lead to a misallocation of capital.

Financial vs. non-financial reporting[48]

Financial reporting refers to providing financial information about a company over a certain period of time. Instead, *non-financial reporting* refers to providing key non-financial information around topics and issues that are able potentially to have

[48] ESG reporting 101: Guide to ESG standards and sustainability frameworks. https://www.onetrust.com/blog/esg-reporting/#:~:text=It%20is%20required%20by%20law,common%2C%20global%20ESG%20disclosure%20standards

an impact on the company (including financial impact). We can think in this regard about ESG information disclosure.

Mandatory and comply-or-explain ESG Reporting

In addition, we can distinguish between or "comply-or-explain" models.

Mandatory regulations have to be followed mainly by listed companies.

By *comply-or-explain* models, we instead mean a procedure where companies must comply with ESG reporting standards, or otherwise, to provide detailed explanation of why they have not. Basically, regulators create a code of best practices and companies have to implement them or provide an explanation why they did not. Companies normally do this in their annual reports[49].

Some of the main ESG reporting frameworks across the world

Several countries:

Currently, ESG disclosure is not mandatory globally. However, different initiatives are being put in place in order to make is easy for the market to compare ESG practices across companies and across companies, and to help investors to have more tools for an effective decision-making regarding their (sustainable) investments.

GRI[50]

The Global Reporting Initiative Standards are guidelines publications created to help businesses create sustainability and ESG disclosure reports.

Integrated Reporting Framework

By taking into account both financial and non-financial elements, the Integrated Reporting Framework aims to establish a framework for integrated reporting on a company's performance. By focusing on ESG factors, it offers a framework for effectively informing investors and stakeholders about an organization's ability to produce value.

SASB

[49] Harper Ho V. (2015). "Comply or explain. And the future of nonfinancial reporting".
[50] Continuous Improvement. GRI - Standards. https://www.globalreporting.org/standards/

The Sustainability Accounting Guidelines Board, established in 2011, is a group with a similar mission to the GRI: to provide guidelines for the disclosure of pertinent information regarding companies' sustainability. The SASB Standards specifically emphasize sustainability issues that are financially significant for investment decisions.

The Task Force on Climate-related Financial Disclosures

The TCFD provides an ESG framework that companies have to follow in their climate-related risks and opportunities disclosure.

Currently, the TCFD-aligned climate-risk reporting represents mainly a voluntary framework that companies can follow, nonetheless more countries are planning to make it mandatory, at least for the main sectors of their economy). For example, New Zealand decided to make TCFD-aligned reporting mandatory for major players in the financial industry (around 200 companies)[51][52].

ISSB

One of the main initiatives during the last years has been the establishment of the International Sustainability Standards Board in 2021 on proposal of the Trustees of the IFRS Foundation, since the market demanded more transparency from companies. The Board is acting in public interest and their aim is to create standards that will have to be followed by companies in order to remain interesting in the eyes of their investors and public in general. These guidelines also would eliminate that uncertainty, fragmentations and differences regarding ESG disclosure today around the world[53].

<u>European Union</u>

The Sustainable Finance Disclosure Regulation

[51] ESG reporting 101: Guide to ESG standards and sustainability frameworks.
[52] Final report recommendations of the Task Force on climate-related

The **SFDR** has been developed to strengthen transparency surrounding sustainability claims made by financial market participants, avoid greenwashing, and improve the market for sustainable investment products[54][55].

NFRD/CSRD

The Corporate Sustainability Reporting Directive, which went into effect in January 2023, attempts to standardize ESG disclosures for companies doing business in the EU. According to this Directive, about 50 000 businesses (listed SMEs and major businesses) will be required to report on sustainability. Its main objective is to guarantee that investors and other stakeholders have access to the data they need to accurately analyze the risks associated with sustainability-related concerns like climate change and others[56].

EU Taxonomy

It compiles a list of economically viable environmental practices for businesses, investors and governments. It is intended to shield investors from "greenwashing" and encourage businesses to adopt more environmentally friendly practices. Six criteria are used to evaluate investments: biodiversity, pollution, the circular economy, climate change adaptation, and mitigation. In July 2020, the taxonomy went into effect.

Corporate Sustainability Due Diligence Directive

The proposal of the European Commission's CSDD, has been adopted in February 2022. It requires companies to carry out environmental and human rights due diligence throughout their supply chain. It refers to supply chains inside and out Europe, thus impact companies globally[57].

US

[54] SFDR. EUROSIF. (2023, May 16). https://www.eurosif.org/policies/sfdr/
[55] Frank Gannon, C. H. What is the SFDR?. KPMG. https://kpmg.com/ie/en/home/insights/2021/03/what-is-the-sfdr-sustainable-futures.html#:~:text=The%20Sustainable%20Finance%20Disclosure%20Regulation%20(SFDR)%20imposes%20mandatory%20ESG%20disclosure,effective%20from%2010%20March%202021
[56] Corporate sustainability reporting. Finance. https://finance.ec.europa.eu/capital-markets-union-and-financial-markets/company-reporting-and-auditing/company-reporting/corporate-sustainability-reporting_en
[57] How the EU Corporate Sustainability Due Diligence (CSDD) directive impacts your supply chain operations. Diligent Corporation. https://www.diligent.com/insights/esg/eu-corporate-sustainability-due-diligence-directive/#:~:text=The%20CSDD%20(the%20EU's%20Corporate,the%20European%20Union%20(EU

While European Union has adopted specific directives regarding ESG disclosure during the last years, in the United States consideration regarding ESG issues have been mainly driven by voluntary, typically market-led responses.

A more comprehensive ESG rule is being developed by the USA **Securities Exchange Commission**. It recommended new, improved standards for public firms in March 2022 for the publication of climate-related data, such as greenhouse gas emissions. The recommendations would offer investors uniform, comparable, and decision-useful information as well as clear and consistent reporting duties for issuers[58]. In fact, the new rules would require companies to disclose specific information about their direct greenhouse gas emissions (Scope 1) and indirect emissions from purchased forms of energy and within their value chains (Scope 3). Lately, however, the US has also been experiencing more attention regarding mandatory ESG disclosure in terms of the USA Securities and Exchange Commission, state-level regulations, and the Biden Administration.

The proposed **Federal Supplier Climate Risks and Resilience Rule** will require major Federal contractors to disclose their greenhouse gas (GHG) emissions and set science-based emissions reduction targets. (Federal suppliers are the suppliers who provide raw materials or other necessary components to fuel a company doing business with the government[59].

China

Being part of one of the world's largest economies, China's enterprises should play an important role in making environmentally friendly and socially responsible economic growth a priority. ESG reporting is currently on the rise in China as the nation works to advance social equity and a greener economy. After all, businesses must begin to shift to a lower-carbon business model in order for China to meet its goals of reaching peak carbon by 2030 and becoming carbon neutral by 2060. Corporate reporting on a full range of ESG criteria will enable customers and

[58] Person, & Warren, Z. (2023, January 30). Upcoming SEC climate disclosure rules bring urgency to ESG Data Strategy Planning. Reuters. https://www.reuters.com/legal/legalindustry/upcoming-sec-climate-disclosure-rules-bring-urgency-esg-data-strategy-planning-2023-01-30/#:~:text=The%20new%20disclosure%20rules%20would,Scope%201)%20and%20indirect%20emissions

[59] Greenly. https://greenly.earth/en-us/blog/company-guide/what-is-the-federal-supplier-climate-risks-and-resilience-rule

investors to make wise decisions, and regulators to swiftly change their regulations and direct capital flows. Despite being tiny, China's ESG investment business has grown quickly in recent years. Voluntary ESG reporting is becoming more popular in the nation. In reality, a number of mainland-listed companies have already published their 2020 annual CSR/ESG reports. In 2021, ESG public funds increased significantly as well.

Many Chinese companies are already proactively disclosing information about ESG, propelled by government incentives and laws as well as to adjust to the expanding capital market[60]. Up from 371 firms in 2009, 1,021 Chinese A-share companies had released annual ESG reports by mid-2020. Around 130 of these have dual listings in Hong Kong, where ESG reporting are necessary. Since 2016, listed firms have been required by the Hong Kong Stock Exchange (HKEX) to publish ESG reports. The annual CSR/ESG reports of more than a quarter of A-share businesses were released in 2020. Larger firms are more proactive about disclosing their ESG data.

With 48 new ESG products issued in the first three quarters of 2021—nearly the same amount as in the previous five years—the number of Chinese ESG public funds expanded considerably. The total assets under administration of ESG public funds reached around RMB 250 billion (US$39.3 billion) as of September 2021, nearly twice the amount of the same period the previous year, according to a white paper published by Caixin.

Challenges[61]

Nonetheless, ESG reporting by Chinese enterprises is still far being well-developed are regulatory requirements are not uniform, given their fragmentation across industries and government agencies. The ESG market is still limited, and China's ESG disclosure and scores are still poor. The improvement of social equity and the achievement of China's carbon peaking and carbon neutrality goals both depend on sustainability reporting. The Chinese government is currently working to assist firms in switching to a low-carbon business model while also quickly strengthening the

[60] ESG reporting in China: Trends, Challenges, and outlook. China Briefing News. (2022, May 17).
[61] Pellegrini, B. C., Pellegrini, L., Catizone, M. (2022). *Climate change adaptation, governance and new issues of value: Measuring the impact of ESG scores on Coe and Firm Performance.* Palgrave Macmillan.

corporate reporting environment. Indeed, recently issued voluntary guidance on ESG disclosure standards from CERDS (issued in 2022) might represent the basis for the Chinese unique homogeneous ESG reporting framework. This framework, "Guidance for Enterprise ESG Disclosure" contains voluntary disclosure guidelines in order to provide a uniform disclosure framework. As in other countries, these standard guidelines represent disclosure of quantitative data regarding environmental sustainability, labour rights etc. What may be seen as weak point is that since it is mostly focused on harmonisation with Chinese law and therefore, it may differ substantially from US and EU standards.

Greenwashing

The Global Sustainability Study conducted by Simon-Kucher & Partners[62] which analysed responses from 17 countries, found that, 78% of interviewed consumers value sustainability as important in their lives and 63% of people interviewed have more or less important shifts towards being more sustainable between 2016 and 2021. In addition, 34% of consumers reported that they are willing to pay more for sustainable products/services[63].

Since people began to realize how serious the environmental pollution problem is, companies began to pay more attention to this issue. Unfortunately, the business world is not always totally genuine, especially nowadays where a lot of greenwashing practices have come to light. Different dictionaries provide different definitions of this phenomenon. TerraChoice defines greenwashing as *"the act of misleading consumers regarding the environmental practices of a company or the environmental performance and positive communication about environmental performance"*[64].

On the one hand, nowadays, we observe an increase of green markets, on the other hand, this leads to a trust problem and scepticism, since customers often do not have enough tools to understand how trustworthy companies' sustainability promises are

[62] Environmental social governance (ESG) report 2021. https://www.simon-kucher.com/sites/default/files/2022-06/esg-report-2021.pdf

[63] Netto, S. V. de F., Sobral, M. F. F., Ribeiro, A. R. B., & Soares, G. R. da L. (2020, February 11). Concepts and forms of greenwashing: A systematic review - environmental sciences europe. SpringerOpen. https://enveurope.springeropen.com/articles/10.1186/s12302-020-0300-3

[64] de Freitas Netto, S.V., Sobral, M.F.F., Ribeiro, A.R.B. *et al.* Concepts and forms of greenwashing: a systematic review. *Environ Sci Eur* **32**, 19 (2020). https://doi.org/10.1186/s12302-020-0300-3

and different scandals tend to worsen this issue[65]. While developed countries are characterized by more environmental awareness and stricter regulations, this do not apply to developing countries.

1.2.7 ESG and Financial performance

Economists started investigating for a connection between environmental, social, and governance (ESG) ratings and a company's financial success in the early 1970s[66]. Their aim was to observe if and how companies' ESG score affect their cost of capital. What is the link between these variables? We can say that the ESG score is related to a company's ESG risks, therefore a higher ESG score usually corresponds to lower risks, and consequently, debt and equity lenders are willing to accept lower interest rates.

Given this growing trend, businesses that fail to consider ESG policies can experience a significant financial impact[67]. A four-year study by MSCI[68] (a global provider of financial and portfolio analysis tools) provided some evidence. In the MSCI World Index, the quintile with the highest ESG scores had an average cost of capital of 6.16%, while the quintile with the lowest ESG scores had an average cost of capital of 6.55%. For MSCI Emerging Markets, the difference was even greater. In the previous researches, the organization has already showed that companies with high ESG scores are less exposed to systematic risks than low-ESG-rated companies. This outcome is in line with the Capital Asset Pricing Model where reduced systematic risk (beta), as we know, indicates lower cost of equity.

[65] Nyilasy, G., Gangadharbatla, H., & Paladino, A. (2013, November 6). Perceived greenwashing: The interactive effects of Green Advertising and corporate environmental performance on consumer reactions - Journal of Business Ethics. SpringerLink. https://link.springer.com/article/10.1007/s10551-013-1944-3

[66] Pellegrini, B. C., Pellegrini, L., Catizone, M. (2022). *Climate change adaptation, governance and new issues of value: Measuring the impact of ESG scores on Coe and Firm Performance.* Palgrave Macmillan.

[67] Rapier, R. (2021, December 10). The cost of ignoring ESG. Forbes.

[68] ESG and the cost of Capital. MSCI.

ESG scores and cost of capital

Source: MSCI.

As we can see, in the USA, where enterprises with lower ESG scores had much higher capital costs than those with better ESG ratings, the researchers discovered the largest correlation between ESG scores and capital costs.

CHAPTER 2: EMERGING ECONOMIES

2.1. Definition

Once we have given a brief overview of the ESG world, we can do now the same regarding the emerging economies. We then will focus on China as it represents one of the biggest economies in the world, and even if a lot of scholars do not agree with considering it a developing country, we accept the opinion of the other school of thought.

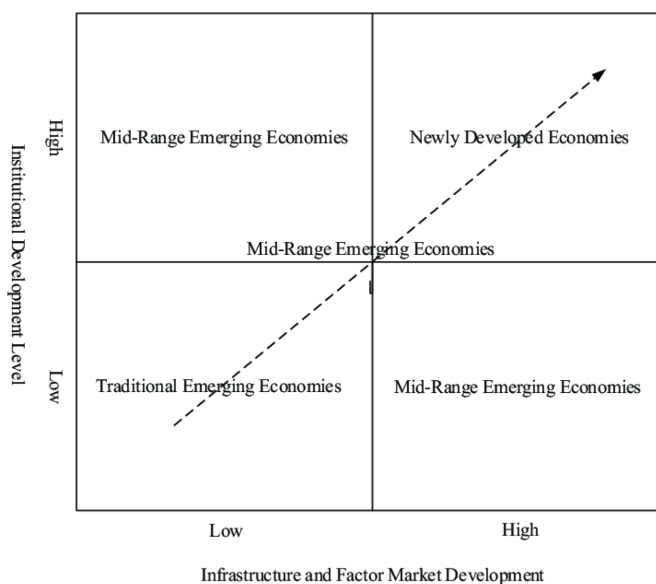
First, we should define an emerging economy.

The plethora of classifications used to distinguish emerging economies from their advanced country equivalents is a recurring issue in academic study and news reports. There is not a single official definition in literature of what could mean an emerging economy. One of the first definitions was provided by Hoskisson, Eden, Lau, and Wright in 2000: *"low-income, rapid growth countries using economic liberalization as their primary engine of growth"*[69].

We can say that emerging markets can be considered economies that even though are not completely developed yet, are growing fast and are reducing that gap with developed economies.

[69] Hoskisson, Robert & Eden, Lorraine & Lau, Chung & Wright, Mike. (2000). Strategy in Emerging Economies. Academy of Management Journal. 43. 249-267. 10.2307/1556394.

Topology of emerging economies



Source: Research Gate

The **World Bank** distinguishes nations with low, middle, and high income[70], depending on their GDP per capita.

Ian Bremmer, American political scientist (2008), defines the Emerging countries as the ones where politics are as important as the market itself.

The **International Monetary Fund** classifies economies into Advanced, Emerging and Developing, based on: a) per capita income level; b) export diversification e.g. a country whose exports are represented for 70% only by oil exports would not be classified as advanced; c) degree of integration into the global financial system.[71] According to these criteria, 39 economies are classified by IMF as “advanced,” and the other countries as “emerging market and developing” economies, among which 40 are considered “emerging market and middle-income” economies, due to their higher incomes, sustained significant growth and stability[72]. They are able to produce higher-value-added goods and are similar to advanced economies not only in terms of their income level, but also of their integration into global trade and

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[70] Elitsa R. Banalieva, Laszlo Tihanyi, Timothy M. Devinney, Torben Pedersen. (2015). "Introduction to Part II: Emerging Economies and Multinational Enterprises", Emerald

[71] World economic outlook - frequently asked questions. IMF. (2023, April 8). https://www.imf.org/en/Publications/WEO/frequently-asked-questions#4q2

[72] Duttagupta, R., & Pazarbasioglu, C. P. (2021, June). Miles to Go: Emerging markets must balance overcoming the pandemic, returning to more normal policies, and rebuilding their economies. IMF.

financial market. They have made significant progress since the beginning of the 21st century especially thanks to their macroeconomic policies that allowed them to increase average incomes per capita, for example by curbing inflation rates and by applying stricter fiscal rules. Several of them have also made important banking sector reforms after the 1990s. Even if the progress has slowed down during and after the Financial crisis of 2008-2009, it has not stopped.

How can IMF economists identify an emerging market?[73] They consider countries' nominal GDP, population, share of exports, external debt and GDP per capita. Following this approach, the following countries can be considered as emerging: Argentina, Brazil, Chile, Colombia, China, Mexico, India, Indonesia, Iran, Malaysia, the Philippines, India, Thailand, Iran, Egypt, Indonesia, Malaysia, the UAE, Hungary, Turkey, Russia, Poland, South Africa, Saudi Arabia.
They represent currently 34 percent in terms of the world's nominal GDP in US dollars.

An interesting fact is that in the last years some of the countries that joined the euro area have been upgraded according to this classification. For example, Lithuania has been upgraded from an emerging market to developing, and eventually to an advanced one.

We cannot forget about **transition** economies[74].
According to IMF, this is especially the case of Central and Eastern countries and the Baltics. Indeed, these are the countries that had to switch from a centrally planned organization of their economies to become market economies. In addition, IMF defines as transition economies also some countries in Asia. The characteristics of transition economies are the following:

- Liberalization: so to create a remove barriers to trade.
- Macroeconomic stabilization: the process by which inflation decreases after an initial high inflation due to liberalization and decreased over time.

[73] Arizala, F., & Yang, D. What is an emerging market?. IMF.
[74] Transition Economies: An IMF Perspective on Progress and Prospects. (2000, November). IMF.

- Privatization: corporate reforms that enable the country to manufacture products that can be sold on the open market.
- Institutional reforms: to establish the rule of law and redefine the role of government

Even if, as mentioned before, the literature does not provide a single definition of an emerging economy, we can consider the two main lists of emerging economies provided by two reliable financial market sources: MSCI and Dow Jones.

MSCI

The MSCI Emerging Markets Index represent 1,377 companies across 24 Emerging Markets[75].

Index characteristics

	MSCI Emerging Markets
Number of Constituents	1,377
	Mkt Cap (USD Millions)
Index	6,473,861.86
Largest	402,250.90
Smallest	112.99
Average	4,701.42
Median	1,898.41

Source: MSCI

As showed above, the smallest company has a marketing capitalization of almost $ 113 million and the largest one more than $ 402 billion.

Top 10 constituents[76]

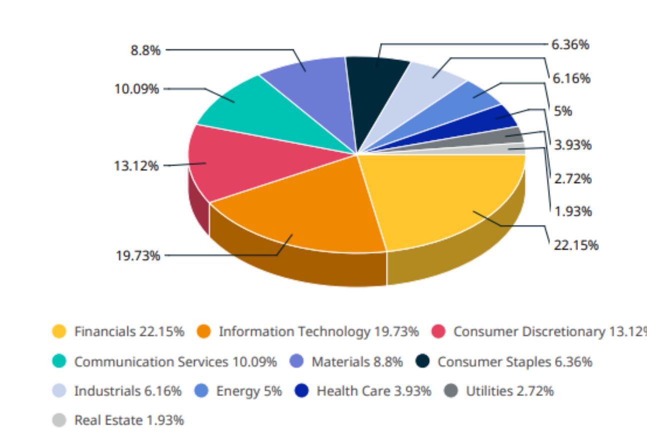
[75] Onur Polat, Rim El Khoury, Muneer M. Alshater, Seong-Min Yoon. (2023). "Media Coverage of COVID-19 and Its Relationship with Climate Change Indices: A Dynamic Connectedness Analysis of Four Pandemic Waves", *Journal of Climate Finance*,

[76] As showed above, the smallest company has a marketing capitalization of almost $ 113 million and the largest one more than $ 402 billion.

	Country	Float Adj Mkt Cap (USD Billions)	Index Wt. (%)	Sector
TAIWAN SEMICONDUCTOR MFG	TW	402.25	6.21	Info Tech
TENCENT HOLDINGS LI (CN)	CN	273.24	4.22	Comm Srvcs
SAMSUNG ELECTRONICS CO	KR	233.72	3.61	Info Tech
ALIBABA GRP HLDG (HK)	CN	154.97	2.39	Cons Discr
RELIANCE INDUSTRIES	IN	90.05	1.39	Energy
MEITUAN B	CN	84.03	1.30	Cons Discr
CHINA CONSTRUCTION BK H	CN	64.32	0.99	Financials
HOUSING DEV FINANCE CORP	IN	58.62	0.91	Financials
ICICI BANK	IN	57.87	0.89	Financials
VALE ON	BR	55.33	0.85	Materials
Total		1,474.40	22.77	

As we can see, among the 10 top companies represented in the Index, 4 are Chinese and 3 are Indian.

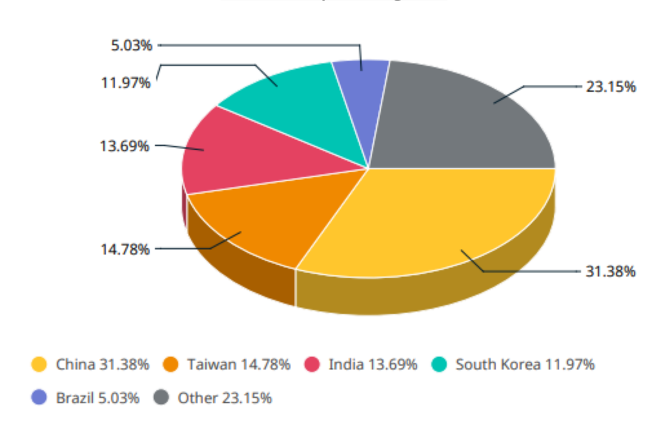
Sector weights



Source: MSCI

This diagram shows that about 55% is represented by Financials, Information Technology and Consumer Discretionary sectors.

Country weights



Source: MSCI

China, Taiwan, and India represent almost 60% of the Index.

Dow Jones

Dow Jones Emerging Markets represents, the same 24 countries as MSCI, with the only difference that MSCI considers South Korea but not Pakistan, and Dow Jones does the opposite. In addition, the number of constituents is 4083.

The next question we have to answer is: why should we be concerned about emerging economies?

During the last years, both media and academic research paid significant attention to countries we call emerging. We can think of geopolitical conflicts (between Ukraine and Russia or the Arab Spring between 2010 and 2012); positive political events[77] e.g. former URSS countries becoming part of the EU, important cultural or financial events etc.

Additionally, the OECD states that a considerable shift in the global economic centre of gravity has occurred over the past 20 years. In fact, between 2000 and 2019, developing markets' percentage in global commerce rose from 32% to 46%, while their percentage as recipients of FDI rose from 15% to 46%. Currently, the majority of the global GDP growth takes place there[78].

According to a study published by OECD in 2021[79],

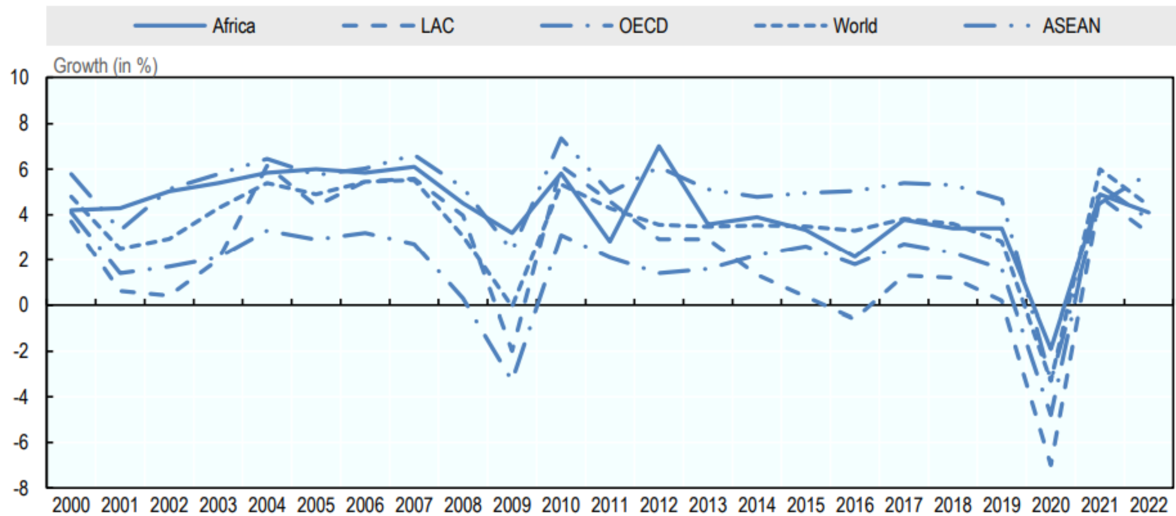
- In the last 20 years, emerging markets have developed rapidly, even though different regions have been characterized by different growth rates. While other countries' economic growth has consistently been rather low, Emerging Asian countries have consistently performed better than the economies of the OECD members since the beginning of this century.

[77] Elitsa R. Banalieva, Laszlo Tihanyi, Timothy M. Devinney, Torben Pedersen. (2015). "Introduction to Part II: Emerging Economies and Multinational Enterprises", Emerald

[78] OECD Emerging Markets Network - EMnet - OECD. https://www.oecd.org/dev/emnet-emerging-markets-network.htm

[79] OECD. (2021). "Business Insights on Emerging Markets 2021". OECD Emerging Markets Network, OECD Development Centre, Paris. http://www.oecd.org/dev/oecdemnet.htm

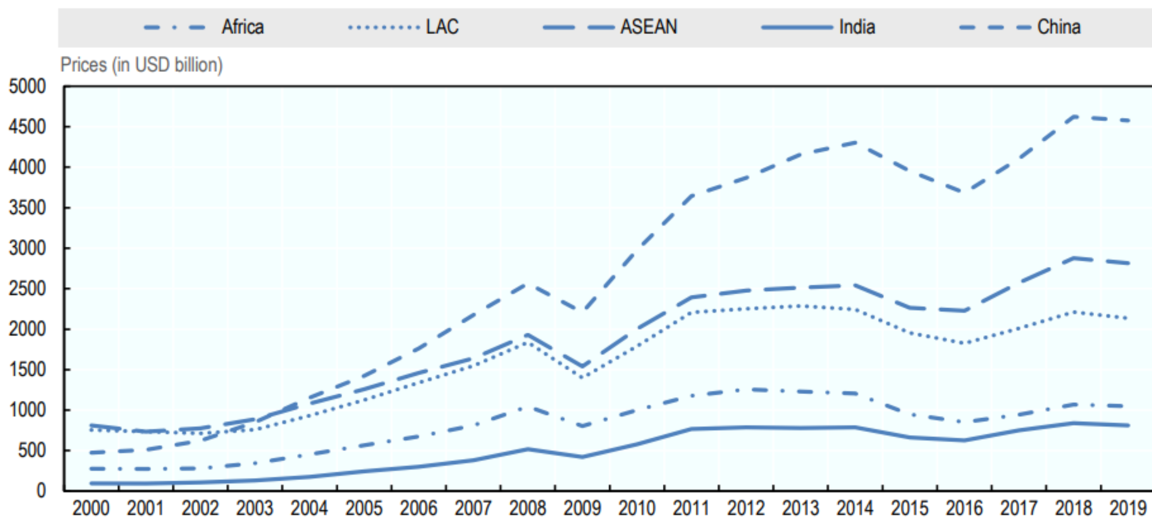
Annual GDP growth



Source: IMF

- Thanks in particular to China's expansion, the volume of commerce generated by emerging markets expanded dramatically between 2000 and 2019. By 2019, emerging markets accounted for 46% of global of trade, up from 32% in 2000[80].

Global merchandise trade

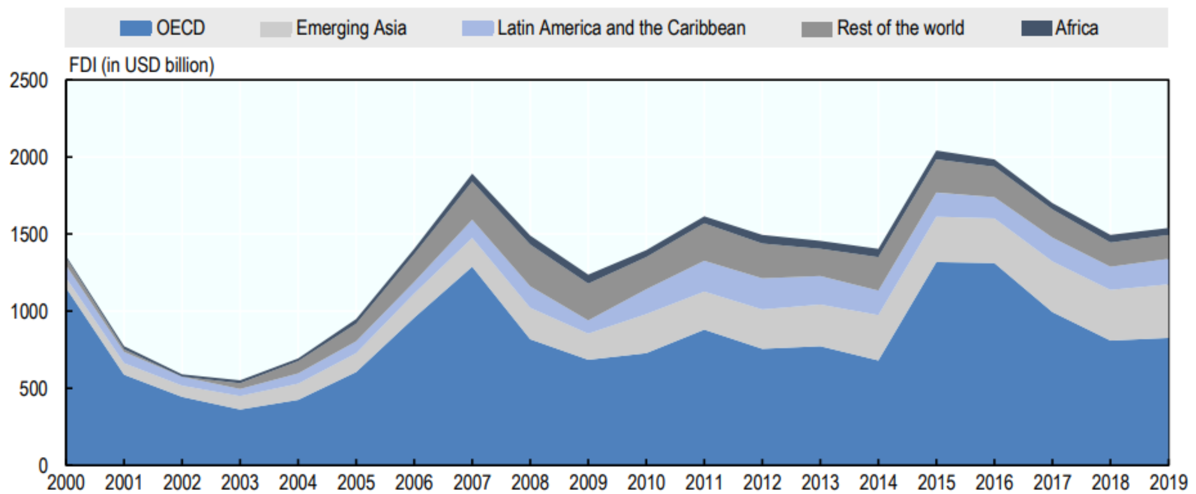


Source: UNCTAD Stats

[80] OECD. (2021). "Business Insights on Emerging Markets 2021". OECD Emerging Markets Network, OECD Development Centre, Paris. http://www.oecd.org/dev/oecdemnet.htm

- Regarding the FDI (foreign direct investments) OECD member countries lost their share compared to other countries: about 85% of FDI was destined for OECD member economies in 2000, but this number became 54% in 2019[80].

Foreign direct investments



Source: UNCTAD Stats

Sustainability in emerging markets

The same study claims that the same global megatrends that can be seen everywhere in the world also define developing markets.

In a study published in 2002, the International Finance Corporation evaluated the sustainability of business practices in developed economies versus emerging markets. It was discovered that businesses in emerging markets have mostly concentrated on making quick cost cuts and boosting earnings. In industrialized nations, instead, intangible assets like brand value and reputation were given more weight[81].

Over the course of the years, more and more businesses also in developing markets began to consider sustainability as a priority. Some examples: Natura, a Brazilian cosmetics multinational, founded in 1969, that built reputation for responsible treatment of the environment, suppliers, and customers; Mahindra (an Indian automotive manufacturing corporation) is helping to decarbonize Indian cities by delivering clean mobility solutions.

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[81] OECD (2021), Policy note on sustainability, OECD Publishing, Paris, https://www.oecd.org/dev/EMnet_Policy_Note_Business_Sustainability_Emerging_Markets.pdf

Multinational corporations operating in emerging markets must consider regional variations in these nations when developing their sustainability strategies. In fact, a number of businesses are introducing technologies and sustainability solutions in places with limited resources in an effort to increase efficiency, conserve energy, and cut waste. For instance, to lessen pollution in the Mapocho River, Suez, a pioneer in wise and sustainable resource management, has joined forces with Chile's biggest water utility business, Aguas Andinas. Treated wastewater is re-used for agriculture purposes, mitigating water scarcity risks at the same time.

China

In fact, in 2014, 60% of the industrial waste produced was recycled, up from roughly 45% in 2000 and 30% in 1990. Materials and goods that have been "reutilized" as a whole increase yearly by an average of 0.3%. 246 million tonnes of discarded metals, plastics, paper, glass, tires, batteries, electrical and electronic equipment, cars, and ships were recovered in China in 2015, with a total worth of 515 billion yuan.

E-waste is a significant concern today. As a result, Huawei Technologies upgraded their online One-Stop trade-in program in 2020 by offering clients coupons to use toward the purchase of a new device in exchange for an old one. The Huawei Technologies initiative has "exchanged" almost 500,000 smartphones since 2015.

2.3 Future projections

In 2017, PwC conducted a study in order to make projections regarding the long term global economic situation[82]. They based their research on two main drivers of economic growth: demographics and productivity, driven by technological progress spread across the countries through international trade and investment.

1- The world economy is expected to more than double in size by 2050.

2- Emerging markets will continue growing more than developed countries. In fact, the E7 economies' share of global GDP could have risen from about 35% in 2017 to

[82] The Long View How will the global economic order change by 2050? - PWC. https://www.pwc.com/gx/en/world-2050/assets/pwc-the-world-in-2050-full-report-feb-2017.pdf

roughly 50% by 2050. China could become the greatest economy in the world, with its GDP representing around 20% of world GDP in 2050, with India in second place and Indonesia in fourth place (based on GDP at PPPs), while the USA would be in second place.

3- Some of emerging markets will probably continue to grow significantly, especially China, India, Indonesia, Mexico, Brazil, Russia.

4- The European Union countries' share of global GDP could have fallen to less than 10%.

5- Countries like India, Vietnam, and Bangladesh will probably be growing the most during the next years. In addition, the EU country with most growth potential is Poland.

6- The emerging economies should reach the same income level as the countries that are advanced nowadays by 2050. This will represent great long term investment opportunities in emerging markets.

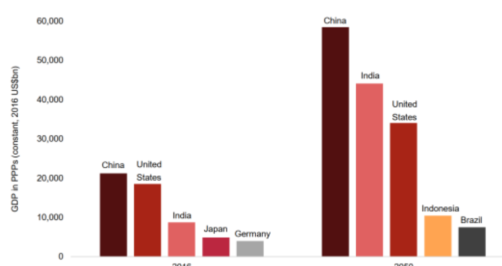
7-In order to make this emerging markets' growth happen, their governments need to realise structural reforms in order to make them more stable from the macroeconomic standpoint, diversify their economies, by not relying just on natural resources, and make their political and legal institutions more effective.

The world's 10 greatest economies by 2050

	2016	2050	
China	1	1	China
US	2	2	India
India	3	3	US
Japan	4	4	Indonesia
Germany	5	5	Brazil
Russia	6	6	Russia
Brazil	7	7	Mexico
Indonesia	8	8	Japan
UK	9	9	Germany
France	10	10	UK

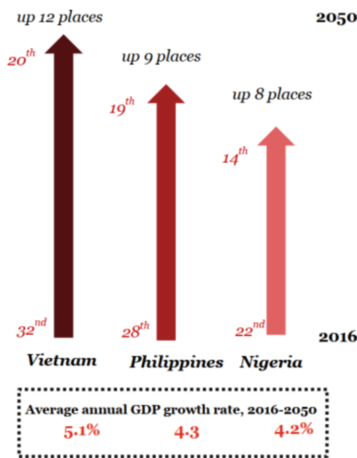
E7 economies   G7 economies

Source: PwC



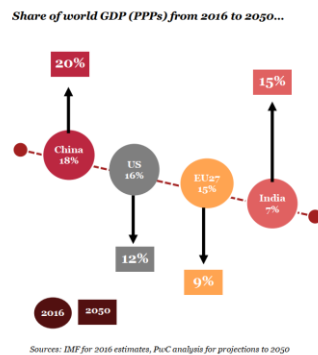
Source: PwC

Vietnam, the Philippines and Nigeria might experience the biggest progress by 2050



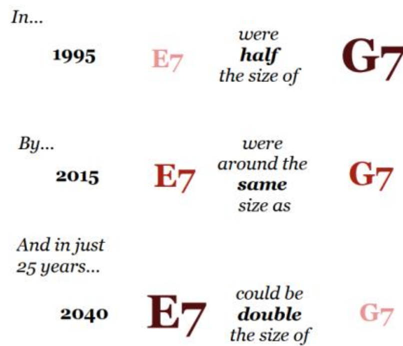
Source: PwC

China and India might overcome Europe and the USA



Source: PwC

The E7 economies might grow much more than G7



Source: PwC

Which main drivers of growth have been identified by this study?

1- **Initial GDP per capita[83].** It has been found that initial average income levels and subsequent growth in GDP per capita have a significant inverse relationship. This is because, typically, countries that have not been fully developed have more

[83] The Long View How will the global economic order change by 2050? - PWC. https://www.pwc.com/gx/en/world-2050/assets/pwc-the-world-in-2050-full-report-feb-2017.pdf

opportunities to grow by implementing technologies and ideas already implemented by more developed countries.

2-**Investment**. A one percentage point increase showed a 0.15 percentage point increase of GDP per capita. Investment makes an economy grow by accelerating technological improvements and therefore, increasing the country productivity[84].

3-**Education**. According to the study, real GDP per capita growth increases by 0.05 percentage points for every one percentage point rise in secondary school enrolment. Indeed, better education is associated with more qualified workers, and thus, increased productivity rates.

4-**Government debt**. The research showed that government debt and GDP growth were negatively correlated, however, this relationship had lower importance than other variables. Why negative? Because high levels of debt make a country more unstable, characterized by higher inflation and slower growth.

A more recent study, published by Goldman Sachs in December 2022, provides similar observations. In particular, the researchers identified 4 main topics for the next years (2023-2075)[85]:

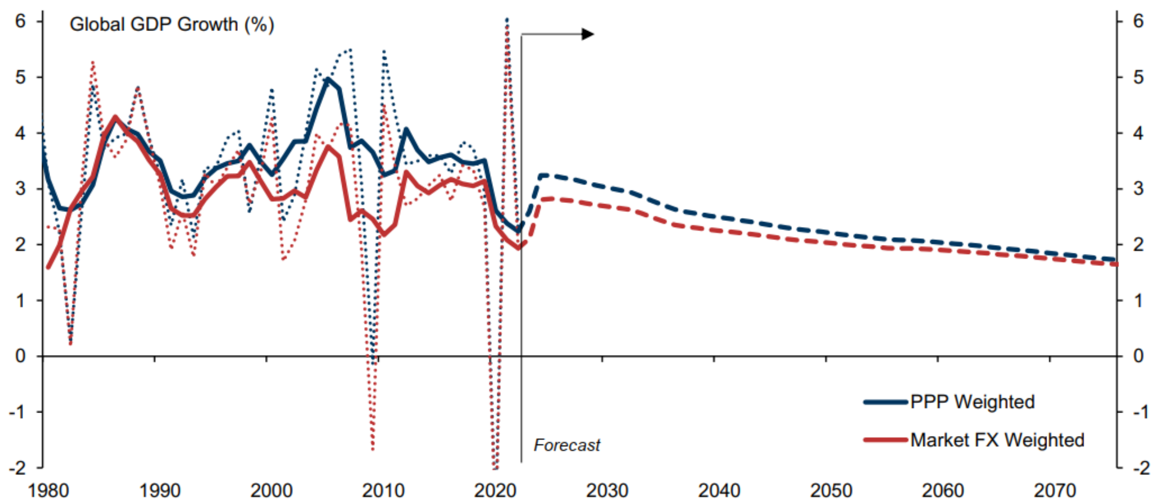
1. **A slower population growth will cause a lower global growth.**

They projected that global growth will be on average slightly less than 3% in the next decade and then will slow down, mainly due to slower growth of labour force. Indeed, during the past 50 years global population halved: from 2% to 1% per year and the researchers expect it to become almost zero by 2075.

[84] The Long View How will the global economic order change by 2050? - PWC. https://www.pwc.com/gx/en/world-2050/assets/pwc-the-world-in-2050-full-report-feb-2017.pdf

[85] The path to 2075 — slower global growth, but convergence remains intact. (2022, December 6). Goldman Sachs. https://www.goldmansachs.com/intelligence/pages/gs-research/the-path-to-2075-slower-global-growth-but-convergence-remains-intact/report.pdf

The decreasing growth

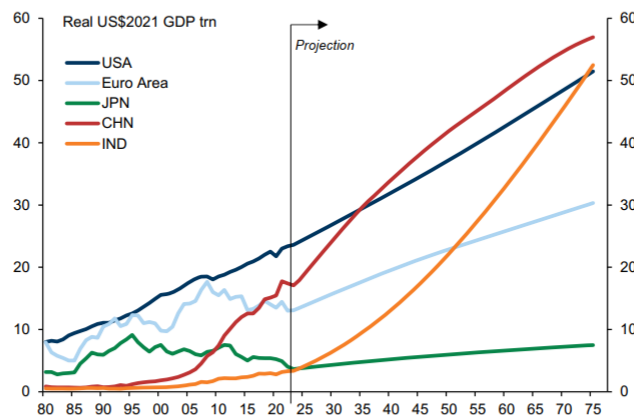


Source: Goldman Sachs Global Investment Research, IMF

2.**Emerging markets growth.**

According to this study, the world's five greatest economies (according to their real GDP) should be China, the USA, India, Indonesia, and Germany, by 2050. In addition, by 2075, in case of right policies and institutions, Pakistan, Egypt, and Nigeria have the potential to become the global largest economies.

EM Leadership positions by 2075



Source: Goldman Sachs Investment Research

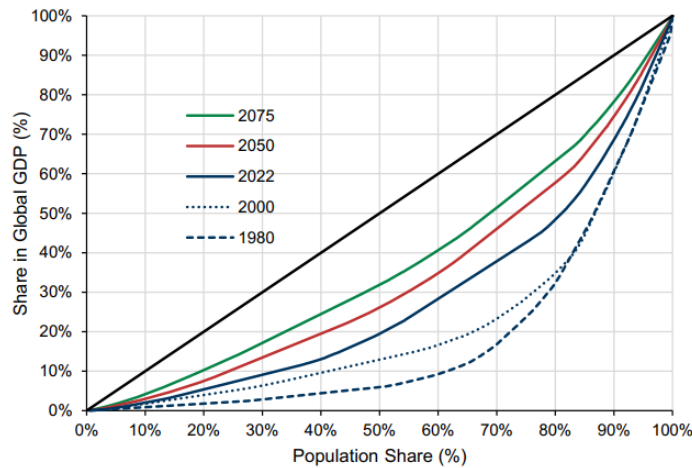
3. **US growth will not be so significant as in the last years**

It is very unlikely that US will grow in the next years, as it did before. Indeed, it will likely grow much less than large emerging economies.

4. **Less global inequality, more local inequality**.

During the last decades, income inequality between countries has decreased (thanks especially to globalisation), however, income inequality between countries has increased.

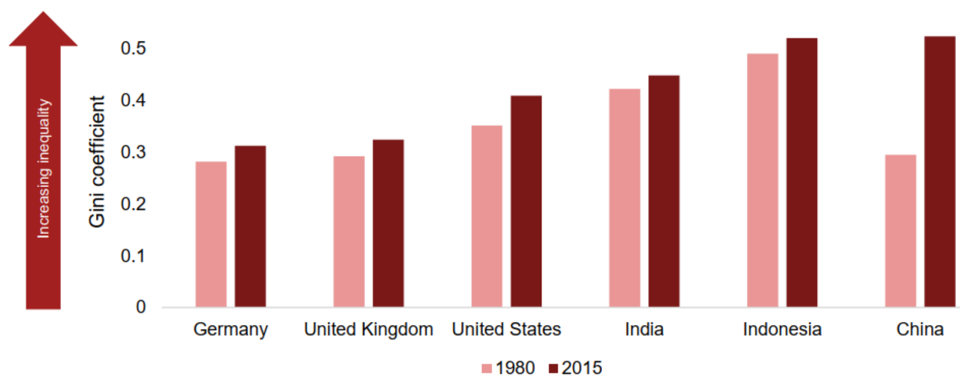
Global Lorenz Curve[86]



Source: Goldman Sachs

GINI Coefficients[87] for Major Economics

In developed and emerging markets, levels of wealth inequality have increased since 1980[88].



Source: GCIP

A Gini coefficient of 0 means that equality among individuals in a country is perfect, meaning that all income values are the same, while a Gini coefficient of 1 (or 100%) reflects maximal inequality among levels of income[89].

[86] Global Lorenz Curve: closer to the 45-degree line means less inequality
[87] GINI Coefficient: measures the inequality among levels of income.
[88] The Long View How will the global economic order change by 2050? - PWC. https://www.pwc.com/gx/en/world-2050/assets/pwc-the-world-in-2050-full-report-feb-2017.pdf
[89] Wikimedia Foundation. (2023, May 25). Gini coefficient. Wikipedia. https://en.wikipedia.org/wiki/Gini_coefficient

As we can see, regarding the E7, inequality has risen especially in China. This trend can be reversed in the next future thanks to development of stronger institutions, better education, improved healthcare, and social security.

European countries, like Germany and Austria, represent good examples of low inequality, thanks to a strong importance they give to universal access to high quality education and an efficient welfare system in order to redistribute wealth fairly across the country.

Instead, South Koreas can represent an example of a country that succeeded in improving its inequality level by lowering its Gini coefficient significantly since the end of the last century, thanks to the overall economic growth, but also to increased government investment in education.

Lastly, we would like to mention two important risks for the long-term sustainable growth for the next years[90]:

1- **Protectionism**: there is indeed the risk that populist nationalism (that already is present in several countries) will lead to increased protectionism (the opposite of Globalisation).

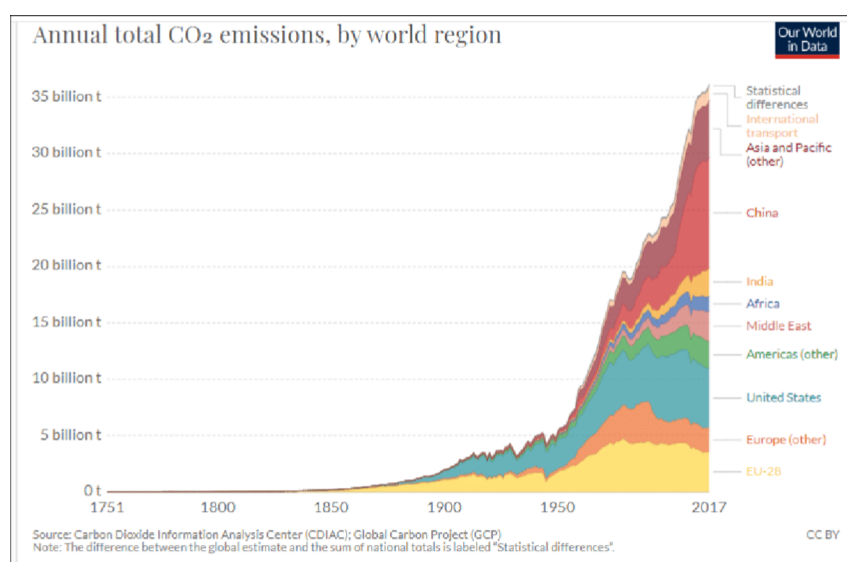
2-**Climate Change**: There exist opposite opinions in this regard: some believe that it is impossible to experience both economic growth and environmental sustainability at the same time, however, there is also a lot of evidence that sustainable growth is possible, even though it requires some sacrifices and a coordination between countries.

According to the same article of PwC mentioned before, while emissions in developed countries have begun to diminish, this is not the case in emerging countries. Since they tend to grow very fast nowadays, it also means their carbon dioxide emissions are growing as well, due to increased manufacturing production, growing infrastructure, and demand for housing, together with an increase in demand for electricity and heating. At the same time, climate change risks are very likely to cause more and more damage in the next years in developing countries due

[90] The path to 2075 — slower global growth, but convergence remains intact. (2022, December 6). Goldman Sachs. https://www.goldmansachs.com/intelligence/pages/gs-research/the-path-to-2075-slower-global-growth-but-convergence-remains-intact/report.pdf

to their already warm climate. Of course, it represents a significant risk especially because they often tend to rely on subsistence (or commercial) agriculture as the main part of their economy.

In addition, in order to respect international agreements regarding climate change and achieve the related goals, the effort of all the countries, developed and developing is needed. One of the main agreements we would like to mention is the Paris Agreement, stipulated among countries across the world in November 2016, with the promise to keep *"the increase in the global average temperature to well below 2°C above pre-industrial levels" and pursue efforts "to limit the temperature increase to 1.5°C above pre-industrial levels"*[91].



As we can see, Asian countries, including China has been performing much worse in terms of annual CO_2 emissions, than other countries, especially in Europe.

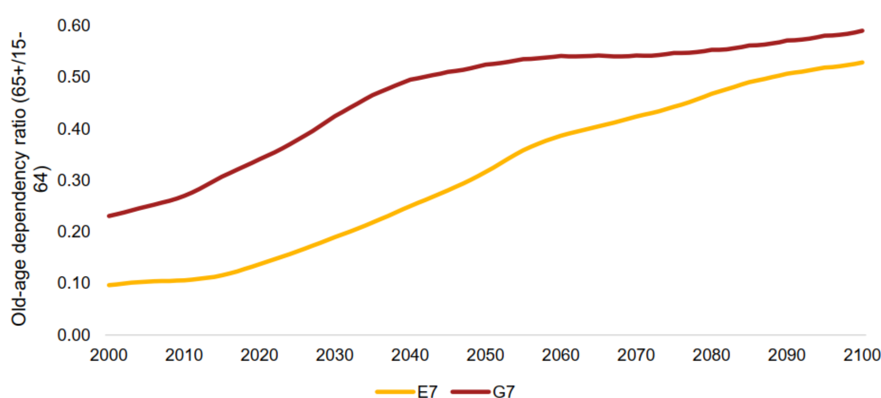
3-**Demographic change**

In a country that is becoming advanced, normally a demographic change occurs, meaning that birth rates decline, infant mortality decreases, and more women begin to work, in addition to the fact that people tend to live longer due to improvement in healthcare. We talk about old-age dependency ratio as the number of elderly people at an age when they are normally economically inactive, compared to the number of people of working age[92].

[91] Henriksen, A. (2023). Internaltional law.
[92] https://ec.europa.eu/eurostat/statistics-explained/index.php?title=Glossary%3AOld-age_dependency_ratio#:~:text=The%20old%2Dage%20dependency%20ratio,15%2D64%20years%20old

Nowadays, this ration in the G7 economies is close to 0.3. The UN estimates that by 2050 this ratio can increase to nearly 0.5 and to 0.6 by 2100.

Expected old-age dependency ratio



Source: PwC

This demographic change is beginning to be visible also in emerging economies[82]. Indeed, while over the last two decades the old-age dependency ratio of the E7 has been mostly constant, it is beginning to grow now and according to the United Nations calculations, it should increase from the current 0.1 to around 0.3 in 30 years.

Why longer longevity could represent a problem? As the population that belongs to workforce share begins to decrease, productivity will decrease. Of course, governments should undertake measures necessary to prevent the decrease of economic growth, for example improve healthcare system. Especially emerging markets should focus on increasing productivity of their population and innovation. Indeed, the potential output depends on how productive the workers are, and not only on their number. Therefore, long-term investments in technology and continuous learning and training are needed.

China's long-term growth prospects

According to an article published in March 2022 by Lowy Institute[93],

though China is likely to become the largest economy in the world, there is a high probability that it will face low rates of growth in the next future due to demographic decline, the limits of capital-intensive growth, and a general decrease in

[93] Revising down the rise of China. Lowy Institute. (2022, March 14). https://www.lowyinstitute.org/publications/revising-down-rise-china#:~:text=Among%20studies%20that%20attempt%20to,a%20year%20sustained%20to%202050

productivity. This study projected that annual growth of Chinese GDP will fall to 3% by 2030 and 2% ten years after, and an overall growth between 2022 and 2050 of 2-3%. In addition, even when China will become the first world economy, it will anyway remain less well-off and productive per person even by 2050.

2.4 Sustainability challenges in Asian emerging economies

2.4.1 Overview

In comparison to mature countries, the route to sustainability has moved more slowly in emerging markets. Indeed, emerging markets often present significant problems such as poverty, urbanization, pollution, sickness, and corruption. As a result of increased ESG consciousness these problems have gained more visibility. These nations also are characterized by underdeveloped, illiquid equity markets and nationalized banks, lax bureaucratic oversight, a lack of information about companies that would interest investors, and, often, low ESG investments. (Garcia et al., 2017).

Using Elkington's (1997) "Triple Bottom Line" approach, it is possible to examine these problems from each of the three perspectives of sustainability[94].

a) *Environmental Issues*

Asia is notably one of the regions that are subject to brutal weather. In this regard, emerging nations are particularly vulnerable to the effects of climatic change, including local pollution issues and resource constraints. Government initiatives to cut emissions and the resulting pollution appear to have a significant influence in these nations. The fast growth rate that distinguishes emerging countries is closely related to the discovery of primary resources.

By 2050, the world's population should rise to 9.6 billion people, with the majority of that increase occurring in the world's less wealthy nations. The growth in emerging market incomes causes the demand for food, water, and energy resources to rise significantly each year. According to a 2019 UN report, many emerging markets will be among the most susceptible to water stress that will dominate the coming decade.

[94] Pellegrini, B. C., Pellegrini, L., Catizone, M. (2022). Climate change adaptation, governance and new issues of value: Measuring the impact of ESG scores on Coe and Firm Performance. Palgrave Macmillan.

Therefore, technology advancement, which is the driving force behind the transformation of many businesses, can serve as a pertinent key to address environmental concerns that have a significant impact on local, regional, and worldwide economies.

b) *Social Issues*[95]

The fragile nature of institutions and the inequality that characterize these countries' regulatory systems are at the root of societal issues. Emerging economies are characterized by a multitude of social issues, in large part because of weak political structures that are not always able to effectively address issues at the local or national level. In addition, there are little rules governing product standards or quality control, and there is limited consumer protection.

In terms of workplace protection from human rights abuses, much alone adequate health and safety requirements, workers frequently lack any kind of assurance. Slavery appears to be an ongoing issue in many emerging nations, and the working environment is typically marked by low transparency.

c) *Governance Issues*[95]

The governance rules in emerging markets are significantly different from those in developed markets. Large-scale problems like corruption, a lack of disclosure, and lack of openness are strongly associated with emerging nations and have a significant impact on governance in these nations.

According to Odell and Ali (2016), there is a direct correlation between corruption and a nation's per capita income. Indeed, emerging and frontier nations frequently perform badly in terms of corruption. Companies' disclosure also often is scarce despite the tremendous advancements made in nations that have switched from domestic accounting standards to international ones. Financial statement integrity and quality can vary significantly between businesses and between nations.

The prevalence of companies with controlling shareholders is substantially higher than is usually observed in developed markets. Typically, majority stockholders

[95] Pellegrini, B. C., Pellegrini, L., Catizone, M. (2022). *Climate change adaptation, governance and new issues of value: Measuring the impact of ESG scores on Coe and Firm Performance.* Palgrave Macmillan.

make up the majority of the board; this indicates that the board is not independent. The demands and management's experience may be constrained, even with independence.

2.4.2 Literature[96]

Historically, developed markets were the focus of research on the relationship between corporate financial performance and ESG policies. Despite accounting for a sizeable share of global business, emerging markets are still underrepresented in the literature on ESG performance. This is partly because usually it is difficult to obtain reliable data. However, as evidenced by several studies, sustainability does not seem to be an impediment to the advancement of these countries and might potentially be advantageous to business financial performance. Indeed, despite the various obstacles that emerging markets must overcome, research suggests that improving of ESG practices does not appear to impede market growth, but rather opens up new possibilities.

Some studies [97] demonstrated that greater ESG efforts regarding corporate governance, more attention towards environmental issues, investments in social developments, and so on are able to improve emerging markets' productivity and decrease risk in general. The general political and economic environment, of course, is also very important in order to help corporates become more sustainable[96]. Furthermore, the expansion of information availability and the number of stakeholders raises expectations for accountability and openness.

The importance of disclosure is yet another important concern for businesses operating in developing nations. The literature suggests a favourable correlation between financial success and transparency levels in asymmetric information contexts like emerging markets. According to Lang et al. (2004), investors appear to have a tendency to view more disclosure by companies favourably, which may account for the positive appraisal of the influence of ESG disclosure on business performance. Investors choose to allocate their capital to clustered businesses in

[96] Pellegrini, B. C., Pellegrini, L., Catizone, M. (2022). *Climate change adaptation, governance and new issues of value: Measuring the impact of ESG scores on Coe and Firm Performance.* Palgrave Macmillan.

[97] E.g. Thorpe J. and Prakash-Mani K. "Developing value". (2003).

order to address asymmetric information difficulties. Businesses in emerging markets are frequently grouped near financial hubs. Since there are more businesses in the financial centre, there appears to be less information asymmetries for businesses, allowing for more pertinent information. The study reveals, however, that there is a negative correlation between ESG disclosure and firm performance in India. This unfavourable consequence appears to be caused by the fact that stock market investors view socially responsible operations as superfluous expenses.

2.5 Sustainability measurement challenges in emerging markets

Even while the private sector is engaged in a lot of sustainability projects in developing economies, it is sometimes challenging to comprehend them. In fact, in addition to a lack of data itself, the key problems are a lack of uniform measuring and reporting standards. The non-financial performance of all companies, not just the biggest ones, has to be able to be measured.

Here, we give a succinct outline of the major obstacles facing sustainability projects in emerging economies.

1. The need for better measurement of sustainability initiatives

Although not consistently throughout all areas or nations, initiatives that offer voluntary measuring services across developing markets have had immense impact. Markets in Latin America, heavily rely on voluntary certification techniques like B Corp. To analyze and manage the beneficial effect of its suppliers, Bancolombia (a banking institution that provides financial services and goods in South America) collaborates with B Corp. But there isn't consistency among the many industries. In fact, consumer-facing brands use these techniques more frequently than businesses in other industries.

As we mentioned before, the main driver for increase attention towards ESG factor for businesses is represented by pressure from investors, who are willing to understand as better as possible company and industry risks before making their investment decisions. This led to increasing number of national provisions regarding sustainability reporting. In addition, also country-led initiatives are becoming well-spread. For example, the Egypt’s stock exchange launched an ESG index in order to

distinguish between companies responsible from the ESG perspective, compared to their peers who are less sustainable (EGX, 2020).

2. Lack of common set of measurement criteria

Notwithstanding the growth of ESG investing, market participants still do not have relevant, comparable ESG data needed to manage risks and measure outcomes (OECD, 2020c). One of the reasons why it is difficult to measure sustainability performance of business activities is the proprietary nature of measurement initiatives. Indeed, rating agencies develop their own index based on different methodologies and criteria, that often are not publicly disclosed. This can create confusion, since different indexes rank companies according to different criteria.
These fragmented ESG frameworks and inconsistent disclosure requirements create difficulties for both corporates and institutional investors. Indeed, companies find it more difficult to attract finances at a fair cost that would correctly assess their ESG performance, or on the contrary, the market is not able to assess all the ESG risks of a company. On the other hand, financial investors lack information regarding these risks. (OECD, 2020c).

3. ESG performance and financial accounting are not yet connected

Currently, very few companies incorporate the return on their ESG investments into their accounting procedures. This indicates that there are no links between accounting data and investments in sustainability.
However, there are certain examples of businesses that make an effort to accurately portray the benefit of ESG investments. Employing this strategy may help businesses better understand the risks and opportunities related to climate change that could arise from governmental efforts to transition to a sustainable economy.

2.6 China overview

Currently, Chinese companies present lack of a uniform ESG disclosure and very low ESG ratings compared to other countries, however, they have been improving over time. There is enough evidence to suggest that Chinese companies with higher ESG ratings present a higher financial performance than their peers with lower ratings.

Lack of disclosure:

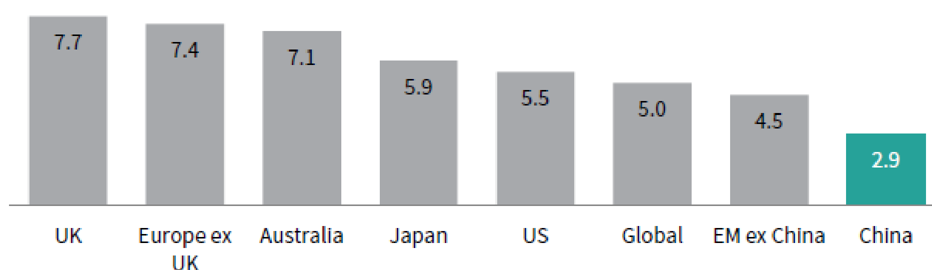
A lack of disclosure means that investors or asset managers do not have enough information regarding Chinese non-financial performance, which they usually should and need to consider in their investment decision-making process. It does not allow comparing Chinese companies among them and with their global peer companies regarding important ESG issues. Luckily, Chinese companies have increased their ESG disclosure during the last few years. While in 2009 only 43% of A-shares companies where disclosing their voluntary ESG information, thei number rose to 82% in 2018. The main driver of this "openness" has been the fact that Chinese firms began to understand that more ESG disclosure can help them attract more foreign capital. Also, some government policies help in this regard.

Low ESG rating:

Currently, China's performance in terms of ESG rating is significantly worse, than that of the largest economies. China was ranked 47th out of 50 nations in the MSCI All Country World Index in 2021, with a median Industry-Adjusted Score of 2.9 on a scale of 0 to 10. This information was provided by MSCI ESG Research. The countries that score worse than China were Peru, Qatar, and Egypt.

Low median ESG score in China

June 30, 2021



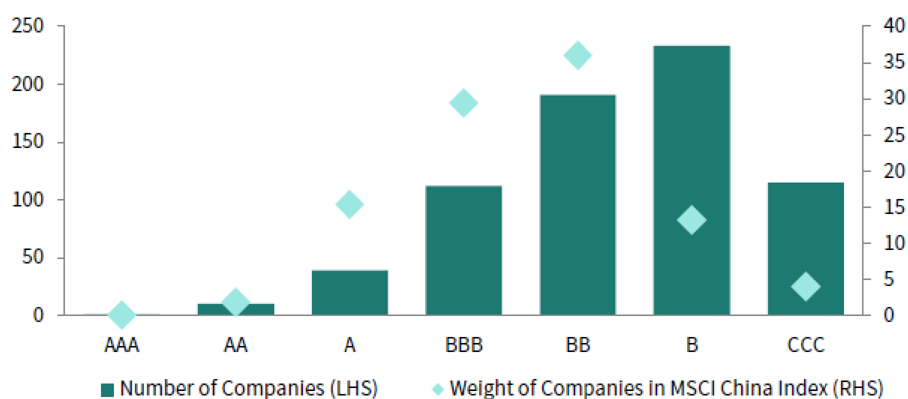
Sources: MSCI

Considering just the Chinese companies, a significant share of the companies score low, compared to their global peers, since mostly they are mostly rated B or CCC.

According to MSCI Rating Methodology, companies with a rating CCC and B are called "laggards", BB and BBB "average", and AA and AAA, "leaders"[98].

The majority of the Chinese companies present below average ratings[98]

[98] ESG investing: ESG Ratings. MSCI. https://www.msci.com/our-solutions/esg-investing/esg-ratings



Sources: MSCI

As we can see, the distribution of ESG ratings of companies represented by the MSCI China Index is concentrated in the “worsts part” of the rating scale, since in 2021 only ten companies, could be considered ESG leaders, while almost half to the companies were rated B or CCC. Nonetheless, these so-called “laggards” represented only 17% of the companies considered by MSCI[99]. Indeed, MSCI rated most of the largest Chinese companies, like Alibaba, Tencent, and Meituan were rated as “average”.

Which are the main characteristics of the Chinese companies that scored low in terms of ESG?

<u>Environmental Pillar</u>:

to its growing population (1.4 billion in 2021) and economy, it has faced and is facing multiple problems, like the increasing vehicle traffic, low air quality, huge waste amount disposal and so on. Regarding the last issue, in 2018 the Government has limited the waste imported from other countries and consumers are also beginning to asking for more attention from the companies e.g. by preferring recycled and recyclable products.

Regarding the environment issue, China is the most energy-consuming and CO_2 emission entity, and its carbon emissions are even higher than developed countries (Su J. et al., 2021). The country accounts nowadays for 27% of annual carbon dioxide and 1/3 of the global GHG emissions, responsible for the climate

[99] Costello, A., & Gan, V. (2021). ESG Challenges and Opportunities in Chinese Equities. Cambridge Associates. https://www.cambridgeassociates.com/insight/esg-challenges-and-opportunities-in-chinese-equities/

change. Therefore, this country's attention to the environmental issues is of paramount importance

Researchers believe that China 's energy-related carbon emissions should peak around 2025, remaining quite constant for the following five years, and then drop. By 2050, the carbon emissions should drop to 2.4×109 t, until reaching net emissions by 2060.

Regarding the sectors mainly involved, currently, the electrical power and industrial sectors account for 43% and 40% of the carbon emissions from the energy industry, respectively. Experts believe that the carbon emissions from the industry and transport sectors will peak before 2025, while electrical power and construction will peak before 2030.

Unlike developed countries, this country has been historically significantly dependent on coal. Therefore, one of the first and more important step towards carbon neutrality should be less and less reliability on coal.

Social Pillar: the main issues here are lack of privacy and low health and security protection.

Governance Pillar: here we can say the main problems concern non transparent executive pay and board independence, since numerous companies do not have independent members as the majority. This last problem is worsened in case a company in in hands of a controlling shareholder, as in case of multiple state-owned or founder-led Chinese companies. The consequence is lack of enough representation and influence of minority shareholders.

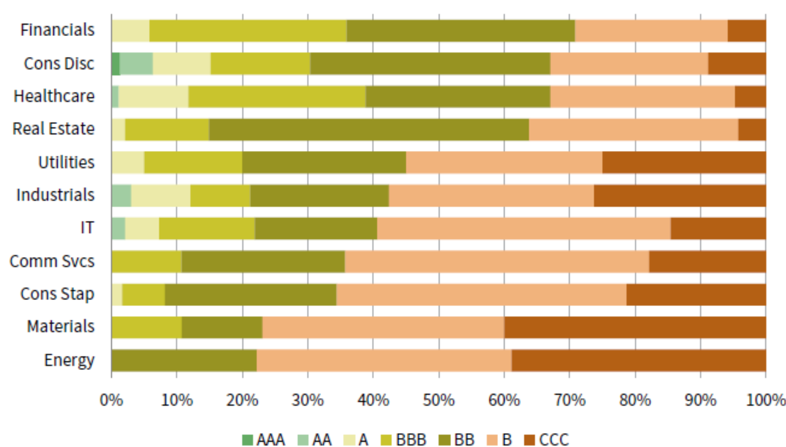
Other issues causing low scores are represented by immoral or illegal corporate behaviour, characterized by fraud, antitrust violations, tax-related controversies and so on.

We also mention the fact that low Chinese scores are caused by low levels of disclosure. As a matter of fact, MSCI ESG Rating evaluates 35 key issues, about which it is needed to have company disclosure. In case no disclosure is provided, the system considers that company performance as below the industry average.

ESG Ratings within China

Even being low overall the Chinese ESG scores, they still vary across sectors. Indeed, the materials and energy sectors perform much worse than their global oversees peers, since nearly 80% of the firms here are rated either B or CCC. Material companies struggle especially with pollution, water stress, toxic emission, and waste. Energy companies, involved mainly in coal and oil & gas production and distribution have similar problems, in addition to corporate governance issues due to board and executive pay[100].

ESG Ratings across sectors in China in 2021



Sources: MSCI

On the contrary, healthcare and consumer discretionary perform better in terms of ESG rating, with the prevalence of BB score and less B- and especially CCC-rated companies. In addition, these two sectors, information technology and industrials have a portion of AAA- and AA-rated companies. Technology "virtuous" Chinese companies are mainly the ones that focus on clean technology and perform well also from the Social pillar point of view. For example, the automobile company Yadea Group Holdings Ltd can be considered one of the leaders. It is rated AAA and it satisfies some of the Key issues and Themes of the MSCI Rating. Indeed, it shows good Corporate behaviour and Corporate Governance, manages properly its workforce and is one of the leaders in clean technology.

[100] Costello, A., & Gan, V. (2021). ESG Challenges and Opportunities in Chinese Equities. Cambridge Associates. https://www.cambridgeassociates.com/insight/esg-challenges-and-opportunities-in-chinese-equities/

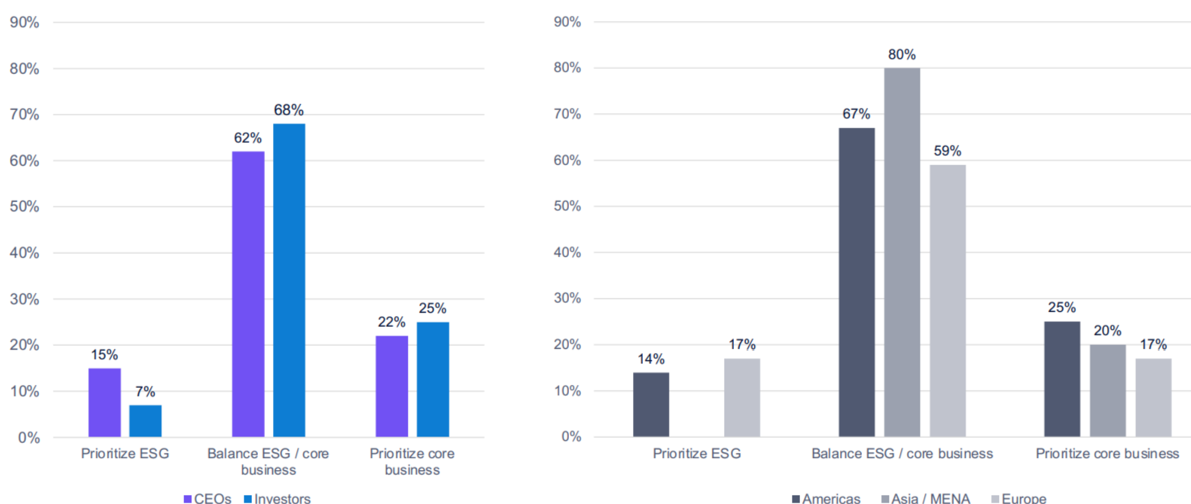
In addition, the ESG ratings across Chinese companies has been changing positively across years. Indeed, while the share of CCC-rated companies in 2018 was 22%, it fell to 16% in 2021, and B-rated ones declined from 37% to 33% over the same period. At the same time, BB-rated companies increased by 6%.

2.7 USA overview

We will not go too much in detail regarding American companies, since we preferred to focus more on developing countries. Still, since our empirical analysis will be focus on a comparison between Chinese and American companies, we would like now to give a brief general overview of what is happening and is going to happen in 2023 in American corporate world in terms of ESG practices.

In general, according to a recent study made by Teneo[101], CEOs and investors are still striving to integrate business needs with ESG considerations despite recessionary challenges.

In fact, 15% of CEOs prioritize ESG investment over business performance, and almost 2/3 of investors and CEO say they plan to prioritize both factors through 2023.



Source: Teneo

[101] Too legit: Esg won't quit – U.S. ESG trends for 2023. Teneo. (2023, February 24). https://www.teneo.com/too-legit-esg-wont-quit/

1. *ESG Standardization*[102]

The USA, just like other counties, is moving towards a standardization of ESG policies and ESG reporting. In order to understand the importance of a unique ESG reporting framework, we can think about the first financial reporting framework frameworks, created especially during the last century after the 1929 Crisis. There is the need to create an accurate, comparable, reliable financial ESG information disclosure system and make ESG controls and internal audits inside companies as something normal, just as it happens with "traditional" financial information provided by companies in their annual reports.

The USA in this regard is left behind, especially compared to the European CSRD. In addition, the delays at the government level are likely to be offset by the private markets.

It is extremely likely that in the next future the SEC will require combined disclosure regarding both financial and non-financial information together.

2. *ESG importance will become more and more independent of political views.*

Although there still persist different opinions regarding ESG at political level, this concept and related issues are becoming so important that soon there will be no place for partial opinions and ESG metrics will become rather objective[103].

3. *Increasingly, investors are beginning to be very interested in how companies' ESG efforts are impacting their financial performance.* Indeed, there is broad evidence that strong ESG performance creates value. For example, companies considered as good, or best places to work for have continued to perform better than the market over the last years.

[103] Too legit: Esg won't quit – U.S. ESG trends for 2023. Teneo. (2023, February 24). https://www.teneo.com/too-legit-esg-wont-quit/

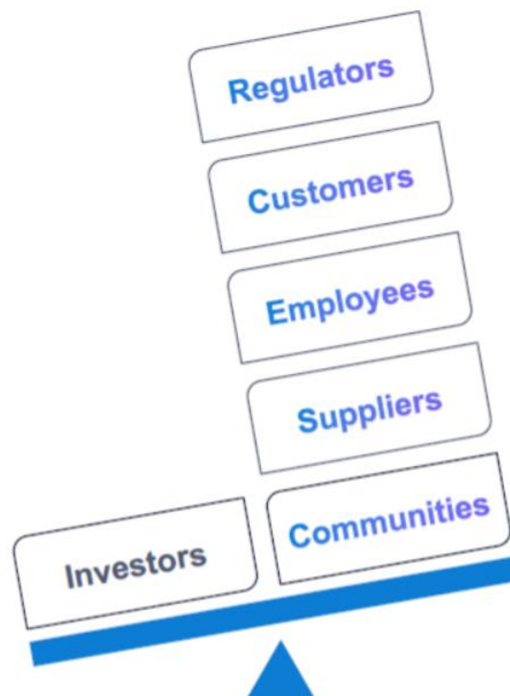
Companies that are rated top employers show stock outperformance

Source: Bloomberg Data, Fortune 100 Best Companies to Work For ratings

What is this positive correlation due to? Having satisfied employees leads to higher retention rates, spending less resources on legal issues and to train new employees. In addition, people who like their job usually spread their positive experience to other potential employees, customers, and so on.

In addition, strong ESG practices can perform a company's financial performance for example by creating new revenue streams when a new sustainable product is introduced (e.g. an automotive company introduces electric vehicles) or by having access to lower interest rates awarded to ethical and responsible companies.

4. *After the Roudtable Announcement in 2019, more attention is paid towards stakeholder, instead just shareholders.*



Source: Teneo

Indeed, after this event, stakeholder capitalism has become a growing trend around the world. More companies are beginning to publish officially important ESG issues and which solutions they try to implement.

5. *The role of "activist employees" is becoming more and more important.*

Millennials represent the large portion of American workforce and, differently from the previous generation, they have digital tools, like social media, to express their opinion and not be afraid to raise their voice against corporate misconducts. Indeed, social media have been able to put a spotlight on some important issues through campaigns like #metoo movement to Black Lives Matter and a lot of others, putting pressure on companies to become accountable also to other stakeholders, and not only their investors.

6. *More activist CEOs are expected*[104].

Not only employees, but also CEOs are becoming more aware of sustainability issues. First, employees want to work for companies with similar values as theirs. Second, the next generation of CEOs will be represented by the current millennials, who, as we know, are more sensitive to the ESH issues than previous generations.

7. *Sustainability Incentives.*

Over the last years, several companies began to link their executive compensation progress on specific ESG initiatives and some of them, included it as a factor of compensation for all employees.

[104] Too legit: Esg won't quit – U.S. ESG trends for 2023. Teneo. (2023, February 24). https://www.teneo.com/too-legit-esg-wont-quit/

CHAPTER 3: EMPIRICAL ANALYSIS

Introduction

The aim of the first two chapters has been to provide some theoretical background regarding ESG and emerging markets, as the context for the following empirical study.

In this chapter, we are going to present our step-by-step empirical analysis. First, we will present our research question with the related hypothesis. Later, we will explain the process of data collection, and how we were able to build our database. Then, we will describe the variables that we chose to utilize, which include the dependent, independent, and control variables. After that, we will describe how the study has been executed from the statistical standpoint, and then analyze the outcomes of our research. Finally, we will provide the Signaling theory: a well-known theory in the literature that may help us to explain the results of our study, and the Hofstede theory, which is often used to understand the cultural, political, economic, and other differences between countries.

3.1 Analysis

3.1.1 Research question and Hypotheses

We chose to compare companies located in the USA and in China, as they represent the two largest economies in the world. One of them is well-developed, while the second one is still considered emerging by the majority of the academic and financial world.

The question we asked ourselves is "How different is the relationship between the Environmental Score and ROE / ROA on average in American and Chinese companies?".

We expect this relationship to be stronger in the USA, given the fact that the markets, including the investors, are becoming more and more attentive to the ESG scores in the developed countries especially, including the USA. In both cases, we expect this relationship to be positive in both countries, meaning that an increase in

Environmental score on average leads to an increase in companies' financial performance indexes, like ROE and ROA.

Therefore, we elaborated 2 Hypothesis:

H1: A higher Environmental Score leads to a higher ROE in the USA than in China.

H2: A higher Environmental Score leads to a higher ROA in the USA than in China.

Now we can proceed to explain how we collected our dataset.

3.1.2 Data collection

We took into consideration a large sample of active, publicly quoted Chinese and American companies. The data regarding these companies was supposed to allow us to develop an empirical analysis and comment on the results obtained.

We found this data mainly using the following databases:

- *Orbis – Bureau van Dijk*: in order to find the financial data of the companies analyzed. This database contains information regarding about 450 million companies and entities across the world, 45 million of which present detailed financial information. It allows for screening according to geography, financial performance, industry, ownership structure, number of employees, and so on. Orbis is managed by the society Bureau Van Dijk and has been acquired in 2017 by Moody's.[105]
- *Boardex*: in order to find the ESG-related data regarding the companies of our interest. This database analyses the profiles of more than 2.2 million public, private, and not-for-profit organizations.[106]

We took into consideration the years 2017-2021 so to have a big enough sample, but without taking into account data that could be deemed too outdated.

[105] Business information databases: Bureau van dijk. bvd.
[106] FAQS. BoardEx. (2023, May 16). https://boardex.com/faqs

Of course, the first screening factor we considered was the geography of China and the USA. After that, we searched the following indicators for the years 2017-2021:

- ROE before tax
- ROE after tax
- ROA before tax
- ROA after tax
- Gearing (a company's debt/equity)
- EBIT
- EBITDA
- EBIT margin
- EBITDA margin
- Number of employees
- Total assets
- Total liabilities
- Operating revenues
- Total revenues
- ROCE before tax
- ROCE after tax
- ISIN[107]
- Liquidity ratio
- Current ratio
- ISO code

Regarding the ESG-related data, we considered all the available US and Chinese companies and took into account their Environmental, Social, and Governance scores and weights for all 5 years.

Once we obtained this large amount of data, we proceeded to combine the information from the two database sources, by using the ISIN number of companies found on both the Orbis and Boardex platforms. ISIN is a 12-digit alphanumeric code that is able to identify a specific security. This code allows us to find the same company among different databases.

[107] Chen, J. (2023, May 11). Isin number: What it is, how and why it is used. Investopedia. https://www.investopedia.com/terms/i/isin.asp

To be able to analyze the final data sample through a regression the STATA software was utilized. The aim of our analysis is to demonstrate through a Panel regression model the difference between China and the USA in terms of the effect of the Environmental Score on companies' performance in terms of ROE and ROA.

3.1.3 Variables

After we created a satisfying sample of data, we then proceeded to select the variables we were interested in (independent, dependent, and control variables), and analyzed the correlations between them. We first present the independent variable, then the independent ones, and finally, the control variables.

The **independent variable**: the **Environmental score**.
We selected this variable and not the other two (Social score and Governance) since it presented more statistically significant results.
In addition, the relevance of this topic nowadays, as we mentioned before, given climate change and the related risks, made us believe that our results could represent a useful base for further research. The score assigned to each company was comprised between 0 and 10.

The **dependent variables** selected as a measure of financial performance are ROE and ROA.
Even though multiple other variables could have been analyzed, either of financial or operative nature, we opted for these two, since they presented quite a significant statistical result in our analysis.

1. **ROE**:

Return on Equity[108] is determined by dividing a company's net income by the amount of its shareholders' equity. Since equity is equal to a company's assets minus debt, it can also be considered the return on net assets[109].

Net income is calculated by subtracting COGS, SG&A, depreciation and amortization, interest expense, taxes and any other expense from sales revenue, while equity consists of share capital and retained earnings.

Return on Equity is a ratio that brings together the income statement, where we find the net income and the balance sheet where we can see the shareholders' equity. The number obtained shows the company's ability to transform its equity investments into profits, or in other words, it shows the profits generated for each dollar (or other currency) from shareholders' equity. This measure is considered to be more conservative, compared to other measures such as gross income or operating income, since it deducts more expenses.

Whether we can consider the ROE of a company as satisfying usually depends on its past compared to its present performance, or we can compare the number obtained with the company peers on the market that are similar by size, industry etc. A sustainable increase in ROE over time can be a sign that a company is able to generate shareholder value since it is investing its earnings wisely. On the contrary, a decreasing ROE over time can mean that the company is making poor investment decisions.

What could be considered a satisfying ROE value depends mostly on the industry. For example, in 2023, the USA average ROE for Publishing/Newspaper industry is 5.15%, while for Oil & Gas (Production and Exploration), 47%.

ROE can be also interpreted as a ratio between ROA (Net Income/Assets) and Financial Leverage (Total Assets/Equity).

2.**ROA**:

[108] Fernando, J. (2023, May 24). Return on equity (ROE) calculation and what it means. Investopedia. https://www.investopedia.com/terms/r/returnonequity.asp

[109] Return on equity (ROE). Corporate Finance Institute. (2023, April 27). https://corporatefinanceinstitute.com/resources/accounting/what-is-return-on-equity-roe/

Return on Assets measures a company's in relation to its total assets[110]. A high ration means that a company is efficient at generating profits. However, just like ROE, the ROA values should be considered over time and/or compared in the context of the company's competitors in the same sector. For example, the average ROA of companies belonging to an asset-heavy sector is usually lower than ROA of tech companies.

Although it is difficult to generalize, an ROA of 5% or higher is normally considered good.

Control variables:
Are variables that are neither dependent, nor independent, but are important to include in a regression, since they influence and make for more reliable outcomes in a study.

In our experiment we considered 3 control variables.

1. **Revenues**: in order to take into account an operating performance measure. We could have also considered EBIT or EBITDA, by subtracting expenses from the Revenues (COGS, SG&A, depreciation, and amortization in the case of EBIT, or only COGS and SG&A in the case of EBITDA).

2. **Gearing**: company's debt-to-equity ratio (financial leverage)[111]. This ratio represents the percentage of a company's equity that would be required to repay all debt of a company. A high percentage means that a company has more debt compared to its equity. In order to understand how "good" a company's situation is regarding its debt-to-equity ratio, it is useful to compare it to its competitors in the same industry. For example, more capital-intensive companies are likely to have more debt compared to companies with fewer fixed assets. Nonetheless, there are some basic guidelines:

[110] Birken, E. G. (2022, October 16). Understanding return on assets (ROA). Forbes.
[111] Boyte-White, C. (2023, April 5). Gearing ratios: What is a good ratio, and how to calculate it. Investopedia.

- If > 50%: a company is typically considered highly levered, and this can represent an issue especially in cases where the loans have variable interest rates, and the market interest rates suddenly increase[111].
- If 25%-50%: is usually considered normal.
- If > 25%: is typically considered low-risk. Indeed, if invested properly, debt can help a company expand its operations and increase profits. On the contrary, a company that avoids borrowing might lose a profitable opportunity. Normally, profitable investments are the ones that guarantee a ROI (return on investment)>i (interest rate at which the borrowing occurred). In this case, indeed, companies are able to increase their ROE, and thus become more profitable and guarantee increased returns to their shareholders. On the contrary, financial leverage leads to a decrease of shareholders' returns when ROI<i.

3. **Firm size**: in order to consider companies' dimensions, a natural logarithm of the number of their employees has been considered.

Moderator variable

Regarding the moderator variable, we consider whether it is an emerging country (in our case, China) or a developed one (the USA).

A moderator variable alters the direction and/or strength of a relationship between an independent and a dependent variable[112]. Moderating variables can strengthen, weaken, or negate the relationship between two variables. In order to be a moderating variable, there is needed a significant statistical interaction between that variable and the predictor.

We can describe the process of including this type of variable as follows.

The simple regression equation is:

$Y = \beta_0 + \beta_1 X$[113]

[112] King, P. S. (1970, January 1). Moderators/moderating factors. SpringerLink. https://link.springer.com/referenceworkentry/10.1007/978-1-4419-1005-9_971

[113] Zach (2021) What is a moderating variable? Definition & Example, Statology. Available at: https://www.statology.org/moderating-variable/#:~:text=A%20moderating%20variable%20is%20a,variable%20affect%20a%20dependent%20variable. (Accessed: 30 May 2023).

If there are reasons to believe that a third variable (Z) can “moderate” the relationship between the dependent and independent variables, then we have to include it in our model:

$Y = \beta_0 + \beta_1 X_1 + \beta_2 Z + \beta_3 XZ$

This is the case when the coefficient of XZ is statistically significant.

Z is not a moderator variable and should not be included if, on the other hand, the P-value for the coefficient of XZ is not statistically significant.

Finally, even in the absence of a statistically significant interaction between X and Z, the coefficient for Z can still be statistically significant. Indeed, we should add Z as a new independent variable to our regression model in this situation:

$Y = \beta_0 + \beta_1 X + \beta_2 Z$.

To conclude, the **significancy level (alpha)** has been chosen to be 0.05 or 5%. It means that the results can be considered significant when the level of P-value≤0.05.

3.1.4 Methodology

As we mentioned before, once we obtained our sample of variables, we used the STATA software to analyze the data and verify our hypotheses through a regression model.

The dataset on which this model has been performed is called panel data. Through this statistical instrument we gather data about the behaviour of n companies observed through a number of (in our case, 5) years.

Regression is a method that we use to study relationships existing between variables. We talk about simple linear regression when we try to verify a relationship between just two variables: how the dependent variable Y is influenced by the independent variable X.

As we mentioned above, the simple regression model can be expressed with the following equation:

$Y_i = \beta_0 + \beta_1 X_i + \varepsilon_i$

$(X_{it}, Y_{it}), i=1,\ldots n)$

Where:

- Y_i outcome variable
- β_1 is the intercept
- X_i is a vector of predictors
- ε_i error term.

How do we interpret the β coefficient? For a given entity, when a predictor (independent variable) changes one unit over time, the outcome (dependent variable) will increase/decrease by β units.

The coefficient β_0 is called intercept and represents the value of the dependent variable Y when X=0 and it is the estimated actual value of β_0. β_1, instead, is the regression coefficient and the slope of the regression curve[114] and represents how the value of variable Y changes on average when the variable X changes by one unity, and it is the estimated actual parameter β_1. What types of relationship can exist between these variables?

1) $\beta_1 > 0$: in this case the regression curve is increasing, and Y increases when X increases

2) $\beta_1 < 0$: the regression curve is decreasing, and Y decreases when X increases

3) $\beta_1 = 0$: the regression curve is constant, and Y does not change when X changes.

When a regression has to be performed over a panel data, like in our case, what we want to study is the existence of a linear relationship between the dependent variable and multiple independent variables.

The model for a statistical unit i a time t with one explanatory variable X becomes:

$Y_{it} = \beta_0 + \beta_1 X + u_{it}$

If we introduce more independent variables, the formula to be applied is the following:

$Y_{it} = \beta_0 + \beta_1 X_{1it} + \beta_2 X_{2it} + \ldots + \beta_k X_{kit} + u_{it}$

[114] Weiber, T., Weiber, R., Gensler, S., Erichson, B., Backhaus, K. (2021). In Multivariate analysis: An application-oriented introduction. Springer.

The regression coefficients can be estimated by implementing the **Ordinary Least Squares** method. This technique allows us to obtain a function that minimizes the sum of squares of the distances between the observed values and the values of the regression curve. In other words, the OLS method allows us to minimize the following quantity:

$\sum^{n}_{i=1}(Y_i - \tilde{Y}_i)2 = \sum^{n}_{i=1}(Y_i - \beta_o - \beta_1 X_{1i} - \beta_2 X_{2i} - \cdots - \beta_n X_{ni})^2 = \min$

Where:

- Y_i are the values observed
- $\tilde{Y}i$ are the theoretical values of the regression curve.

In order to verify how well the regression line approximates the actual data, we use the coefficient of determination, also called **R-squared**. It represents the percentage of the variance in the dependent variable that explicable by the independent variables. The value of this coefficient ranges from 0 to 1.

3.1.5 Descriptive Statistics

By this term, we mean a table of coefficients that summarize a given data set[115]. In our case, the coefficients obtained through the Descriptive statistics analysis of our selected independent (Environmental score), dependent (ROE and ROA), and control variables (D/E ratio, firm size and Revenue) are the mean, the standard deviation, the minimum value, and the maximum values of Chinese and American companies over the 5 years taken into consideration.

The mean indicates the data's center point.

The standard deviation indicates the dispersion of the data is in relation to the mean. Data are grouped around the mean when the standard deviation is low, and are more dispersed when the standard deviation is high.

The minimum and maximum values allow us instead to define the range of values we are considering.

The results of our Descriptive statistics model are the following:

[115] Hayes, A. (2023, March 21). Descriptive statistics: Definition, Overview, types, example. Investopedia.

	Mean	Std. Dev	Min	Max
CHINA				
ROE	12.84	21.26	0.04	695.82
ROA	6.23	6.34	0.02	93.28
D/E RATIO	59.90	81.05	0.00	857.15
FIRM SIZE	8.948099	1.333483	2.890372	13.09665
REVENUE	6631271.00	21500000.00	1263.00	431000000.00
ENVIRONMENTAL SCORE	3.81	1.99	0.00	9.60
US				
ROE	29.77	63.06	0.04	980.65
ROA	9.98	13.85	0.01	99.87
D/E RATIO	126.91	149.36	0.00	998.71
FIRM SIZE	7.864908	2.08786	0	14.64842
REVENUE	6247302.00	22600000.00	0.00	573000000.00
ENVIRONMENTAL SCORE	4.67	2.17	0.00	10.00

We can see that regarding the mean values, they are higher for independent and dependent variables in the case of the USA companies, compared to China, but not for control variables.

Instead, standard deviation values are higher for all American companies. It means that there is more dispersion around the mean value, compared to Chinese firms.

If we look at the minimum values, they are higher for Chinese companies, apart from ROE, which present the same minimum value for both China and the USA.

Finally, all the maximum values are higher in case of American companies.

3.1.6 Correlation matrix

Once we have given a brief explanation of our Descriptive Statistics, we can move on to analyze the Correlation matrix.

We can use this tool to see if there is a linear correlation between two variables. The so-called Pearson correlation coefficient is used to measure it. It is a value between -1 and 1 that, using the formula below, expresses the intensity and direction of the relationship between two variables:

$$r = \frac{n\sum xy - (\sum x)(\sum y)}{\sqrt{[n\sum x^2 - (\sum x)^2][n\sum y^2 - (\sum y)^2]}}$$

In case the correlation coefficient is comprised between 0 and -1, we would talk about negative correlation, meaning that when one variable changes, the other variable changes in the opposite direction[116].

On the contrary, when the correlation coefficient would be equal to a value between 0 and 1, it would mean that when one variable changes, the other variable changes in the same direction.

In case the coefficient is equal to 1, we talk about a perfect positive correlation, and on the opposite, it equals -1 in case of a perfect negative correlation.

Finally, in case the correlation coefficient is equal to 0, there is no correlation.

Graphically, the correlation matrix is symmetrical, and the diagonal presents perfect positive correlations, since the correlation between two identical numbers is equal to 1.

Regarding the so-called, **P-value** we can say that the lower the p-value, the greater the statistical significance of the observed results.

Normally,

Symbol	**Meaning**
+	$P \leq 0.10$
*	$P \leq 0.05$
**	$P \leq 0.01$
***	$P \leq 0.001$

We obtained the following results for our data.

[116] Bhandari, P. (2022, December 5). Correlation coefficient: Types, formulas & examples. Scribbr.

	ROE	ROA	D/E RATIO	FIRM SIZE	REVENUE	ENVIROMENTAL SCORE
ROE	1.00					
ROA	0.663***	1.00				
D/E RATIO	0.336***	-0.157***	1.00			
FIRM SIZE	-0.0634***	-0.235***	0.130***	1		
REVENUE	0.01	-0.0541***	0.0774***	0.754***	1	
ENVIROMENTAL SCORE	0.0497***	0.0417***	0.0805***	0.0829***	0.0897***	1

As we can see, almost all of them are statistically significant (***, meaning that P ≤ 0.001). This means that our further outcomes are also very likely to be statistically significant.

Moreover, the table shows positive (and statistically significant) coefficients between both ROE and ROA and Environmental Score. Between the two, the correlation between ROE and Environmental Score is stronger compared to ROA.

3.1.7 Panel Analysis

As we mentioned before, panel regression seemed to us the best way to perform our analysis. It is a modelling statistical method widely, in which the behaviour of statistical units (e.g. firms) is followed over time. It allows us to verify the validity of our hypotheses.

We applied a fixed-effect panel regression[117], and not the random-effect one and we obtained the following results:

	MODEL 1 ROE		**MODEL 2 ROA**	
	COEFF	STD. ERR	COEFF	STD. ERR
ENVIROMENTAL SCORE	0.846+	0.464	-0.119	0.155
US-CHINA	10.233*	4.421	1.709*	0.837
ENV SCORE X US-CHINA	1.726+	0.938	0.420*	0.172
D/E RATIO	0.134***	0.003	0.001+	0.001
FIRM SIZE	-7.675***	0.644	-1.486***	0.171
REVENUE	-1.492**	0.522	-1.409***	0.14

[117] Torres-Reyna, O. (2007, December). Panel data analysis fixed and random effects using stata.

CONSTANT	142.717***	6.433	50.051***	1.762
R2	0.196		0.201	
N° OF OBS	9279		9263	

As we can see, in both cases analyzed (with dependent variable ROE and then ROA), we get a positive coefficient.
The control variables D/E ratio, firm size, and revenue are all statistically significant.

H1: A higher Environmental Score leads to a higher ROE in the USA than in China by the results of our analysis, since the two variables are positively correlated. In particular, an increase in the Environmental score corresponds to an increase in ROE (0.846+). In addition, if we correct this result for country (US vs China), we can see a similar outcome, meaning that the positive effect of a higher Environmental score is on average amplified in case of an American company, compared to a Chinese one. Indeed, we can find a lot of literature and empirical evidence that confirms this result, even if our correlation outcome is not very statistically significant, since the relative P-value is ≤0.10.

Since the R-squared for our model is equal to 0.196, the Environmental score, which is one of the model's inputs, can account for almost 20% of the observed variation in ROE. This outcome is often thought to be highly satisfying.

The first Model based on ROE has taken into account 9279 observations. Working with such a high amount of data is very beneficial from the statistical point of view.

H2: In this case, we observe different outcomes depending on whether we correct the result by the country. Indeed, if we consider just the effect of the Environmental score on ROA, it is negative, meaning that the increase in this ESG variable leads to a decrease in ROA, even if this effect is not statistically significant. On the other hand, if we correct the result by country, we see that in case of an American

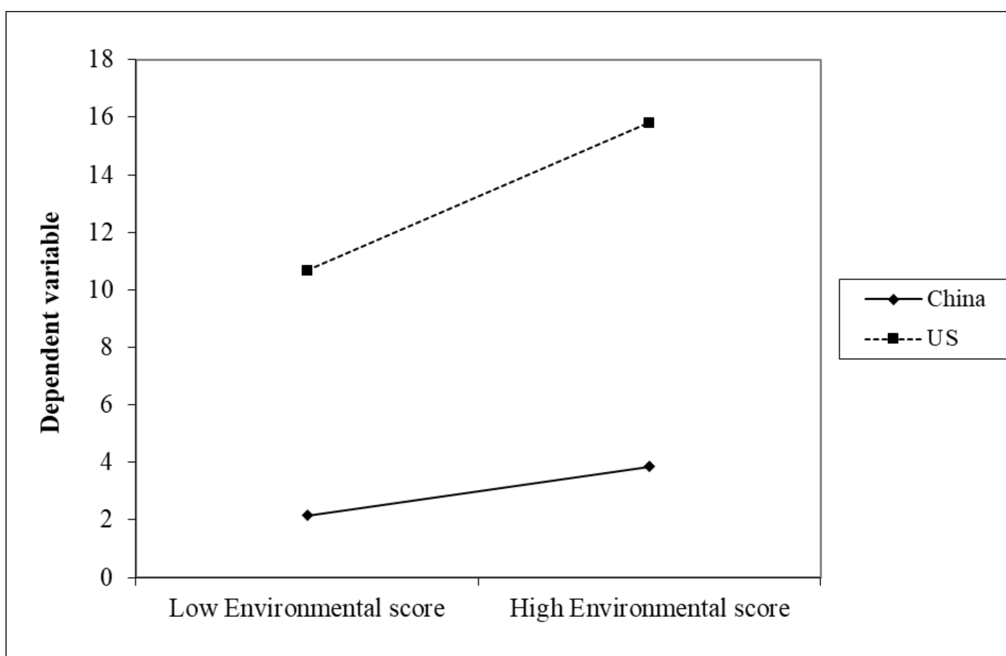
company, the effect of the Environmental score on ROA is positive and is statistically significant ($P \leq 0.05$).

Also in this case, the R-squared is considered very satisfying, and is higher than in Model 1.

The second Model based on ROA has taken into account a slightly lower number of observations, compared to Model 1, namely 9263, but is still very reliable.

3.1.8 Results discussion

In order to see the result from another point of view, we can show a diagram that represents the results described above.



By considering the relation between the (ENV) Environmental score and ROE, ENV score has 2 different effects: in China, the effect of ENV Sore on ROE is smaller compared to the USA. In other words, for the steepest curve (USA) the relationship between ENV score and ROE is more pronounced (is higher compared to China). In both countries, the relation between ENV score and ROE is positive. Being an American country intensifies the positive relation between ENV score and ROE more than in case of a Chinese company.

Final considerations and Further research proposals

Reliability of the outcome:

Regarding the data analyzed, we can say that it can be considered reliable, detailed and transparent, since we took into consideration well-established international databases. Indeed, we have not considered company reports so as not to rely on data that is too subjective, or even misleading, in the practice of greenwashing, which we explained above. In addition, we considered a 5-year time frame, which can be seen as a reliable timespan. Furthermore, Panel analysis regression is considered a satisfying method to obtain accurate results in a study like this.

Further research proposals:

Of course, there could be a lot of further research done, analyzing the same two countries, or different ones. For example, two emerging countries could be analyzed, and a much longer time span could be taken into consideration. Regarding the statistical method, several other ones could be utilized, for example, the Differences-in-difference method. In this case, a certain event should be taken into account e.g. Covid-19 pandemic outbreak. First, the constant difference in terms of relationship between an ESG factor and a financial or economic performance measure between two countries should be observed. Then, the difference that should not be constant anymore would be verified. Moreover, there is also the possibility to analyze separately the different industries, or to distinguish companies according to their legal form or size etc. Finally, other two ESG factors (Social and Governance), several other financial factors (ROCE, ROIC etc.), and operative performance (EBIT, EBITDA, Revenues) indicators can be analyzed.

How can we try to explain the results obtained? One of the possible explanations can be illustrated by the so-called Signaling theory.

3.2 Theories

3.2.1 Signaling theory

This theory is based on the concept of information asymmetry[118], which is relevant when two subjects communicate among themselves, but one of them has access to information, which is instead unknown by the other individual. Potential problems may arise when the party who communicates with another, has to transmit information about his/her achievements or when his/her behaviour will affect the counterparty.
How can this concept be applied to our study? As we have seen, ESG scores are indeed able to affect financial performance of corporates, since the market subjects make decisions especially based on the knowledge they are able to obtain regarding the company that for example they want to invest in. Therefore, we can expect that companies that are able to communicate their positive ESG performance (give "positive signals" to the market) might obtain more funds from external subjects, and also at lower interests rates, compared to companies that do not show their sustainable practices to their external stakeholders, including potential shareholders. Indeed, demonstrating to the market to be more sustainable, and therefore facing less risks, is a very good way to have access to more capital at minor cost[119][120].

The USA and China nowadays are subject to different reporting standards and obligations, and therefore may perform differently from the ESG point of view and this can represent one of the reasons for different financial outcomes.

Another possible explanation we can find in literature is Hofstede's cultural dimension theory.

3.1.2 Hofstede's cultural dimension theory

It is a useful tool that was created in the 70s by Geert Hofstede, a Dutch social psychologist. This framework is used to help understand cultural differences among

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[118]Connelly, B. L., Certo, S. T., Ireland, R. D., & Reutzel, C. R. (2010). Signaling theory: A review and assessment. *Journal of Management*, *37*(1), 39–67. https://doi.org/10.1177/0149206310388419

[119] Michael T. Lee et al. (2021, September 9). Signaling green! firm ESG signals in an interconnected environment that promote brand valuation. *Journal of Business Research.*

[120] Tang, H. (2022, November 15). ESG performance, investors' heterogeneous beliefs, and cost of equity capital in China. Frontiers. https://www.frontiersin.org/articles/10.3389/fenvs.2022.992559/full

countries. Given that IBM was a multinational corporation with approximately 116,000 employees from 40 different countries, Hofstede used the results of a global survey that the company's employees were asked to complete to create this model. The model is based on 6 dimensions.

1. Power Distance Index

The degree to which members of institutions and organizations within a nation can reasonably be expected to assume and accept that power is not allocated equitably. Higher scores indicate a more “hierarchical” organization of a society, while lower scores indicate a more “egalitarian” society.

In Hofstede et al. (2010)[121], more hierarchical societies are common among East European, Latin, Asian, and African countries, while lower among Germanic and English-speaking Western countries.

2. Uncertainty avoidance

It represents the degree to which a society is comfortable with an uncertain situation. A high score indicates that people are less comfortable with an ambiguous situation and prefer to have clarity and certainty, while a lower score indicates a better adaptation and improvisation of people in an uncertain situation.

In Hofstede et al. (2010), less comfortable with uncertain situations are East and Central European countries, Latin countries, Japan, and German speaking countries, while are more comfortable people in English speaking, Nordic, and Chinese culture countries.

3. Individualism vs Collectivism

the degree of interdependence a society maintains among its members, or, to put it another way, how much people tend to be integrated into groups. People in

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[121] Hofstede, G. (2011). Dimensionalizing cultures: The Hofstede model in context. *Online Readings in Psychology and Culture*, *2*(1). https://doi.org/10.9707/2307-0919.1014

individualist society are expected prevalently to take care of themselves and their immediate family, compared to collectivists societies.

According to Hofstede et al. (2010), developed and Western countries are more individualistic, while less developed and Eastern countries tend to be more collectivist.

4. Masculinity vs Femininity

Indicates a social preference for either achievement, assertiveness, and competitiveness (masculinity), or care, nurturing, and cooperation (femininity).
A high score indicated prevalence of masculine values, like competitiveness and thrive to succeed.

In Hofstede et al. (2010), it is shown that Japan, German speaking countries, and some Latin countries like Italy and Mexico have a more masculine mentality, while Nordic countries and the Netherlands have it low.

5. Long-Term vs Short-Term Orientation[122]

The Long-Term component, according to Hofstede, is "the development of virtues oriented towards future rewards, particularly perseverance and thrift." In contrast, Short-Term Orientation promotes virtues relating to the past and present, including respect for tradition, maintaining one's "face," and upholding societal commitments.

Countries in East Asian and in Eastern and Central Europe are mostly long-oriented, South and North-European and South Asian countries are medium-oriented and the USA, Australia, Latin American, African, and Muslim countries are prevalently short-term oriented.

6. Indulgence vs Restraint

[122] Hofstede, G., Hofstede, G. J., Minkov, M. (2010). Cultures and Organizations: Software of the Mind. 3 Rd Edition. USA: McGraw-Hill.

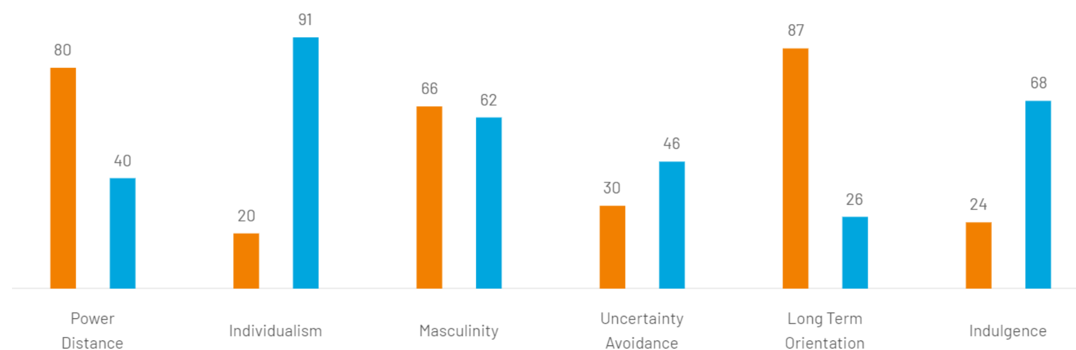
The degree to which a society permits the fulfilment of basic human needs and impulsive behaviours associated to enjoying life is what is meant by this dimension. "Indulgence" and "Restraint" are terms for comparatively strong and poor control, respectively.

South and North America, Western Europe, and parts of Sub-Sahara Africa are considered to be more indulgent, while restraint is more common in Eastern Europe, Asia, and Muslim countries.

CHINA VS USA[123]

China

USA



Source: Hofstede Insights.

We can observe significant differences between China and the USA regarding all dimensions, according to Hofstede's theory, except for Masculinity vs Femininity, where their scores are not very far from each other.

This theory represents only one of the possible explanations for cultural, economic, and social differences among countries, including corporate behaviour regarding ESG. Further research and analysis would be very helpful in order to understand other reasons for these differences.

[123] Hofstede Insights. https://www.hofstede-insights.com/

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SUMMARY

In order to perform my analysis, the thesis has been structured in the following way. In the first Chapter I present a general overview of the ESG world, which is extremely vast, therefore I tried to cover the topics which seemed to me the most relevant for the purpose of this paper. Before explaining the current situation, I illustrated briefly the two well-known in academic literature theories: one of them gives the most importance to companies' shareholders and another one, is much broader and considers other company stakeholders as not less important. After that, I presented the Corporate Social Responsibility concept and the famous Carroll's Pyramid. Then, I tried to explain what the three ESG pillars mean and how the ESG practices are reported currently around the world, and I focused on China. Lastly, I illustrated briefly some evidence regarding the correlation between ESG and financial performance.

In the second chapter I tried to give a general overview of emerging economies and their sustainability situation, and I focused on China and the USA. The contribution of developing countries towards the UN goals in terms of sustainability is enormous, and whether the world will be able to achieve the related goals will highly depend on how these countries will handle these issues.

Eventually, I showed the empirical analysis, with the goal to explore the differences between companies in a developing country like China and a developed one like the USA in terms of the relationship between their Environmental score and ROE and ROA on average. The results show a positive correlation in both cases, although with some differences. Finally, I gave a very brief overview of two theories that can be useful to explain these differences: Signaling theory and Hofstede's cultural dimensions theory.