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How Covid Impacted Investment Strategies:

From Value to Growth Perspective

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1. Introduction

> *"When the facts change, I change my mind. What do you do, sir?"*
>
> **John Maynard Keynes**

Since the birth of the Stock exchange, Investors apply different techniques to analyze and construct portfolios off security. Different types of investors and asset managers created various strategies over time having as their main objective to try to beat the market and competitors developing stable returns.

Long-only equity investors could be differentiated among them taking into consideration several characteristics, such as the nature of the investors or the strategy applied; however, all of them aim to create stable returns and exploit market inefficiency. The continuous growth of the Assets Under Management and the attention on the equity market brought to an expansion of the different types of Mutual funds and investment advisory based on different styles; nevertheless, the different study demonstrates that in the viewpoint of market efficiency, obtaining superior gains would not be feasible systematically since information is reflected into share prices immediately (Fama, 1970). Since the beginning of 1900, the investments and asset management industry transform, from the nature of preserve capital to speculative short time-oriented, investors were already characterized as value-driven in which risk and rewards were calculated unconsciously and implicitly (Sarna & Malik, 2010). Even if, during the 20th-century investment technic growths, historically all strategies could be reconducted to two main pillars: the Value and Growth Investing.

Graham & Dodd (1934) were one of the first scholars to make a distinction between value and growth stocks (glamour stocks), while the actual recognition of 'growth' stocks can be assigned to T Rowe Price Jr. (Babson, 1951). While value and growth stocks can be defined in many ways, which will be discussed later, the simplest definition of value and growth stocks is defined.

Value stocks are those stocks that trade at low prices compared to the fundamentals of the listed company (e.g., earnings, book value, cash flow, dividends), whereby Growth stocks are those stocks that trade at high prices compared to the fundamentals of the listed company (see e.g., Fama & French, 1993, 1998; Lakonishok et al, 1994; Pinto et al, 2010). Despite the empirical evidence of Fama and French (2004) demonstrate the presence of a value premium that cannot be explained by the CAPM, in particular from 1963, the asset management industry continues to expand its attention to growth strategies hoping to outperform the market in a short time. As we will see later, often the concept of a Growth company and Growth stocks does not always match and transform

the security analysis process to a merely bottom-up approach, led by speculation and wrong indicators, this could bring to a financial bubble. In the late '90s, growth stocks skyrocketed in value outperforming value stock but were not grounded in fundamental patterns of profitability growth. Investors, motivated by the extreme optimism surrounding the prospectus for technology, media, and telecommunications stocks that did not reconcile with economic logic (Chan & Lakonishok 2004) and shifted their strategy to this classes of equity taken to the largest bubble in the modern financial history as shown in Figure 1.

Looking at what happened in the last years, we can observe as a similar pattern could be observed in the recent decade and exploiting by Covid – 19; the skyrocket soared of growth stocks (SGX) took growth stock to outperform value as never before, and although the trend started in 2010, the graph shows how since March 23 Growth stock really soared vertically.

Despite this, looking to relative valuation in figure 1, the difference between both P/E was less wide than that in 2000 or 2008 (Value Bubble); considering that the overall market seems to be overvalued, where both SGX P/E and SVX P/E at the highest level in a decade, such increase in SGX seems to be justified by the increase in profitability of Growth and technology stocks during 2020. Looking to the last period, the relative valuation of SGX decrease less than SVX indicating that Value stocks are started to benefit from the reopening of the economy, while growth stocks reduce the earning growth rate; this could be an alert about the valuation of growth stocks that must be considered.
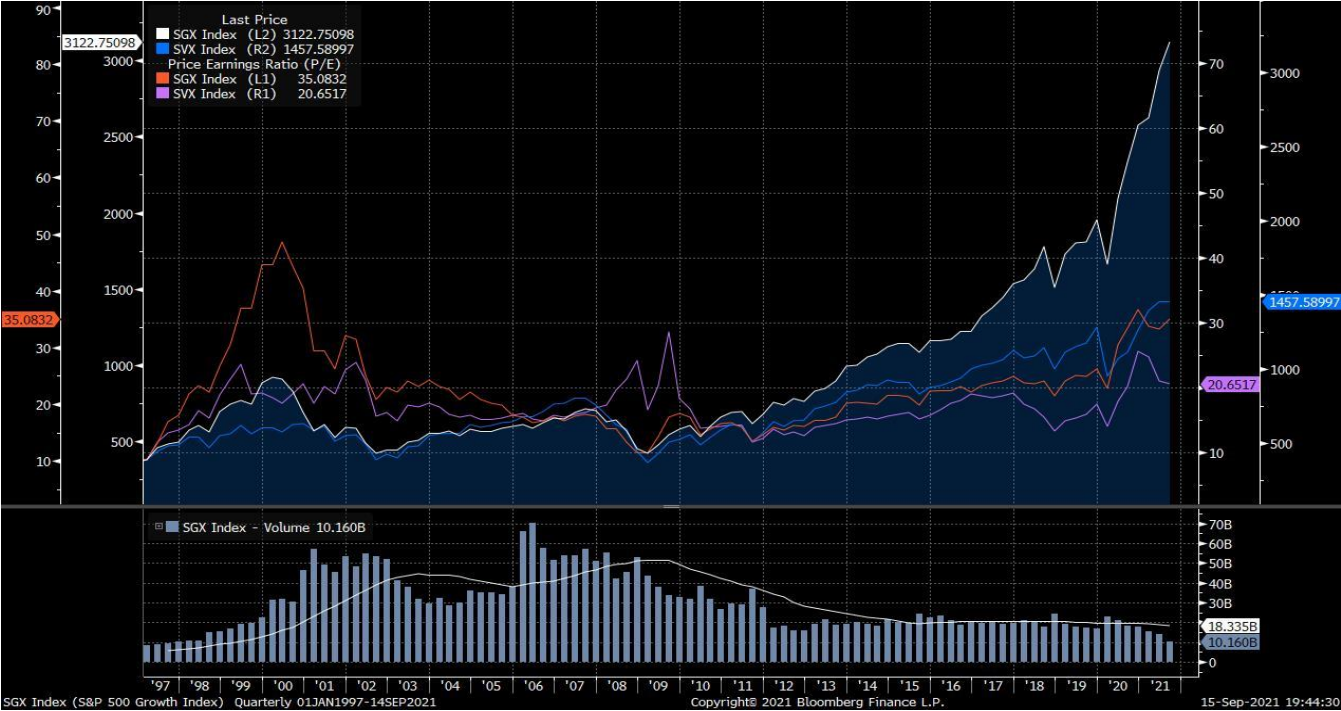

FIGURE 1 SGX AND SVX PERFORMANCE AND P/E INDICATOR (SOURCE: BLOOMBERG)

1.1 Research Question

The Covid-19 economic crisis had a very strong impact on the financial market in March 2020, however, this was different from the crisis that occurred in the past; this was due to the immediate response of the Central Bank and its monetary policy which reduced the economic and social impact.

Observing the financial market during 2020 and consequently also understanding and observing the investment strategy of the main institutional investors, there are difficulties to understand the pattern observing the prior crises. The immediate reaction that takes to the historical peak of the VIX index was the behaviour of investors, that shifted their strategies towards high tech growth companies, which were the main beneficiary of the lockdown and became known as "stay at home" companies.

The rebalancing of portfolio allocation generates a positive sentiment about the financial market that could be led by the tech sector although many economists said it would be the worst economic crisis since the 29'. The response of the Institutional investor was primarily considered a defensive strategy versus the course of the business cycle, however, the end of the restrictions in the main part of the world did not bring to the rebalance of the portfolio in favour of value stock.

What are considered value stocks and what growth?

The traditional indicator used to value stock lose some part of that usefulness and portfolio manager had to apply new strategies to generate a return in this economic situation, this, and other factors, which will be analyzed later, lead to an exponential growth of tech stock and valuation, and an over exposition of institutional investors.

The positive sentiment on the growth stock started in 2016 and after a partial break during 2020 of exponential growth, the movement was similar to that of the dot com bubble; nevertheless, not all the tech stock had a real benefit from the Covid situation. Looking at major Growth indexes, such as SGX and the difference between the SVX, it's possible to confirm this phenomenon, which could only be partially explained by the real economic situation. The S&P P/E reached the highest level in the last decade; however, asset managers didn't worry about that and continue to buy overvalued stock, creating a vicious cycle among institutional and retail investors. Looking at the theory of growth investing is difficult to explain how asset managers are valuing risk and growth forecast, in particular for small-cap Looking at the fundamental of the tech sector obviously, we cannot compare this period with the dot com bubble, where even in the best-case scenario all the

companies were extremely overvalued, but the sentiment and behaviour of asset managers are not far away as analysts argue.

Why investors, despite the previous experience, are exposing their portfolio to this type of asset? Is there a change in strategies from value to growth in the long run or a short-time speculation process?

Different from other crises, where recession period affects asset manager return, the strong performance of financial markets permits to generate a large return, but not all the asset manager generates positive alpha. One of the best performing, if not the best, was the Asset manager Cathie Wood, that with their Ark investment firms only concern about high-growth companies that will lead the innovation process, generates three-digit returns during 2020, and exponential growth of their AUM. Value investors, on the other hand, have had high difficulty generating excess return without investing in top performer stock and pushing their allocation to overvalued stocks. This and other factors amplify the overperformance of a growth stock.

Is there a shift of style, from value to growth, among Institutional Investors that exploits with covid-19 based on fundamental change?

My research question has the purpose of analyzing the value and growth investing strategies, looking to performance and style analysis among the main investors since the pandemic start, and try to understand if the Covid-19 crisis influence the strategies among them and how.
This thesis will offer an overview of these strategies and the macroeconomic context of 2020. After there will be an analysis of winners and losers in the asset management industry during Covid – 19 and their investment style. Finally, the conclusion has the object to understand if there is a shift in the investment style made by investors, and if this current situation will be sustainable in the future or there will be a great correction in the market.

2. Asset management: Value and Growth investing

> *"I think you have to learn that there's a company behind every stock and there's only one real reason why stocks go up. Companies go from doing poorly to doing well or small companies grow to large companies." – Peter Lynch*

"The most common usage of the term "asset manager" refers to investment management, the sector of the financial services industry that manages investment funds and segregated client accounts." (Reilly, 2012)

Investment companies, as financial intermediaries that collect from individual investors and invest those funds in different assets, have several functions such as the professional management and administration of those funds using diversification and reducing transaction costs. Define and respect the aim of the policy statement is crucial, so the asset allocation should have the role to reach the aim of this policy and should reflect the strategy of the Investors. From the perspective of asset allocation, the portfolio manager can select stock and create a portfolio strategy using a different factor, such as the time horizon, risk appetite of investors, geography factor, and sector. After defining the policy statement, the fund managers create the strategy to reach the goals and define asset allocation. Stock picking process could be Active, to generate positive alpha creating excess return on the market, or Passive; this strategy is aiming to replicate a specific benchmark, that could be referred to as a market index or sector index, and if the manager tries to outperform, he or she will violate the passive premise of the portfolio. Big Institutional investors, otherwise, give the huge amount of AUM, decide to create different funds with several goals and that are well-diversified among that, but looking at the overall portfolio it's possible to understand their overall strategy and sentiment on the market.

During the last years, an important development in active equity management has been the creation of portfolio strategies based on value and growth-oriented investment styles. The Morningstar Inc. classification indicates that these categories of mutual fund growth dramatically, in particular growth-oriented, despite different authors, as Fama&French, after the analysis of the performance of these two categories of stock, identifying either a value premium in the long run.

Give that and looking to performance as of December 2020, it could be arguable that 2020 was characterized by growth, of economy and GDP, that has been reflected in the capital markets Growths, but this had not happened. 2020 was the year where the necessity to shut up the economy

to prevent the spread of the virus takes to an average 3,5% decrease in the World GDP (IMF Report 23/03/2021)[1]. Despite this, not only the global stock market increase by 13% [2] but also the performance of major Mutual funds growths.

Moreover, Sagal (2021) outlined how, according to an analysis from strategy consultant Casey Quirk, Publicly traded asset managers' revenues and profit margins were up in 2020, but most gains are going to a small group of firms that have been able to capitalize on trends like investors' appetite for alternatives,

In the report was explained how, although "The dispersion of winners and losers among investors is more pronounced and accelerating", it's been a positive year for the industry, despite at the beginning of 2020, they would have expected to see more margin and revenue pressure

Asset managers all around benefitted from markets hitting highs after an initial downturn due to the pandemic in March and April, as stated by Cassey Quirk. For asset managers in the top quartile, revenue increased by 9% last year hitting the highest level; on the other side managers that were at the bottom saw a decrease in revenue. Big firms are growing, as said by PWC article, approximating that 20% of the current crop of mutual funds might be acquired by competitors or eliminated. In addition to this, 68% of mutual fund assets will be represented by top-five mutual fund asset managers by 2025, increasing up to 53% by the end of 2019.[3]

In this chapter, we will analyze the long-only asset management industry and its approach to investing. Then will be considered the main technical and quantitative method used by asset managers to select stocks and to create their portfolio. It will discuss the investment strategies based on the classification of Value and Growth stocks, and the performance of those categories during the last century discover by several scholars. After all, will analyze the style analysis approach and how it could possible to understand investment strategies understanding asset allocation.

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[1] See https://www.imf.org/en/Publications/WEO/Issues/2021/01/26/2021-world-economic-outlook-update

[2] See https://www.theguardian.com/business/2020/dec/30/ive-never-seen-anything-like-it-2020-smashes-records-in-global-markets

[3] https://www.institutionalinvestor.com/article/b1qsp2n85dfpx9/Asset-Managers-Ended-2020-With-Record-Revenues

2.1.   Investors and Asset Manager Industry

"Investment management is the professional asset management of various securities, including shareholdings, bonds, and other assets, such as real estate, in order to meet specified investment goals for the benefit of investors. Investors may be institutions, such as insurance companies, pension funds, corporations, charities, educational establishments, or private investors, either directly via investment contracts or, more commonly, via collective investment schemes like mutual funds, exchange-traded funds, or REITs"[4].

There are two basic ways in which, according to Frank K. Reilly, 2012, traditional professional asset management firms are organized. In what is defined as the most direct structure, management and advisory firm make contracts directly with investors for their service. These services can vary from advising clients on structuring their own portfolios to providing standard banking transactions to actually manage the investment fund themselves. Banking and financial advice have been the main services offered by these firms as there has been a shift towards the asset under management (AUM) approach. In this way, the investor's capital is the object of the custody of the management firm, normally with full discretion as to how those funds are invested. The main characteristic is that each client has a separate account.

The commingling of investment capital from several clients is also involved in the general approach to asset management. In a single portfolio of securities, an investment company invests a pool of funds belonging to many individuals. The investment company, in exchange for this capital, issues new shares to each investor representing his or her proportional ownership of the mutually held securities portfolio, known as the fund.

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[4] See https://en.wikipedia.org/wiki/Investment_management

These two organizational forms have important differences, as shown in
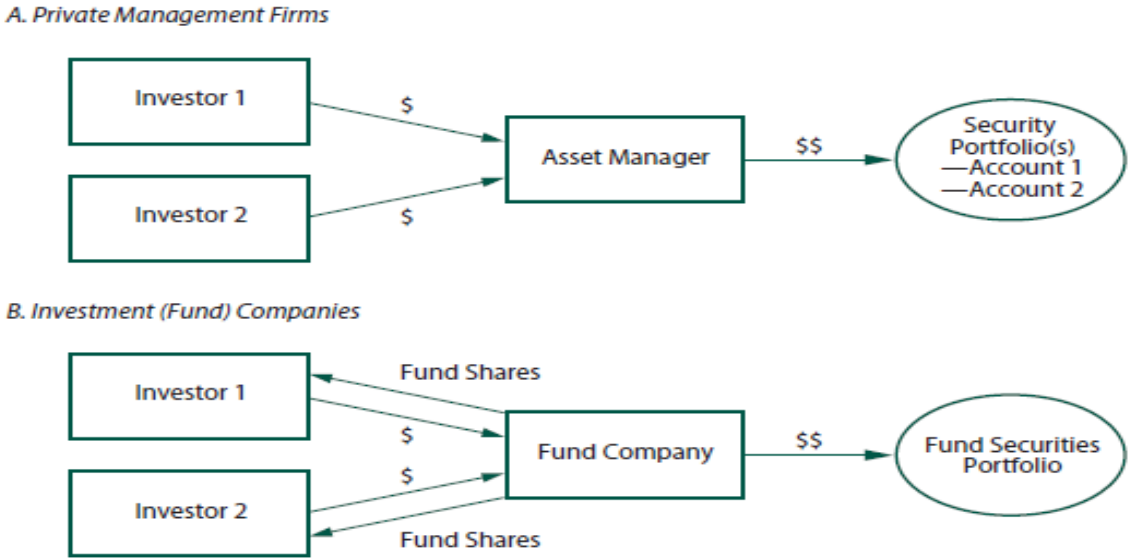
Figure 2. Clients develop a personal relationship with private management and advisory firms, doing in-depth research of the investment objectives and their constraints. In contrast, to this, an investment company that offers a mutual fund forms a general solution to an investment problem and marks investors who might fit that profile. Individual investors with relatively small pools of capital are primary clients who seek professional asset management through investment companies.
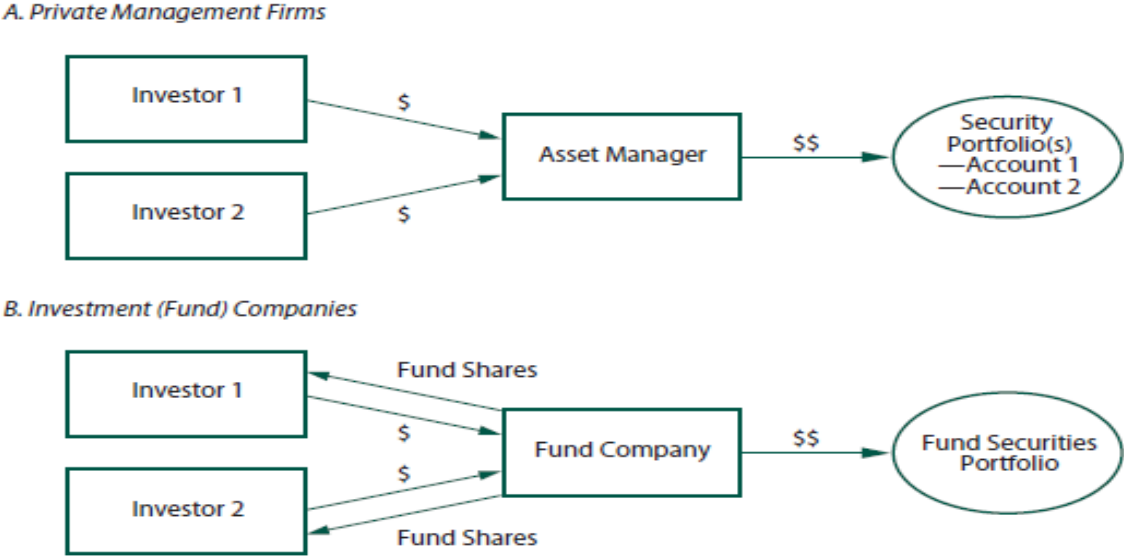
FIGURE 2 OPERATING STRUCTURES OF ASSET MANAGEMENT COMPANIES (REILLY & BROWN, 2012)

Combining these two structures by offering private advisory services as well as publicly-traded funds is not unusual for professional asset management. The major assets of the portfolio of marketable securities in an investment company are referred to as a fund. The portfolio of

securities and most of the other administrative duties usually are handled, on decision of the board of directors of the investment company, by separate investment management. The typical arrangement is oversimplified by the legal description. A board of directors is selected by an investment advisory firm; after this, an investment advisory firm is hired as the fund's portfolio manager by the board of directors (Reilly & Brown, 2012).

Investment companies are classified in the United States by the Investment Company Act of 1940 as unit investment trust or a managed investment company. The unit investment of the portfolios is called "unmanaged" as they are essentially fixed. On the other side, the fact that securities are continually bought and sold gives the name to managed companies: the portfolio is managed. They are further classified as either open-end or closed-end. (Bodie, 2014)

These companies start like all the other companies by selling common stock to a group of investors. Nevertheless, rather than buildings and equipment, these companies use proceeds to buy the securities of other publicly held companies. A closed-end investment company (usually referred to as a closed-end fund) differs from an open-end investment company (typically referred to as a mutual fund9 in how it operate after the initial public offering. (Reilly & Brown, 2012)

Asset Manager's industry growth has characterized different sectors from equity perspectives to fixed income and this could mainly bring back to the growth in the long run of world GDP, mainly lead by the emerging market in the last years, and easy access to financial investments for all different types of investors.

This creates the necessity to develop a new strategy in the equity market and the born of different mutual funds. Equity funds invest primarily in stocks, though at the discretion of the portfolio manager, they may also hold fixed-income or other types of securities. To provide the liquidity required to meet potential share redemptions, equity funds will typically hold between 4% and 5% of total assets in money market securities. Traditionally, stock funds are classified based on their emphasis on capital appreciation versus current income. As a result, income funds tend to invest in companies with consistently high dividend yields. Growth funds are willing to forego current income in order to focus on the potential for capital gains. While the classification of these funds is framed in terms of income versus capital gains, the more important distinction in practice is the level of risk that these funds assume. Growth stocks, and thus growth funds, are typically riskier and more volatile in response to changes in economic conditions than income funds. (Bodie, 2014).

According to BCG report[5] , Asset Management Industry has surfaced from the global pandemic with assets growing by 11% in 2020 to end the year at $103 trillion, where North America, the

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[5] Global Asset Management 2021 (bcg.com)

world's largest asset management region, represents $49 Trillion. Asset Management is a really fragmented industry and investments are divided by asset class.

The open-end fund, such as Mutual funds, ETF, and Institutional Funds, represents a big part of the industry. Considering only the equity side of the industry, we can distinguish four types of categories of investors:

- Long Only
- Hedge Fund
- Sovereign Wealth Fund
- Retail investor

While the first three categories represent the so-called "Institutional Investors", the retail investors usually operate whit the help of the former categories. In our analysis, we will focus on Long only investor that represents the big players in the equity market, as shown in Fig.3.

Investment Advisors, such as Blackrock and Vanguard, and Investment Banks, such as JP Morgan and Goldman Sachs, have not only the capacity to buy and manage any company but also to influence the financial market with their buying power and historical track record.

As of December 2020, BlackRock was the world's largest mutual fund company, with around 7 trillion U.S. dollars of assets under management (AUM). Rounding out the top three were Vanguard with 5 trillion U.S. dollars of AUM, and Fidelity with 3 trillion U.S. dollars of AUM.
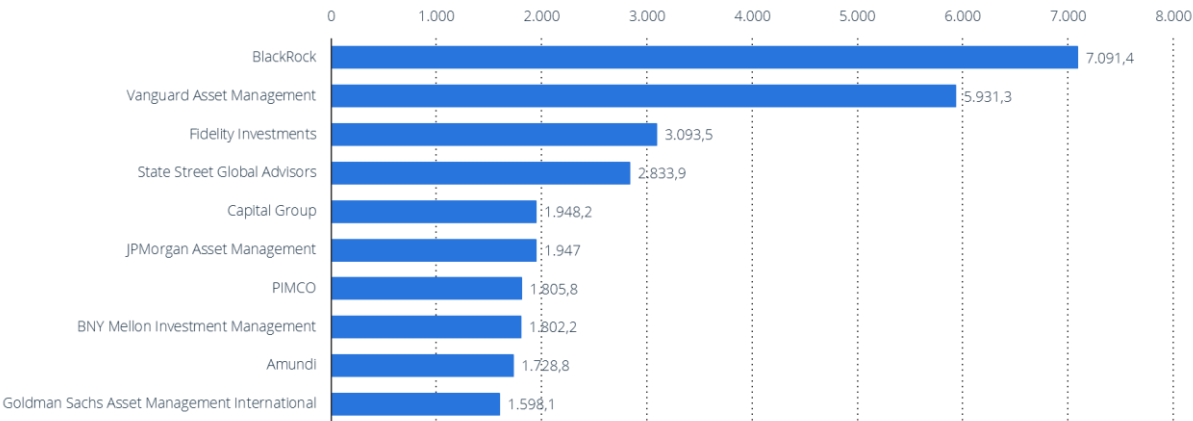
FIGURE 3 LARGEST ASSET MANAGERS WORLDWIDE AS OF DECEMBER 2020, BY THE VALUE OF MANAGED ASSETS (IN BILLION EUROS)

The largest asset managers have grown and power over the last decade. Only five companies, Vanguard, BlackRock, Fidelity Investments, State Street, and T. Rowe Price, control 55% of the $19.3 trillion in total assets of US mutual funds and exchange-traded funds.

However, this concentration reflects the juggernauts that dominate passive investments, which are all about volume and cost-cutting. Indeed, if Morningstar-tracked mutual funds and institutional

mandates are included, BlackRock and Vanguard alone manage $12 trillion in assets. A deeper dive into the info shows that competition within the U.S. asset management industry remains healthy. Consistent with research done by Morningstar Direct for Institutional Investor, the highest five active managers controlled only 22 per cent of open-end fund and ETF assets as of the top of 2018. These figures are fairly steady for in any case the last five years. That's a far cry from the 55 per cent travel by the highest five when both active and passive are included.

Critics of the increasing concentration of the asset management industry say investors will face a declining number of investment options over time and pressures will mount on small firms — a unique source of top returns. They also fear that a few firms could pose a systemic risk to the industry if investors pull their money en masse during a crisis. Furthermore, it is possible to affirm that operations made by Institutional investors, such as a change in asset allocation or reposition of their strategies, are the main source of movement in the financial market, given the huge amount of AUM.

2.2.   Investments Practice: Value and Growth Perspective

Selecting an investment style is a preliminary necessity in the decision-making practices of investment (Bauman & Miller,1997). The portfolio Manager could use various techniques to decide on what to invest using different methods that are based on the strategy and the purpose of the asset manager. There are two general approaches to stock valuation and picking:

- The Top-Down: believes that both the economy/market and the industry effect have a significant impact on the total returns for individual stocks
- The Bottom-Up: contends that it is possible to find stocks that are undervalued relative to their market price, and these stocks will provide superior returns regardless of the market and industry outlook

Give these definitions the main difference between the two approaches is the perceived importance of the economy and a firm's industry on the valuation of a firm and its stock.

While the bottom up, as we will see more in detail later, is extremely close to the value investor approach and quantitative analysis of single security, the top-down approach, also known as the Three-step valuation process, is more similar to a qualitative analysis used by growth investors; it starts from the analysis of alternative Economies and security markets, and end with the analysis of the alternative industries and finally with induvial companies looking to undervalued and that could prosper in the industry.

After selecting the approach to use in the stock valuation process there are two main ways to understand the fair value of a company used by asset manager:

- Intrinsic Valuation (DDM or DCF)
- Relative Valuation (Comparable)

The former attempt to estimate a specific value for a stock based on its estimated growth rates and its discount rate, the latter contend that it is possible to determine "the value of an economic entity (i.e., the market, an industry, or a company) by comparing it to similar entities, based on several relative ratios that compare its stock price to relevant variables that affect a stock's value, such as earnings, cash flow, book value, and sales".

The relative valuation techniques, which give that easy understanding and capacity to capture the market sentiment, is the core element of the classification of stocks.

2.2.1. Types of analysis

There are several ways to manage portfolios and all portfolio managers try to develop a unique and innovative investment process to distinguish themselves from their peers. Nonetheless, at a more general level, there are two basic approaches used by most managers:

- The Traditional Approach (Fundamental): traditional managers conduct stock-specific analysis to value the attractiveness of each stock. Looks to find the intrinsic value of equity looking at the financial, operational, and cultural structure of the company to assess the real value of the equity. Furthermore, a thorough examination of the corporate structure, business objectives, and how the company performs within its sector, market, and geographical area is carried out. However, because this approach is based on the judgment of analysts, it is subject to potentially subjective biases (such as selective perception, overconfidence that can reduce forecast quality, etc). Through looking at the material qualities of a company, a fundamental analyst is trying to see whether the company they are analyzing has a competitive edge that is not represented in its market valuation. The fundamental approach ostensibly seeks to examine the qualitative rather than the quantitative. The high cost of the analysis and the difficulties to distinguish factors that are reflected in stock price from those that are not led to the familiar "good company, bad stocks" problem.

- The Quantitative Approach: quantitative managers use a statistical model to map a set of measurable factors into objective forecasts of stock's return, risk, and cost of trading; quantitative analysts aim to identify patterns that they can exploit using pre-set algorithms. These algorithms can be based on earnings forecasts, unexpected changes in price, and market shifts. Although the goal is to make money, quantitative analysis can also be employed to reduce risk. On the positive side, the marginal cost of using the model is very low and they can be tested historically on a wide cross-section of stocks over the diverse economic environment. On the negative side they can create misleading when there are bad data or significant structural changes at a company (i.e., "garbage in, garbage out") and these reasons led to a necessity of more diversification and small bets to avoid "Flash Crash".

2.2.2. Classifications of Stocks

Investors try to create increasable and sustainable returns (Graham & Dodd, 1934) using different strategies that could have common features. The principle of classification also exists in the world of investing and the categorization of securities that have similarities regarding characteristics and performances is called Style investing" Barberis & Shleifer (2003). Several factors could determine the style of investment and the preference of investors; Bourguignon & De Jong (2003) argue as the selection of the investment style depends not only on the macroeconomic and analytical factor but also, upon personal- or organizational characteristics as well as the economic behaviour.

Even if Style investing technique could be varied as much could vary the type of security present in the market and in particular in the stock market, Barberis & Shleifer (2003) argue how the style investing approach share common characteristics that can be based on the type of, which can be based in law (e.g., government bonds), in markets (e.g., small-cap stocks), or in fundamentals (e.g., real estate).

In response to this demand from investors, managers generally categorize themselves as specialists in particular styles. "These styles provide information about the investment set, and thereby the risk exposures for the investors. Consequently, if managers deviate from their stated style, they will expose the investors to unanticipated risks and will reduce the investors' ex-ante welfare" (Cao et al, 2017).

Nevertheless, some opponents and proponents are to be recognized in the popular styles of the stock markets; these include small-cap stocks and large-cap stocks together with nontechnology and technology stocks. Usually, there are different believes regarding which style provides the greatest return on the long and short term; although investors and analysts do not agree upon it, the most popular and long-lasting style in the financial market are the investments made in either growth or value stock; the reason why these stocks are in vogue is that value and growth function as an umbrella for other style investing approaches. The categories in terms of style, including large cup versus small-cap and technology versus nontechnology, can be all classified as either.

Bourguignon & De Jong (2003) and Bird & Casavvechia (2007), although there are, within the financial market, various investment styles, hardly believe that the most publicized investing philosophy is the Growth and Value schools in the stock market. Among these schools a classification becomes apparent; the stocks in these schools are either value or growth stock, the importance of these two can be seen from the influence they have on investors. It is often argued that investment managers always prefer one of these two stocks; due to this evident extreme

preference, indexes were changed to satisfy investors. Nevertheless, these two stocks are each other's antagonists, as acknowledged by the two scholars Graham & Dodd (1934).

2.2.2.1. Value Stocks

Value stocks are stocks whose price-to-earnings, price-to-book, and/or price-to-cash flow is/are low relative to the market average as defined by Graham & Dodd (1934) for the first time. Fama&French and other also several scholars confirm and use This definition in their analysis. Several factors could explain the ratio behind these low multiples and first Graham & Dodd (1934) try to explain as derived by the expectation that the poor performance in the past will go further in the future. Another reason could be related to intrinsic characterizes of the business model of the company and the relation with the economic context that does not guarantee a stable growth in the future reducing the sentiment of the market that seen it as 'out of favour' (Hillier et al,2010).

Typically, a "value stock has an equity price lower than the stock prices of companies in the same industry also sit within a sector that trades at a discount to the broader market" (Smith). While Fama & French (1998) assume that 'value' companies are in distress and are therefore trading at low prices other scholars such as Arshanapalli et al (1998) argue as there is no evidence that value stock is distress and so riskier than growth.

The reason why this category of stocks is undervalued relative to their fundamentals and intrinsic value could vary different and as evidence from Chen & Zhang (1998) could be related to the uncertainty in future growth.

2.2.2.2. Growths Stocks

Unlike Value, Growth stocks are usually the ones that are trading at high prices concerning stock fundaments (i.e., cash flows, dividends, book value, and earnings). Generally, growth stocks are newer companies with modern and advanced products that probably will have a great impact on the futures market. Moreover, some of the growth companies are often well-run entities that made a profit on the demand for their products. Growth stocks can offer a great return on capital, however, many of these companies are smaller and less stable and they may experience price declines.

The growth stocks are the ones in which investors believe that have a continuous rise; with earning expectations and growth rates higher than the market average (La Porta, et al, 1997) Growth stocks have been defined by Beneda (2002) as the higher stocks in the market average

and the ones that have a future capital appreciation. Due to the potential creation of innovative products and grasping market opportunities the growth stocks have been very innovative.

While various scholars define value (growth) stocks as stocks that contain low (high) price-multiples, scholars as Bourguignon & De Jong (2003) and famous Investors as Fisher view these stocks as a solid investing not looking and not merely connect to short time profit; in fact, investors are willing to pay a premium price in stock that at a certain point could exploit their position in the market and change their fundamental in the long run. Furthermore, Capaul et al (1993) argue that "growth in earnings and/or market share does not create added value unless the expectation arises that this growth result from aberrantly gainful investment opportunities." Unlike value stock, where due to its strong fundamental it is easy to understand, through the stock valuation technique, its intrinsic value, to understand growth stock it is necessary to refer not only to the present value but also to forward estimates; indeed Pinto et al (2010) suggests to consider the value of the company's asset plus the net present value of its growth opportunity (PVGO[6])[7].

Is essential to understand the difference between a Growth company, defined by Salomon (1963) and Miller and Modigliani (1961) as a firm with the management ability and the opportunities to consistently make investments that yield rates of return greater than the firm's required rate of return and Growth stocks which is a stock with a higher expected rate of return than other stocks in the market with similar risk characteristics. Even if these two concepts often coincide it is essential to understand that growth is only value-creating if the company's future project generates positive NPV's, otherwise is possible to consider as value stock (Brealey et al, 2007; Bodie et al, 2009).

Since the quotation refers to whether the stock's price becomes lower or higher after investing in growth opportunities, PVGO's importance can be found among the earnings per share (EPS) and rate of return (r). It is reasonable to assume that defining and categorizing stocks as either value or growth by considering the PV of growth opportunities. Nevertheless, when the probability of the rate of return range is small, the result in association with PVGO is nearly equal to the results obtained from the price multiple (s). However, stocks are classified by most scholars as either value or growth by using price multiples rather than the inclusion of PVGO. Scholars believe that using price multiples as a classification tool to separate stocks into value and growth is common and is sensible.

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[6] According to Pinto et al (2010), "the net present value of growth opportunities, or simply 'PVGO' is determined by calculating the present value of the future cash flows that a company expects to generate from a particular investment opportunity, such as an acquisition, a new product launch or entering new markets".

[7] "The formula of this explanation is P= EPS/r +PVGO"

2.3.   Investment strategies: Growth and Value

The starting point for any successful investment process is a coherent and sound, tested, investment philosophy that is held as an article of faith by the team of professionals implementing it (David Ben-Ur and Chris Vella); The common view on equity investment is to 'pick a winner' – investing in the shares of a company in the expectation that they will increase in value over time. This is a simplistic approach to investing and inevitably leads to as much success as a failure as share prices rise and dip due to a myriad of economic factors (many of which do not concern the direct performance of the portfolio shares) (Hudson, 2019).

Since Benjamin Graham and David Dodd published their book on security analysis in 1934, equity portfolio management has evolved dramatically. Furthermore, Modern Portfolio Theory and CAPM, in conjunction with new data sources and powerful computers, have transformed the way investors select stocks and build portfolios.

Consequently, what was once mostly considered "the art of investing" is increasingly becoming a science (Alford, Jones, Lim). An important development in active equity management during the last several years has been the creation of portfolio strategies based on value- and growth-oriented investment styles.

The following section will analyze the main Growth, Value, and GARP investing strategies based on the literature distinction by multiple as P/E and P/B[8].

2.3.1.   Value Investing

Value investing is based on the simple assumption that certain stocks are undervalued by the market and that the efficient market hypothesis is not realized. The investor reaction to good or bad news is not equal weight with the impact on the underlying company and this creates an over or under miss priced in the market. Value investors see this error in the market as an opportunity to buy a security at a discount rate that will generate a profit when the market will price properly the news (Hudson, 2019).

In other words, they seek to buy companies that are trading at bargain prices and wait potentially for the market to realize the value of a company over time and sell only when the market price of the stock is close to or above its intrinsic value. To do so the value-oriented investor will focus on the price component of the P/E and P/B ratio and look for "cheap" stock comparing to market peers.

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[8] Support for the use of this measure is provided by Fama and French (1993)

This approach to investing was pioneered by Benjamin Graham in his book "The Intelligent Investor". As an investor, Graham looks out for undervalued companies with solid fundamentals with stock prices that are temporarily down by some news or event. He is famous for developing the concept of margin of safety (the percentage of the difference between the purchase price and intrinsic value), intrinsic value, and Mr Market .in contrast If the Market price is unreasonably overvalued, then investors have the opportunity to sell. If it is unreasonably undervalued, then investors have the opportunity to buy. Value investors tend to focus much more on capital preservation and dividend yield than on stocks that can create a substantial capital gain. In other words, they look to purchase bargain stocks with a greater margin of safety. This serves as a buffer when errors are made in an investment decision and significantly reduces the risks of the investment because the downside is limited.

The continues search of bargain price could lead to not purely understand the sentiment of the market on such security; this could lead to also called "Value Trap", i.e., the reduction of the price of the security even if the numbers are healthy and seemingly attractive. The fundamentals of such undervalued companies start to deteriorate because there are no growth drivers present and is prevalent in stock that is disliked by the market.

Value investing in its original and pure form is quantitative in approach. "This means looking at numbers and valuation alone, to the exclusion of qualitative factors, such as the quality of the business and its management" (Ang&Ching,2013). However, over time, value investing has evolved into a more advanced technique in which it combines qualitative elements in the strategy.

2.3.2. Growth Investing

This strategy aims to invest in equities whose value will grow faster than the average rate found in its industry or market and generate a huge capital gain in the long period. This means that, unlike value investing, growth investing permits buying equities that are overvalued compare to market or industry peers. We will define growth investors as those who invest in companies based on how the market values their potential for growth rather than existing investments (Damodaran, 2012). Pure Growth investors, unlike Value, will be bullish about company or industry, either the price of the stock reflects this sentiment, based on future prospective since the product or service could lead to strong performance and indeed the price of the stock, as well as the EPS, will increase too. For that reason, growth investors are willing to pay a premium price (e.g., higher price-to-earnings ratio) in anticipation that a company will deliver higher earnings growth moving forward.

One of the core objectives is to find the key growth driver(s) in a company. Fundamentally, growth investors believe the main growth driver of a stock's share price is earnings growth. It could be derived from management's vision or the promise of an industry that a business is in, which would drive up earnings per share in the future.

"A growth investor focuses on the current and future economic "story" of a company, with less regard to share valuation, he or she will analyze the determinants of the EPS" that will exploit their growths in the future and often assume that the P/E will remain constant over the near term, meaning the stock price will rise as forecasted earnings growth is realized. Their main object is to create value with the capital gain, give that a growth company is unlike to pay a dividend to shareholders since they tend to reinvest all the earning in the company to maintain growth margin. As a result of the poor fundamentals of growth stocks, growth investors use other techniques to assess the key growth drivers, such as the "Scuttle butting"[9] pioneered by Philip Fisher. concentrating on the qualitative aspect of stock as opposed to the quantitative aspect, which deals with numbers). In other words, before purchasing a stock, Fisher will assess the company's product and service quality, management ability, future growth prospects, and the power of competitors who may bring the company down. These are critical assessments in determining whether a company is a high-quality growth company.

Despite this, it is very rewarding for the growth investor if the future growth of the company continues to rise, while the downside risks also tend to be higher for growth investors, as they tend to purchase stocks without a sufficient margin of safety. The tendency to overpay security give that so many investors are eager to invest in a high potential growth company (although the growth may not be realized yet) as the expectations that these stocks will outperform the market tend to reduce substantially the upside and lead to the also called "Growth Trap". When investors expect a company's growing revenue, earnings, and prices to go up, especially those companies in the hot industry or have "glamour stocks" (Graham & Dodd, 1988) that are growing at more than 50 per cent annually, they tend to overreact when these hot stocks miss their earnings prediction affecting investment returns.

Even if, often Growth investor is seen as short time or speculative investors, Bourguignon & De Jong (2003) argue that their perspective is based on long- term expectation of growth and change in the structure of the company, instead of value investors that try to benefit from short time rebound relate to price momentum, in contrast with the fundamental approach proposed by Graham & Dodd (1934).

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[9] Philip Fisher ,*Common Stocks and Uncommon Profits*

"The growth investing approach is also known as a qualitative approach" (Ang&Ching,2013). It means looking at a business and its management alone, without much consideration for quantitative factors like a valuation. Since prospects are not reflected in financial statements, paying a premium price is still considered rational.

2.3.3. GARP Investing

Growth at a reasonable price, or 'GARP', is a hybrid model between value and growth investing. The aim is to find equities that have a combination of both the qualities value and growth investors look for; the aim is not to split a fund evenly between value and growth stocks, but to select high-growth stocks whose growth is undervalued, the most basic growth at a reasonable price (GARP) strategy is to buy stocks with a P/E ratio less than the expected growth rate (Damodaran, 2012) This means that they look at the present value of the company to see if it is undervalued and assess whether it has good growth potential too. Checking the company's core business from the past to the future the value growth investor aim to understand if the business remains unchanged and the company is a growth company at a bargain price, GARP investors employ strategies such as purchasing stocks with a P/E ratio less than the expected growth rate and purchasing stocks with a low P/E to growth ratio (called a PEG ratio). While there are several advantages to using this strategy, such as simplicity, there are several risks associated with Interest Rates, which affect P/E and Growth Rate estimation, in addition to the riskiness of such indicators and future growth. This requires them to look at the price/earnings, price to book, and the price/earnings to growth ratios. On top of this, GARP investors look at the fundamentals of the company and try to incorporate other metrics that growth and value investors use. This mixed approach does have an impact on the results a GARP investor will see. As proven by Warren Buffett in his 1984 article "The Superinvestors of Graham-and-Doddsville," a value-investing strategy applied to growing companies can outperform the market. In the article, Buffett mentioned some fund managers who used to work for Benjamin Graham or practised value investing and achieved returns that beat the market in the long run.

2.4 The Performance of Value & Growth

During the last century, several scholars analyze the performance of Value and Growth stocks in different scenarios and contexts. The spread between the performance of those stocks signals the presence of either a Value premium or a Growth premium. In the last decade although investors tend to give more attention to growth-oriented strategies since 2016 when the Russell 1000 Growth index outperformed the Russell 1000 Value index for the first time since the Dot Com period, despite study and research has shown that a value approach tends to generate superior returns in the long period signalling the presence of a Value premium.

As previously said Graham & Dodd (1934) were the first to analyze past performance during the great depression and first define the 'value effect derived by the positive difference between Value minus Growth. Understand this is possible comparing the return obtain by portfolio made by those two categories of stock and is fundamental to understand where are more exposed their position to growth or value and also the sentiment in the market. The higher the value premium, the more likely it is that investors give preference to value stocks due to the providence of higher returns compared to growth stocks (Bird & Casavvechia, 2007)

Several studies, that will later illustrate, evidence as, a constant value premium among these categories could be derived by the fact that when investors recognize a growth company and correctly discount their earnings stream, also the market price will reflect these future earnings. After all, the overestimation of future earnings and cash flow creates an extreme overvalued price that leads to a negative return on a risk-adjusted basis, even if the company is facing strong growth. Studies by Solt and Statman (1989), Shefrin and Statman (1995), and Clayman (1987) have examined the stock price performance for samples of growth companies and found that their stocks performed poorly—that is, the stocks of growth companies have generally not been growth stocks. (Reiley & Brown).

Capaul, Rowley, and Sharpe (1993) looked at the long-term performance of value and growth portfolios (as measured by relative P/BV ratios) in six countries: the United States, the United Kingdom, Japan, France, Germany, and Switzerland. They demonstrated that global value stocks outperformed global growth stocks by 3.3 per cent per year on average. Fama and French (1998) provide evidence that value stocks outperform growth stocks in 12 of 13 market analyses, indicating the existence of a value premium (5.56 to 7.65 per cent).

Even when the late 1990s experience is considered, value investing outperforms growth investing, according to Chan and Lakonishok (2004). When the value premium is significantly greater than

the market return (e.g., twice the market return), a potential bubble is formed (Fama & French, 2007).

Observing other studies is possible to understand the performance in a different scenario. According to Chan and Lakonishok (2004), value stocks are more likely to provide investors with higher returns than growth stocks over a wide range of historical periods and market conditions, and similar results are observed when Asian emerging markets are studied. This result could be attributed to volatility, as emerging markets are more volatile than developed markets. Chen & Zhang, 1998; Fama & French, 1998).

Lakonishok et al. (1994) show that during crises[10] and recessions, value stocks are more likely to generate higher returns than growth stocks. Positive value premiums ranging from.1.10 to 1.80 per cent were observed in the 25 worst months of the study.

As an investment style, it is tempting to conclude that value is unquestionably superior to growth. However, while value investing generates higher average returns than growth investing, this does not happen consistently from one investment period to the next. From a rational point of view, the most important reason behind the value premium is compensation for bearing higher risk; also the CAPM cannot explain the value premium since value stocks have larger BETAs than growth (Fama & French, 1993,2005). They try to explain this overperformance focusing on the higher risk and the high probability that a value company could be incumbent on financial distress and that the rebound will never materialize.

De Bondt & Thaler (1985,1987) try to explain from the behavioural point of view. They argue that higher returns of value stocks are the result of the notion that investors tend to overreact towards past events, such as earnings announcements. These scholars found that value stocks became too low-priced and rebounded, whereas growth stocks experienced the reverse and that extreme losers outperform the market over the years.

Both value and growth stock, according to Bird & Casavecchia (2007), can be mentioned for the same issues. One of the issues that are typical for value stocks is the danger of staying cheap for a long time which could bring to multiples an inaccurate and misleading image. Therefore, investors could be triggered to invest too soon, and the expectations of the investors could be unable to reach. Instead, an example for a growth stock, which is relatively more expensive in trade could result in a great price correction in the future; one of the reasons for this to happen is that the company cannot produce products that follow the current market standard. Fama & French (2007), in one of their articles, describe the inclusion of convergence and drift in the realm of value and

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[10] According to Reinhart & Rogoff (2008), crises and subsequent recessions are usually the effect of credit booms and pricing bubbles

growth stock; although convergence is not considered an issue, they could have a bad impact on the portfolios and returns of value and growth stocks. After the stocks are included in portfolios their negative convergence could result in a conflict in the case returns become less thrilling. As a result, it can be assumed that negative convergence cannot give an accurate appearance on stock returns. According to rationalists, the circumstance does not matter from a rational point of view resulting from the fact that convergence within the growth, returns, and profitability are estimated and denoted into stock prices. Nevertheless, Lakonishok et al (1994) state that it is difficult for investors to understand convergence in stocks; unexpected events can arise in growth and profitability, instead of positive or negative convergence is not indicated into stock prices and, as a result, it does not influence stock returns.

Arshanapalli, Coggin, and Doukas (1998) establish the superior performance of value stocks over growth stocks without taking any growth measure into account. According to Speidell and Graves (2003), while growth portfolios may result in higher PB or PE ratios, using this output characteristic as an input variable may be misleading because a high valuation multiple is insufficient for measuring growth. According to Brush (2007), studies based on this premise only compare "high book-to-market" stocks with "low book-to-market" stocks, not growth and value.

2.5 Style Analysis

As seen in the previous section, there are several equity investments styles or strategies as many as the characteristics of a stock that could be underline and the composition of the asset allocation select by the asset manager. Once a set of asset classes has been defined, it is important to understand the exposures of each component of an investor's overall portfolio to understand the movement in their returns, only measuring the exposures to variations in returns of the major asset class that combine the overall portfolio is it possible to understand how effectively individual fund managers have performed and compared them with one or more benchmark (Sharpe, 1992).

The growing emphasis on investment style necessitated the development of style analysis tools. On the one hand, because portfolio managers do not always adhere to their stated style mandates (or even have stated style mandates), investors and their advisors must be able to determine the style of a portfolio independently. Portfolio managers who are concerned about how investors and advisors perceive their style, on the other hand, require tools to ensure that they are staying true to their intended style. It is now widely accepted that a portfolio manager who follows a specific investment style should be measured against a passive benchmark that follows the same style.

This creates a two-pronged problem of developing style-specific benchmarks and matching funds to the appropriate benchmarks. Because few investment styles exactly match the construction rules of any single published index, custom benchmarks are frequently required. Style analysis can be used to develop custom benchmarks in the form of fund-specific combinations or index "portfolios" (Kaplan,2004).

Style Analysis is the technique that tries to understand and explain the variability in the observed returns to a security portfolio relative to a series of benchmark portfolios capturing the essence of particular security characteristics (Reilly & Brown, 2012); the goal of style analysis is to observed the asset classes exposure that minimizes the variance between the return of an overall portfolio and that of a passive portfolio with the same style, in terms of "Tracking error " and " Tracking Variance " (Sharpe, 1992).

The more highly correlated a fund's returns are with a given style index, the greater the weighting that style is given in the statistical assessment. The goals of style analysis are to better understand the underlying influences responsible for the portfolio's performance and to properly classify the manager's strategy when comparing him or her with other managers. Thus, regardless of whatever investment objective, a manager might profess to follow, style analysis allows the portfolio to speak for itself (Reilly & Brown).

The same analysis can be used to provide a more detailed description of investment style than a fund category assignment reveals. Rather than categorizing a fund as "large-cap growth," for example, many equity style models assign a pair of numerical scores for size and value/growth orientation, which can be plotted on an x-y grid.[11]

The position of a fund's point on the grid makes distinctions such as "core growth" and "high growth" visually apparent. Such plots, when done correctly, are extremely useful in demonstrating the differences between the investment styles of funds that fall into the same style category. Therefore, in many commercially available style analysis software packages, the ability to create such plots is a key feature.

Inaccurate analysis can lead to wildly erroneous conclusions. An easy-to-perform misleading analysis is worse than no analysis at all. As a result, it is critical for users of style analysis to understand how the models work and are aware of their limitations before putting them to use.

Style analysis can be divided into two categories: holdings-based and returns-based. There has been much debate between supporters of these two approaches. Most of the debate has centred on the relative accuracy of the two methods in describing a fund's allocation among asset classes or equity styles[12] (Kaplan,2004).

2.5.1. Holdings-Based

Holdings-based style analysis is a "bottom-up" approach in which the characteristics of a fund over time are derived from the characteristics of the securities it contains at various points in time. The characteristics chosen are determined by the purpose of the analysis. The only security characteristic required is index or asset class membership if the goal is to create a customized benchmark consisting of a portfolio of indexes or to decompose the portfolio into a set of asset classes. If the goal is to describe a portfolio in terms of a set of quantitative style characteristics like size and value/growth orientation, the prescribed characteristics of each security must be calculated and aggregated to the portfolio level.

Two sets of data are required for holdings-based style analysis. First, we require a security database containing the characteristics of each security in the investable universe of the funds under consideration. Second, we require a record of the security holdings of each fund under consideration. Each database must contain the necessary data for each period under consideration.

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[11] Sharpe [1988] introduced this type of investment style grid.

[12] See for example Rekenthaler, Gambera, and Carlson [2002] and Buetow, Johnson, and Runkle [2000].

The databases required to perform holdings-based style analysis are costly to obtain and maintain. As a result, only a few investment research firms have the necessary datasets and perform holdings-based style analysis

2.5.2. Returns-Based

Sharpe [1988, 1992] pioneered returns-based style analysis as a low-cost alternative to holdings-based style analysis. Sharpe's method involves regressing a fund's historical returns against the returns of a set of passively constructed reference portfolios, with each reference portfolio representing a different asset class or investment style. The coefficients on the reference portfolio returns must be nonnegative and add up to one to represent a long-only portfolio of passive investments. This portfolio serves as the fund's personalized benchmark.

Sharpe's model made style analysis accessible to anyone who could obtain historical returns data on the portfolio under consideration as well as passive indexes. Sharpe's model quickly gained popularity among institutional investors and consultants due to the importance of style analysis and the relative cheapness of returns data. Several companies created software packages to perform returns-based style analysis for both the institutional and advisor markets.

The majority of these software packages generate plots of fund equity style characteristics. To do so, they first assign each reference portfolio a point in x-y space that represents a specific equity style, such as large-cap value. They then generate a plot point for the fund in question by taking a weighted average of the plot points of the reference portfolios and adjusting the weights based on the results of the returns-based style analysis.

As developed by Sharpe, returns-based style analysis is simply an application of an asset class factor model, as shown in Equation 1.

EQUATION 1

$$\widetilde{R_{pt}} = [b_{i1}\widetilde{F_1} + b_{i2}\widetilde{F_2} + \ldots + b_{in}\widetilde{F_n}] + \tilde{e}_i$$

where:

R_{pt} = the tth period return to the portfolio of Manager p

$\widetilde{F_{jt}}$ = the tth period return to the jth style factor

b_{pj} = the sensitivity of Portfolio p to Style j

$\tilde{e}_{pt}$ = the portion of the return variability in Portfolio p not explained by variability in the set of factors

"Given a set of monthly returns for a managed fund, along with comparable returns for a selected set of style benchmark index portfolios (asset classes), the portfolio weights $\beta_1, \beta_2, \dots \beta_n$, in equation 1 can be estimated using multiple regression analysis. However, to get coefficient estimates that closely reflect the funds' actual investment policy it is important to incorporate restrictions on the style benchmark weights. For example, the following two restrictions are typically imposed (Equation 2):

EQUATION 2

$$\beta_{j,n} \geq 0 \quad \forall j \in \{1,2\dots n\} \qquad\qquad \beta_{j,1} + \beta_{j,2} + \dots + \beta_{j,n} = 1$$

The first restriction corresponds to the constraint that the fund manager is not allowed to take short positions in securities. The second restriction imposes the requirement that we are interested in approximating the managed fund return as closely as possible by the return on a portfolio of passive style benchmark indexes." (Sharpe,1992)

Once establish the weight of each asset class is, is it possible to capture the Asset Allocation Strategies[13] made by the investor analysing the weight of each asset class or style index on the overall return.

Moreover, as with any regression equation, the coefficient of determination can be defined as:

EQUATION 3

$$R^2 = 1 - \frac{\mathrm{Var}\,(\widetilde{e_1})}{\mathrm{Var}\,(\widetilde{R_1})}$$

Since the factor model design, R^2 can be interpreted as the percentage of Manager p's return variability due to the portfolio's style and a useful metric for identifying "active" managers from "passive" managers, or the proportion of the variance "explained" by the selected style benchmark asset classes, the residual component of the portfolio return ε reflects the manager ability to depart from the benchmark composition within each style benchmark class. $1 - R^2$ is the part of return attributable to the manager stock-picking ability and is termed selection skills. Finally, style analysis can also show whether a manager maintains a consistent investment style over time. This can be achieved by estimating the optimal combination of style indexes and then

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[13] "Asset allocation is an investment strategy that aims to balance risk and reward by apportioning a portfolio's assets according to an individual's goals, risk tolerance, and investment horizon."(Investopedia)

overlaying the plot points on the same grid, as in the Morning star style Box simplified shown in Figure 4[14].

FIGURE 4 MORNING STAR STYLE BOX (PERSONAL ELABORATION)

Large Value	Large Growth
Small Value	Small Growth

Cap. Small to Large (%)

Value to Growth (%)
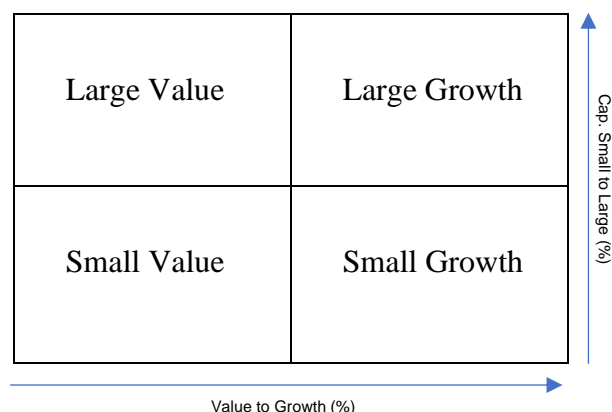
Moreover, Barberis & Shleifer (2003) further elaborate on the importance of style analysis give the growth in popularity of style investing; in fact, there are several benefits: "First, it gives a simplification of the decision-making procedure to process data more efficiently(Mullainathan,2000), given the example that a portfolio of ten stocks belonging to a certain style can be more efficiently tracked than 100 non-identical and independent stocks. Second, forming specific classes of individual securities comforts towards the appraisal and examination of the performance more cautiously (Sharpe,1992). Third, "it proliferates and upsurges the management and control of the overall risk for investors more efficiently".

The great importance of style investing among investors is growth over time. It is essential to understand the dynamic between different styles to understand the sentiment of institutional investors and assess the effect on financial markets and security valuation.

Style Analysis can assist investors in bringing order to the often-chaotic investment process. Portfolio-based and Return-based Style Analyses both allow investors to keep their actual asset allocation consistent with their investment goals while also evaluating fund managers' performance against a proper benchmark.

The return-based analysis is simple to use and interpret. The portfolio-based analysis is more in-depth, but it requires more data and knowledge of portfolio holdings (which may not be readily available). Both methods can be used in tandem to improve asset allocation. The return-based analysis is frequently used as a prelude to the more in-depth analysis associated with Portfolio-based analysis. In other words, return-based analysis is used to define a specific universe of funds

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[14]See http://www.morningstar.com/InvGlossary/morningstar_style_box.asp

that appear to exhibit the same style. As a result, portfolio-based analysis can assist in understanding the specific strategies and exposures that differentiate each of those funds.

Although return-based analysis is a useful tool for determining the sources of a portfolio's performance, as we demonstrated with several examples, it has limitations. The technique is critically dependent on the proper specification of the style benchmark asset classes. Incorrect or insufficient selection of style benchmarks can lead to incorrect conclusions about performance and the level of "active" management. Furthermore, because the data used are historical returns, it is difficult to draw any conclusions about the manager's future risk/return profile.

The method also tends to detect style changes slowly and, at times, may miss some style changes entirely. It may occasionally indicate style changes that did not occur, which is often due to how the style indices are correlated with one another. In short, correlation errors can occur, resulting in false signals (Ben Dor et al, 2002).

3   How COVID-19 had an impact on the macroeconomic contest and financial market

> "You get recessions, you have stock market declines. If you don't understand that's going to happen, then you're not ready, you won't do well in the markets." — *Peter Lynch*

Before the study and understanding of how covid impacted investment Managers' strategies are essential to identify the impacts on the Macroeconomy context, i.e., the environment in which all firms operate. According to Bodie (2011), Investment Managers based their strategy on different factors, that also include microeconomic context, but understand the macroeconomic context and the forecast scenario remain the main arm to succeed in the long run. The importance of the macroeconomy in determining investment performance and the decision is crucial and the stock price index strictly reflects it, while the exact ratio of stock price to earnings varies with factors such as interest rates, risk, inflation rates, and other variables, the path of the main index strictly reflects the forecasts of EPS, as in the example of the S&P 500, that are strictly correlated with the GDP Growth. Thus, "the first step in forecasting the performance of the broad market is to assess the status of the economy as a whole. The ability to forecast the macroeconomy and better than competitors can translate into spectacular investment performance and abnormal profits" (Bodie, 2014).

FIGURE 5 SHILLER P/E (SOURCE: MULTPL.COM)[15]

Although it also seems clear that the level of the broad market and aggregate earnings do trend together, the S&P 500 Shiller P/E[16] boundary varies based on the macroeconomy period, the ratio graph does illustrate that as a general rule the ratio has tended to be in the range of 12 to 25. Given "normal" price-earnings ratios, we would expect the S&P 500 index to fall within these boundaries, but History demonstrates how the earnings- multiplier rule is not perfect, as we can note in the dramatic increase in the price-earnings multiple during the dot-com boom of the late 1990s and the current Covid Crises (Bodie, 2014).

Moreover, Bash (2020) argues how various research identify a strong link between stock market returns and key events such as political events geopolitical; terrorist incidents; environmental events; and disease outbreaks such as animal diseases, Ebola, SARS, and COVID-19 (Bash, 2020). On the 30th of January, when the WHO announced a public health emergency of international concern 2020, no one was expecting the extent to which the novel COVID-19 virus would shape the world in 2020. Social distancing, national lockdowns, and other restrictions against the spread of the virus changed the way people live, work, and interact. Accompanied by widespread

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[15] Shiller PE Ratio (multpl.com)

[16] It is defined "as price divided by the average of ten years of earnings (moving average), adjusted for inflation. As such, it is principally used to assess likely future returns from equities over timescales of 10 to 20 years, with higher-than-average CAPE values implying lower than average long-term annual average returns. The ratio is used to gauge whether a stock is undervalued or overvalued by comparing its current market price to its inflation-adjusted historical earnings record." (Source: Wikipedia)

uncertainty, the new circumstances brought the global economy to its knees, resulting in the biggest stock price collapse since the 2008 financial crisis. [17]

Nevertheless, 2020 had closed much as it began: Stocks in a bull market, notching fresh all-time highs after the worst global pandemic in a century and the almost shockingly brief bear market that accompanied it. In February and March, US stocks experienced their swiftest decline of 20% or more on record as COVID-19 infections grew exponentially around the globe. The S&P 500 has surged almost 65% since its March low and finish the year up nearly 18,40 %. Much of the credit for the market's gain is given to the economy nascent recovery, as does the federal stimulus package, massive amounts of liquidity from the Federal Reserve and the fast evolution of the Covid-19 vaccines. Even ignoring the pandemic, 2020's stock market defied expectations. The S&P 500 is up more than strategists forecasted for 2020 (they called for an increase of about 5%), and it's even having a better year than its historical average (about 10%). This is all despite a 34% drop in the spring from its February peak.[18]

Nevertheless, not all assets within each asset class had a positive year and more in general, not all asset prices. For example, oil (as measured by WTI crude) plunged 24%, slowing global economic activity due to the pandemic cut into energy demand. And within stocks, a plethora of businesses have been devastated or forced into bankruptcy as a result of the COVID-19 pandemic.

Despite this, it was a positive year for investors, 2 consecutive years of double-digit gains have now been posted by global stocks. In 2019, the MSCI World Index gained 24% and US stocks, as measured by the S&P 500, added 28%.[19]

Uncertainty about the financial and physical impacts of the virus lead volatility, which is critical to the operation of financial markets as is considered the measurement of financial risk, and defined by the CBOE Volatility Index (VIX)[20], to a historical high, surged over 80 on 16th March 2020, surpassing its 2008 record. As a result, it acts as a barometer of financial risk or uncertainty surrounding investments in financial assets and, therefore, it is of natural interest to individual investors, mutual fund managers, policymakers and also financial industry regulators. As observed

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[17]See *Covid-19: Economic Downturn And Recovery A Statista Dossier plus On The Impact Of The Coronavirus On The Global Economy*

see file:///C:/Users/Michele%20Ranieri/Downloads/study_id72052_covid-19-economic-downturn-and-recovery.pdf

[18] https://www.forbes.com/advisor/investing/stock-market-year-in-review-2020/

[19]   See   https://www.fidelity.com/learning-center/trading-investing/markets-sectors/2020-stock-market-report#:~:text=2020%20will%20be%20remembered%20by,year%20of%20double%2Ddigit%20losses.

[20] "The Cboe Volatility Index (VIX) is a real-time index that represents the market's expectations for the relative strength of near-term price changes of the S&P 500 index (SPX). Because it is derived from the prices of SPX index options with near-term expiration dates, it generates a 30-day forward projection of volatility. Volatility, or how fast prices change, is often seen as a way to gauge market sentiment, and in particular the degree of fear among market participants" (Investopedia)

by different researchers such as Baker et al. (2020) the Coronavirus outbreak has resulted in unprecedented volatility in the U.S. financial markets and how the current pandemic has to have the greatest impact on stock market volatility in the history of pandemics. The skyrocketing growth of VIX, which is considered the principal futures contract to hedge against equity markets, take the S&P500 and Nasdaq Composite indices to drop by 12 per cent on 16th March 2020. On the same day, the Wall Street Journal reported that Dow Jones Industrial Average (DJIA) dropped over 12 per cent 'marking the second-worst day in its 124-year history. A significant increase in stock markets has been highlighted by Zaremba et al. (2020) countries where governments take serious action (information campaigns and cancellation of public events) to stop the spread of Covid-19. Further, Onali (2020) identified how volatility for US stock markets significantly increased in response to reports of COVID-19 cases and deaths in multiple countries. Notably, Haroon and Rizvi (2020) investigate whether COVID-19 news coverage results in shifts in volatility. (Baek, Mohanty, & Glambosky, 2020)

Additionally, to analyze the consequences of Covid is essential to understand the main prior Covid trend that impacted not only the Macroeconomic environment but also the financial market and investor strategy.

According to Tokic (2020), since Dot Com Bubble the US started to use the extraordinary monetary stimulus to boost the domestic economy, taking to the housing bubble and the Great Financial Crisis of 2008. Furthermore, the United States responded to the 2008 recession with extreme monetary stimulus, which boosted asset prices post-recession but failed to raise the standard of living of the poor and middle-class, resulting in a significant wealth gap and, as a result, a global rise in populism. As a result, the post-World War II globalization trend began to reverse, first with Brexit and then with the election of right-wing US President Trump. As a result, a new trend of de-globalization has begun to emerge, promoting America-first policies and calling into question the stability of the European Union, as well as China's role in the global economy. Since joining the World Trade Organization in 2001, China has grown to become the world's second-largest economy, trailing only the United States, with a significant increase in geopolitical power. China has begun to form its own economic and geopolitical bloc through the Belt and Road Initiative, with financial institutions similar to the World Bank. Since the beginning of the global COVID-19 crisis, all economists and investors have hoped to return to the pre-pandemics situation, or "normalcy"; in his article "the Long-term consequences of the 2020 coronavirus pandemics: Historical global-macro context" Tokic defines the main market and macroeconomic trends :

- De-globalization: "Taking the broad macro view, the global geopolitical situation has been resembling a Cold War II, with a clear division between the China bloc affiliated countries

(such as North Korea, Iran, Venezuela, and Russia) and the US bloc. The European Union has been facing internal issues with the rise of populism and nationalism, and the inability to fully develop into a political union. The US-China trade war seems to be only a fraction of a bigger issue concerning the general rise in Chinese geopolitical and economical influence directly challenging the US dominance as the sole global super-power." (Tokic, 2020)

- De-dollarization: "The key lesson throughout history is that a country has to be able to increase the money supply without hyperinflation. Thus, given that the US dollar has been the global reserve currency, the United States has been able to print infinite amounts of US dollars to support military spending and to backstop financial crisis via monetary stimulus. In addition, the United States has been using the US dollar-based system to enforce the foreign policy by imposing sanctions on nations such as North Korea, Iran, Venezuela, and even Turkey. Thus, as the key part of the de-globalization efforts, the China-bloc has been aiming to reduce the reliance on US dollars in international trade using the Euro or even domestic currencies in international transactions. Even though the US dollar remains the most widely used currency in international transactions, the gradual trend of de-dollarization has been forming in recent years." (Tokic, 2020)

- Financial bubbles: "The US economy rebounded post 9/11 and after the 2001–2002 recession by inflating the housing bubble due to the Fed's policy of lowering the interest rates to 1%, which resulted in the Great Financial Crisis and the Great Recession of 2008. The US economy rebounded from the 2008 recession due to the several rounds of the Fed's quantitative easing monetary stimulus, which included holding the interest rates at near 0% for an extended time. These alternative monetary policy tools re-inflated the housing market, and also inflated the stock market. The global stock markets (in Europe and Emerging Markets) never reached the 2008 highs, however, the US stock market charged higher well above the 2008 highs, also supported by Trump's procyclical fiscal stimulus. At the height of the US stock market peak just before the pandemics in February 2020, the cyclically adjusted PE-10 ratio for S&P500 was around 33, which is well above the 1929 level of 30, and second only to the madness valuations during the dot-com bubble of 2000. The average PE ratio is around 16. Thus, the US stock market was arguably in the bubble right before the pandemics hit in February 2020, possibly 100% overvalued compared to the average market multiple." (Tokic, 2020)

3.1 Economic Downturn and Recovery

As the number of COVID-19 cases rose at the beginning of the year, economists are becoming more pessimistic about the 2020 growth prospects of the world economy; the uncertainty about the measures to limit the of Covid across the world, and the poor information about what was the real impact of covid in China, created some difficulties to understand the future change and the impact of the economic indicator.

For instance, when the pandemic unofficially started in China no Government in the world understood that it was an error to consider this event circumscribed. The globalization process blurred the boundary across the globe and these events demonstrate how is impossible to not consider what could be the impact of the events happening around the world.

In response governments of the 210 affected countries implemented the varied levels of social-distancing policies and stay-home orders to prevent the spread of the virus—essentially shutting down the worldwide economy. Additionally, the policymakers in large countries, led by us and Europe, passed the extraordinary mixture of fiscal and monetary measures to make sure that the amount of "lockdown" is effectively bridged to attenuate the consequences of the sudden economic-stop on social stability and therefore the financial markets until they return to normalcy. As of early May, many countries had begun to gradually reopen their economies, because the social distancing measures were effective in slowing the spread of the virus— flattening of the curve.

At that time the key assumption seems to be that there would not be any major consequences of the COVID-19 pandemic over the longer term and as defined by Tokic(Long-term consequences of the 2020 coronavirus pandemics: Historical global-macro context) three main scenarios would happen:

- "The "V-shape" recovery scenario, thus, assumes that: (a) the pandemic would be short-lived, 3 months; (b) the policy mix would effectively bridge the "lock-down" period and prevent the financial crisis, and (c) the global economy would return to normalcy (or the prepandemics state) after the pandemics are finished." (Tokic, 2020)
- "The "U-shape" recovery case recognizes the potential that the pandemics could last longer and that additional stimulus would be required to bridge the crisis, but the economy would eventually return to normalcy as the virus eventually disappears. The assumption that the COVID-19 virus would eventually disappear is reasonable, as the vaccine is likely to be eventually developed. Further, the assumption that the policy mix will effectively bridge the economic crisis period is also reasonable, given the Fed's ability to implement an infinite money-printing press via quantitative easing (QE) in tandem with the fiscal debt

monetization. However, it is highly questionable and uncertain whether the global economy would return to the pre-virus state or "normalcy" after the virus disappears. " (Tokic, 2020)

- "The "L case" scenario predicts that the COVID-19 pandemics will have significant longer-term negative geopolitical and economic effects and rejects the return to normalcy assumption after pandemics is finished— essentially the economy would not recover from the pandemics shock. The purpose of this article is to (a) explain the prepandemic geopolitical and economic state within the historical context, (b) critically discuss the longer-term consequences on the COVID-19 pandemics, or the likely post-pandemic geopolitical and economic state, and (c) discuss the implications concerning the V-shaped, the U-shaped, or the L-shaped economic recovery." (Tokic, 2020)

Similarly, stock markets rebounded strongly from the lows reached at the "peak of the infection curve" in anticipation of a gradual return to normalcy, with the embedded prediction that the global economy would likely rebound strongly in the third quarter of 2020 (Q3), following the sharp and short recession in the first two quarters of 2020 (Q1 and Q2) — materializing the V-shape recovery visible in the first two quarters of 2020 (Q1 and Q2).

However, Covid has a significant impact on all economic factors, and further considerations about the long-term effects on the overall economy are presented in the paragraph below.

3.1.1 Impact on GDP

As defined by Bodie (2011) Gross domestic product, or GDP, is the measure of the economy's total production of goods and services; Analyse quarter by quarter the increase/decrease of this indicator is the first measure to assess the change in the macroeconomic activity, in fact rapidly growing GDP indicates an expanding economy with ample opportunity for a firm to increase sales. Understand the real impact on the economy of such events is fundamental to correct reallocate or adapt to the new macroeconomic situation their portfolio for the asset manager. Institutions, such as IMF[21] or NBER[22], release periodical reports and LEI[23] to forward the movement of the economy and the main issues that could move it, as risk or opportunity.

It was January when the first cases in China became public January, but even though the IMF expected a solid growth rate of 3.3 per cent for 2020 at the end of the month. At that point, the Fund believed the main risks for growth would be geopolitical tensions. By the end of March, the CEBR[24] corrected its GDP growth forecast to -4.0 per cent for 2020. The real economy did get down on one knee in March 2020 (see Fig. 6). From April on, most economic institutions agreed that the world economy is heading into a severe recession that will affect all sectors and markets. Even if all economists agreed that it will have severe negative impacts on the worldwide economy, the IMF stated within the 2020 report, that there are no thanks to telling exactly what the economic damage from the worldwide COVID-19 coronavirus pandemic is going to be within the long period.
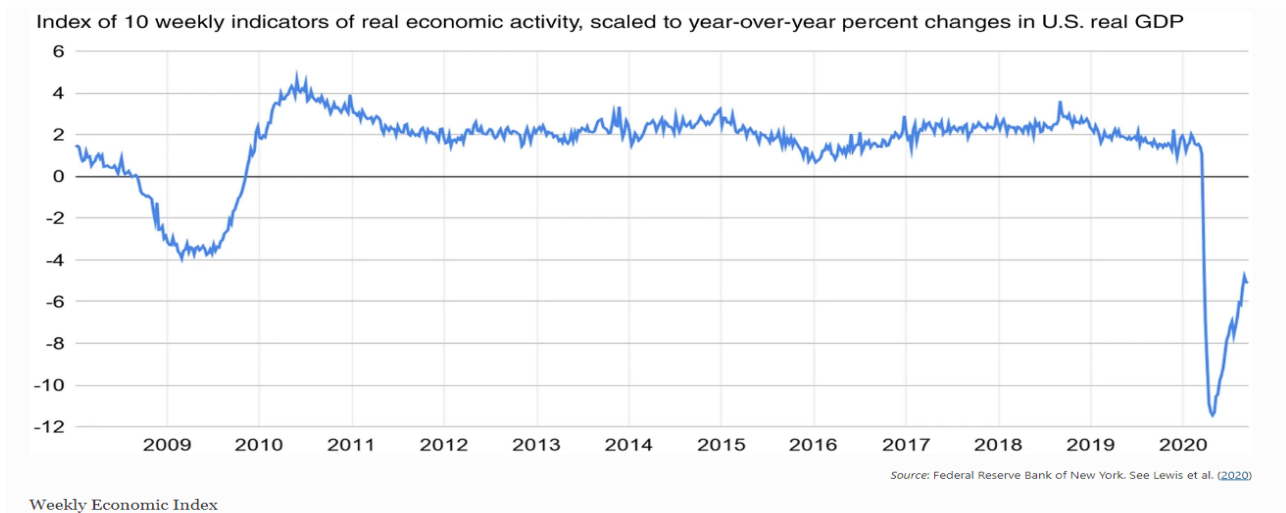
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[21] International Monetary Fund
[22] National Bureau of Economic Research
[23] The Composite Index of Leading Indicators, otherwise known as the Leading Economic Index (LEI), is an index published monthly by The Conference Board. It is used to predict the direction of global economic movements in future months. The index is composed of 10 economic components whose changes tend to precede changes in the overall economy. Businesses and investors can use the index to help plan their activities around the expected performance of the economy and protect themselves from economic downturns.
[24] The Centre for Economics and Business Research

Index of 10 weekly indicators of real economic activity, scaled to year-over-year percent changes in U.S. real GDP

Source: Federal Reserve Bank of New York. See Lewis et al. (2020)

Weekly Economic Index

FIGURE 6 WEEKLY ECONOMIC INDEX (SOURCE FED OF NEW YORK)

The immediate reaction made by governments across the globe were similar and aimed to compensate for the economic downturn with huge fiscal stimulus, by far, of the last century. The largest in absolute value was made by US Government but Japan and European Union were the first in relative value to GDP. This mechanism tried to mitigate the impact of the shutdown pushing demand-side and consumer spending.

Due to the differences between states and the time gap between the spread, the economic shock hurt differently the GDP. The last estimates of IMF predicated that, most major economies will lose at least 3.5 per cent of their gross domestic product (GDP) over 2020. This forecast was already restated to a GDP loss of 4.9 per cent of advanced economies and 2.4 of emerging economies. To put this number in perspective, global GDP was estimated at around 87.55 trillion U.S. dollars in 2019 – meaning that a 4.9 per cent drop by economic process amounts to almost 4.29 trillion U.S. dollars in lost economic output.[25]

While the COVID-19 pandemic originated in China, the country was able to get the economy back on track by imposing strict restrictions. China's GDP by 2.3 per cent in 2020. Other countries and regions face much larger GDP declines. For Europe in particular, GDP dropped significantly in 2020 – by -7.2 per cent. Above all, Spain with -11.1 per cent and Italy with -9.2 per cent face grim expectations for this year where most of the loss was related to the travel and tourism industry. In North America, where the United States records the highest infection rates worldwide, GDP declined on average by around -3.4 per cent. These figures are better than in Europe, as most North American countries and territories took less stringent measures against the pandemic. In addition, India experienced a strong decline in economic output, with a GDP growth of -8.0 per cent.

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[25] https://www.statista.com/topics/6139/covid-19-impact-on-the-global-economy/#:~:text=Early%20estimates%20predicated%20that%2C%20should,GDP%20loss%20of%204.5%20percent.

Moreover, the forecast of the International Monetary Fund from October 2020 reveals as most economies are not expected to reach their 2019 GDP level before the end of 2021. Nevertheless, there are outliers to these observations, like China, for example, which will not only be able to increase its economic output in 2020 but also grow to a pre-pandemic level in the following years. Driven by these economical powerhouses, the world GDP is expected to surpass its 2019 level already in 2021. In contrast, European economies, such as Italy or Spain, which experienced a severe decline in GDP over this year, are not expected to regain their previous level within the next two years. The same is true for countries like Brazil or Japan.

According to the January report, although recent vaccine approvals have raised hopes that the pandemic will be over by the end of the year, renewed waves and new variants of the virus raise concerns about the outlook. In the face of extreme uncertainty, the global economy is expected to grow by 5.5 per cent in 2021 and 4.2 per cent in 2022. The 2021 forecast is revised up 0.3 percentage points from the previous forecast, reflecting expectations of a vaccine-powered boost later in the year and additional policy support in a few large economies.

The strength of the recovery is expected to vary significantly across countries, depending on access to medical interventions, the efficacy of policy support, exposure to cross-country spillovers, and structural characteristics that entered the crisis.

To sum up, Guerrieri et al. (2020) affirmed as given the unusual combination of supply and demand shocks and the huge sectoral differences in the impact of the crisis, that led to a sharp drop in overall economic activity, taking to the prospect of a massive unemployment and business failures that will likely to have long-term implications for the structure of the economy and growth, and they will remain a challenge for economic policy, including central banks.

3.1.2 Impact on Labour Market

In a matter of months, the COVID-19 pandemic has transformed from a public health crisis without precedent into a serious economic and job crisis, the full scope of which is still unknown. The rapid implementation of containment and mitigation strategies to thwart contagion and avoid the collapse of healthcare systems was successful in limiting the spread of the virus and thus the associated fatalities. Even where such confinement measures were not adopted, citizens largely assumed similar practices, working from home where possible, while avoiding large gatherings, public transport, and in-store shopping. The unfolding pandemic led to a serious "supply shock" as international supply chains were interrupted, workers got sick, were quarantined or subject to lockdowns and corporations found themselves unable and, in some cases forbidden, to work. Despite an unprecedented policy response by governments and central banks, increased uncertainty, the decline in household incomes, and mandated or self-imposed physical-distancing measures led to a drop in investment and consumption. This quickly transformed what was initially a "supply shock" into a "demand shock", putting further pressure on companies

As the effects of the pandemic and containment measures hit World economies, millions of people have been unable to go to work, resulting in an exceptionally stark drop-in activity and unprecedented job losses. Up to 10 times fewer hours were worked in some countries, compared with the first few first months of the 2008 financial crisis; as defined by Bodie investors use "the unemployment rate to measure the extent to which the economy is operating at full capacity. The unemployment rate is a factor related to workers only, but further insight into the strength of the economy can be gleaned from the unemployment rate for other factors of production. Analysts also look at the factory capacity utilization rate, which is the ratio of actual output from factories to potential output."

As the pandemic continues to evolve with little sign of light at the end of the tunnel, any assessment of labour market disruptions involves a high level of uncertainty. Meanwhile, the storm investors start to consider every kind of labour market indicators, such as the Initial Jobless Claims or Payroll Rate, to measure the sentiment and the possible future trajectories in the development of the economy. Nonetheless, it is crucial to monitor and analyze labour market impacts with the best possible data and methods and update them regularly, hence helping countries develop timely and informed policy responses. Looking to recent history the Great Recession (2008–09), where the mainstream policy response at the time was largely characterized by "trickledown recovery"[26] measures, which resulted

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[26] Recovery in employment and labour income was even slower and more painful which, in turn, contributed to a further slowing down of the economic recovery and depressing productivity growth. It took more than a decade for global unemployment to return to the pre-crisis level, while youth unemployment has never managed to recover fully from the

in slow economic recovery and greater social and political uncertainty, is an example of how much is important promptly track the underlying economic situation.

The sharp contraction in economic activity, and subsequently in the labour market, was produced by the combination of fear of infection, public guidelines, and mandatory lockdowns and took an unprecedented number of workers (39% on average) to telework and massive laid-off in non-essential sectors. According to the OECD[27], the United States and Australia experienced higher peaks in unemployment due to COVID-19 than during the financial crisis. The dynamic U.S. labour market shows the most volatility, where the unemployment rate quickly grew from below 4 per cent to 13 per cent in the second quarter of 2020 before dropping back to 9 per cent for the third quarter. Moreover, thanks to unprecedented short time labour allowances, European countries show fewer job losses in 2020, trying to postpone unemployment rates to a later point in time where pandemics could be not a problem. Also, the less dynamic Asian labour markets show only moderate and more stable unemployment rates.

The vast majority of OECD countries have responded with unprecedented measures to contain damages and support workers, their families, and companies. The direct and indirect financial support to companies, other than the income support to workers losing their jobs or income was the first move to maintain domestic demand for goods and services. Unemployment benefits are one of the most important tools for mitigating the effects of job loss on earnings. Many extended or introduced job retention schemes to preserve jobs at firms suffering from a temporary reduction in business activity, trying to keep workers safe as the economy reopens and ensuring employment support and adequate income protection for a crisis that may not yet be over must remain a priority.

Even if the financial resources spend by Government were huge, the necessity to reach the most benefactor in the minimum time taken to several problems, such as find the right balance between work incentives and income security for non-standard dependent workers, the inadequacy of benefit entitlements, and the behavioural about how to manage the restart of the economy. As economic activity picks up, however, the policy must accompany the recovery by striking the right balance between providing continuous support to workers, households, and companies still affected by ongoing restrictions and promoting business activity as well as permitting necessary restructuring.

Uncertainties characterizing the near-term outlook, according to the OECD, could lead to two epidemiological scenarios for the coming months: one where the virus continues to recede and

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crisis. In a sense, economy and employment became disconnected. Similarly, while labour productivity continued to grow, wages and labour income lagged behind. As a result, inequality remains high or, in some case, is even growing. This is why this crisis response was widely understood to represent the failure of "trickledown economics". Such mistakes should not be repeated in the current job crisis.

[27] The Organisation for Economic Co-operation and Development (OECD)

remains under control, and one where the second wave of rapid contagion erupts later in 2021. According to OECD projections, unemployment was set to rose to 9.4% on average across the OECD by the end of 2020 (up from 5.3% at the end of 2019). In the event of a second pandemic wave in late 2020, the unemployment rate would increase even further to 12.6%. %. Furthermore, projections indicate that the recovery will be gradual: the unemployment rate is expected to remain at or above the peak level observed during the global financial crisis, reaching 7.7 per cent by the end of 2021 without a second wave (and 8.9% in case of a second wave), with substantial differences across countries.

COVID-19 has revealed flaws in our economies and societies that, if not addressed, will hold people back. In times of crisis, the concept of "normalcy" sounds very appealing. However, our normal was not good enough for the many people with no or precarious jobs, bad working conditions, income insecurity, and limits on their ambitions. Even if the GDP growth rates are recovering quickly, unemployment rates could decrease much slower, outlined how covid not only shock the labour market, but also deeply change it, and high technology was the most contributor to this shift. Additionally, OECD outlined how Covid could be the opportunity to capitalize on the momentum created by the strong initial national responses to the crisis and build better policies for better lives in the post-COVID world. [28]

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[28] OECD Employment Outlook ,2020 WORKER SECURITY AND THE COVID-19 CRISIS
https://www.aranagenzia.it/attachments/article/10709/OECD%20Employment%20Outlook%202020.pdf

3.1.3 Central Bank Response, Money supply, and Interest Rate

At the start of the COVID crisis, the financial system was quite strong, reflecting the relatively long global (and US) economic expansion as well as much more robust capital and liquidity buffers in the financial system, particularly at the largest global banks, Borio said (2020).

Nevertheless, the public health restrictions required to manage the pandemic caused enormous taken to instantaneous (and largely) negative shocks to both aggregate supply and demand. The real economy figuratively stepped off a cliff in March 2020, prompting similarly large and swift policy actions by monetary and fiscal authorities. If the collapse of the real economy leads to a subsequent financial crisis, the United States and the rest of the world face an even more bleak future: the collapse of credit formation and liquidity provision by banks and other financial institutions, which would lead to an even further decline in the economy, employment, and well-being. Indeed, since March 2020, one of the goals of central bank (and fiscal) policies has been to provide enough support to the real economy to prevent a large negative feedback loop from real economy bankruptcies and defaults to the financial sector.

The size and speed of the Fed's and other central banks' responses mirror the size and speed of the COVID-19 crisis. Economic crises of this magnitude are typically preceded by financial crises. The global financial crisis of 2007–2009 is a classic example; it began with a financial panic and accelerated despite large central bank and fiscal interventions. The financial deterioration (panic) occurred quickly, but it took time for it to drag the real economy down with it.

US Central bank responses to COVID-19 have been extraordinary in speed, size, and scope. In eight days (March 14 to 23, 2020), the Federal Reserve announced as many emergency programs as it did in the entire year of 2008. In addition, the Fed implemented more programs in four months than it did during the entire global financial crisis. Even if is considered too soon to make a judgment, the first evidence has been a positive – for access to credit and the real economy—during very trying times, providing a bridge to future economic recovery. But encouraging more leverage is a double-edged sword since it can increase future fragility.

Overall, central banks around the world reacted quickly and massively to the pandemic – frequently in collaboration with fiscal authorities. Their goal in advanced economies (AEs) was twofold. First, and early in the pandemic, monetary policy measures aimed at stabilizing financial markets and preventing the pandemic from resuming the financial crisis. Purchases of public assets and liquidity provision under favourable conditions were the main instruments of this type of intervention. When the liquidity situation of the household and corporate sectors started to deteriorate, central banks' overriding goal became one of cushioning the contraction in real activity by ensuring the supply of

credit to the private sector under favourable conditions, despite rising credit risk (Cavallino and De Fiore, 2020). The response of central banks in emerging market economies (EMEs) reflected several specific factors faced by those economies (Aguilar and Cantú, 2020). An important aspect was that in early 2020, most EMEs were at a relatively low point of the business cycle, with aggregate demand generally below potential. Moreover, broad, and bold actions by central banks in AEs during spring curbed the appreciation of the US dollar and calmed the turmoil in global financial markets. Despite large capital outflows and sharp currency depreciation, the subsequent easing of financial conditions in EMEs assisted their central banks in orienting monetary policy towards domestic objectives, namely the support of aggregate demand. In some countries, EME central banks ventured into unchartered territory and complemented interest rate reductions with asset purchase programs. (Cantú, Cavallino, De Fiore, & Yetman, 2021)

"In response to the economic collapse, central banks, including the Fed, launched a massive set of programs to address both the real and financial distress caused by the pandemic" (Fleming et al. 2020). Like the fiscal policy responses, many of the new (or renewed) central bank programs were intended as "cushion the blow" policies to sustain credit formation, support the real economic activity by easing financial conditions, provide liquidity and reduce financial distress.

As well defined by Mosser (2020), "Central bank policy actions and programs can be roughly broken into three categories: monetary policy, liquidity provision/lender-of-last-resort to the financial system, and targeted credit programs directed to support nonfinancial sector players: firms, households, municipalities". Importantly, these actions were accompanied by massive regulatory relief actions, such as relaxation of capital and liquidity standards, as well as the loosening of market regulations and activity restrictions in the financial sector, all to make financing more accessible at a lower cost. The Central Bank adopted three major measures:

- **Monetary policy**

  Easing monetary policy in face of a recession is the standard operating procedure. As Bodie defined Monetary policies refer to "the manipulation of the money supply to affect the macroeconomy and is the other main leg of demand-side policy. Monetary policy works largely through its impact on interest rates. Increases in the money supply lower short-term interest rates, ultimately encouraging investment and consumption demand."[29]

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[29] "Over longer periods, however, most economists believe a higher money supply leads only to a higher price level and does not have a permanent effect on economic activity. Thus the monetary authorities face a difficult balancing act. Expansionary monetary policy probably will lower interest rates and thereby stimulate investment and some consumption demand in the short run, but these circumstances ultimately will lead only to higher prices. The stimulation/inflation trade-off is implicit in all debate over proper monetary policy." (Bodie, 2014)

The Implementation of monetary policy also is quite direct where the Fed buys or sells bonds for its account. Through daily open market operations, the Fed "writes a check" increasing the money supply to fine-tune its monetary policy, when the FED. Increases the money supply lowers interest rates[30], which is the other tool at the Fed's disposal, it tries to stimulate investment demand,

The main aim of all these operations is to take the quantity of money in the economy to increase, Then, investors, who will find that their portfolios of assets include too much money, will rebalance their portfolios by buying securities such as bonds, forcing bond prices up and interest rates down. In the longer run, individuals may increase their holdings of stocks as well and ultimately buy real assets, which stimulates consumer demand directly. The ultimate effect of monetary policy on investment and consumption demand, however, is less immediate than that of fiscal policy (Bodie,2014).

Since March 2020 nearly every Central Bank on the planet has abruptly cut policy interest rates (where they could do so). In many advanced economies, including the US, policy rates were set to their effective boundary as shown in Figure 8, and 'unconventional' policies like asset purchase programs were started or expanded. Furthermore, several emerging market central banks not only reduced interest rates but also launched asset purchase programs (both public and private), with some doing so for the first time.

The Fed's initial announced size of "QE" asset purchases was immediately and dramatically increased in response to severe dislocations in fixed income and funding markets. The FOMC announced asset purchases of $700 billion "over the coming months" on March 15, amounts that were slightly higher than the overall pace of purchases during QE1 and QE2. Before the March 15 announcement, U.S. Treasury markets were in a state of disarray, with extreme volatility, widening spreads, and a sharp drop in liquidity.

"Finally, The FOMC officially announced this "whatever size is needed" policy on March 23. To give a sense of the extraordinary scale, the desk purchased more U.S. Treasury securities (more than $800 billion) in the 15 working days between March 12 and April 1 than during the entire 2 + years of QE3" (Mosser, 2020). The rationale for the desk becoming a "dealer of last resort" is straightforward. Large-scale asset purchase programs are aimed at both lower term premia and risk premia through portfolio rebalance incentives.

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[30] discount rate, which is the interest rate it charges banks on short-term loans, and the reserve requirement, which is the fraction of deposits that banks must hold as cash on hand or as deposits with the Fed. Reductions in the discount rate signal a more expansionary monetary policy. Lowering reserve requirements allows banks to make more loans with each dollar of deposits and stimulates the economy by increasing the effective money supply.

In short, the size of purchases needed to fulfil the FOMC's intent to ease financial conditions needed to be expanded dramatically. The NY Fed desk's massive asset purchases were successful. Yields and volatility fell in a matter of days. And, because the U.S. Treasury market is the global benchmark fixed income market, the Fed purchases essentially eased global financial conditions, allowing banks, investment firms, individuals, and countries all over the world to continue financing themselves and extending credit.

Other large economy central banks' asset purchase programs were also expanded, though none on the scale of the Fed's action depicted in Figure 7. Economic shutdowns in the eurozone prompted the ECB to make additional asset purchases of €750 billion in March, which were increased to €1.35 trillion in June (ECB 2020). According to the ECB, the purchases (along with other changes to program eligibility) have reduced 10-year euro sovereign bonds by 45 to 100 basis points. The Bank of Japan also increased asset purchases, primarily of risky assets (corporate bonds, exchange-traded funds, and so on), and maintained its long-standing policy of yield curve control, purchasing enough long-term JGBs to keep the 10-year interest rate at around zero per cent (Bank of Japan 2020).

FIGURE 7 FEDERAL RESERVE TOTAL ASSETS
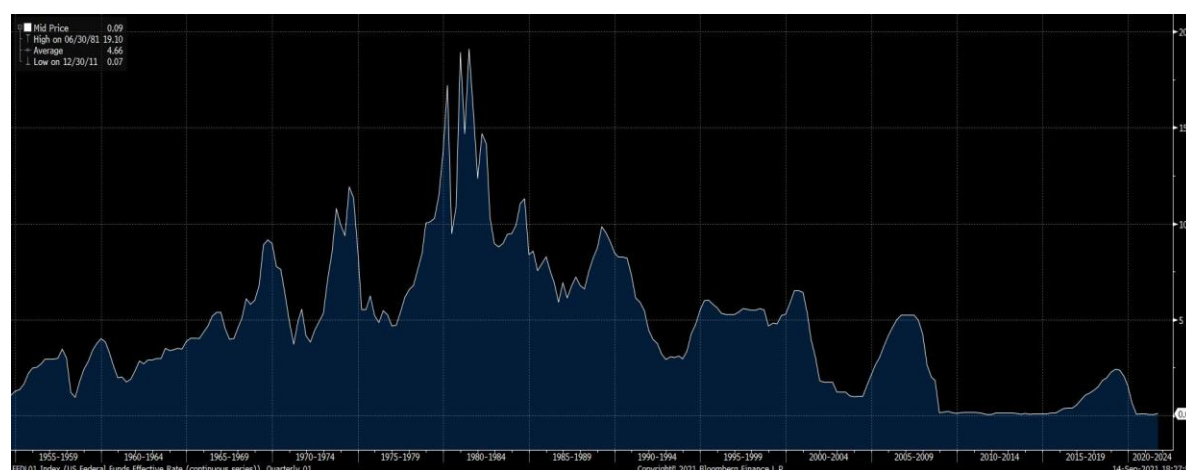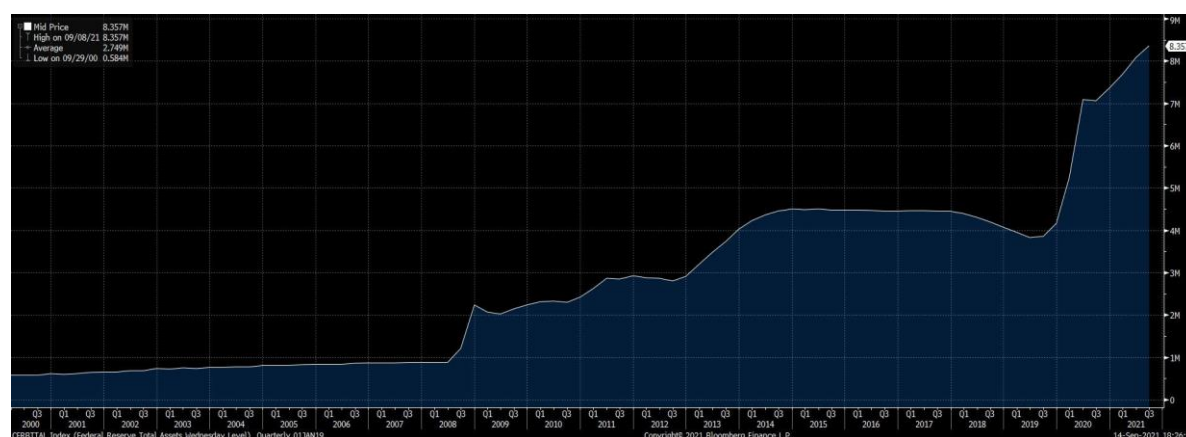
FIGURE 8 US FEDERAL FUND EFFECTIVE RATE

- **"Lender of last resort to the financial system"**

The second weapon of COVID-19 central bank policies were "liquidity facilities or lenders of last resort to the financial system". One of the major concerns about what started how economic crises was to not transform to financial crises, and so the stop of the credit market. "Many central banks, most notably the Fed, took out the playbook from the 2007 to 2009 financial crisis and recreated nearly all the lending programs". The majority of the lender-of-last-resort programs were up and running in a couple of weeks. The ECB announced additional pandemic emergency repo operations through September 2020, as well as unlimited long-term refinancing operations (LTROs) for banks at lower borrowing rates (50 bps).

In the beginning, particularly in March and April 2020, a large expansion of liquidity into the financial system was required. The initial volatility in bond and equity markets was severe, reflecting enormous uncertainty about economic and financial conditions. The expectation of huge credit losses as a result of shutdowns prompted an instantaneous flight to liquid and safe assets, also as concerns about bank safety and soundness. Risky asset prices plummeted, and volatility skyrocketed. Initially, central banks' liquidity provision expanded rapidly, particularly in March. Borrowing from the Fed via normal repo operations with securities dealers increased by 70% during the week of March 18. However, unlike the 2007–2009 financial crisis, the financial market turmoil was brief. In the United States, massive purchases of U.S. Treasuries, effectively open-ended repo funding for Treasury, Agency, and risky debt to major securities firms, emergency funding for CP and money funds, and announcements of new targeted lending facilities for the real economy relieved some of the distress by early April.

As a result, the use of central banks' domestic liquidity programs peaked in late March or early April and then stabilized or declined. When compared to 12 years ago, usage in most advanced economies has remained low. The relative strength of banks and the financial system was another reason for the modest and shrinking lender of last resort programs.

- **"Targeted credit programs"**

Many of the targeted credit programs in various countries are new to the COVID crisis, in contrast to monetary policy and liquidity tools. Direct lending to the non-financial sector, on the other hand, is not typically the responsibility of central banks, and it entails significantly greater risk than is typically assumed by central banks.

To support credit to the largest firms in countries with active corporate credit markets, central banks introduced or expanded corporate bond and commercial paper purchase programs. As a result, the design of these facilities varies significantly across countries, and there is greater uncertainty about their effectiveness. However, the common goal of the programs is to provide government-backed "bridge financing" for the real economy: to preserve jobs, to keep distressed but otherwise solvent firms open, to support household finances, and to maintain key public services until the public health crisis passes. They make targeted loans to a variety of businesses, municipal and state governments, and households, either directly or indirectly. The policy goal is broadly similar to that of many fiscal policy programs: to provide government assistance—in this case, through lending—to weather the pandemic storm.

Because lending is so risky for small businesses, several jurisdictions have purely fiscal programs run directly by government agencies or national development banks. One example is the Paycheck Protection Program (PPP) in the United States. Another example is Germany's Quick Loan Programme (KfW-Schnellkredit), which is managed by KfW, the country's development bank.

Despite the Fed's targeted credit lending programs' breadth and potential size, most of such programs have done relatively little lending (Oguri 2020). This is due to several factors. First, the size and speed with which the entire package of economic policy responses to COVID-19 was implemented allowed the private sector to continue lending. The announcement of rate cuts, massive asset purchases, massively available liquidity for the global financial system, and the promise of targeted credit programs had a large and positive announcement effect.

Rapid and massive fiscal policy responses, particularly income support to households and small businesses, were critical in supporting economic activity and lowering default risk. Credit spreads in bond markets had fallen by May, but not to pre-COVID levels. Importantly, bond market borrowing resumed quickly because lenders knew that backstops were either in place or on the way. These confidence effects prevented a complete credit collapse, allowing some segments of the real economy, particularly large firms and municipalities, to continue borrowing from the private sector even before the central banks targeted facilities were up and running. In addition, "corporate bond spreads, which had risen sharply in mid-March, immediately began to fall when programs were announced on March 23. See Liang (2020), Boyarchenko et al (2020), and Gilchrist et al (2020) for empirical evidence on the size of both the announcement and implementation effects of the Fed's corporate purchase programs". (Mosser, 2020)

Financial markets and lenders were able to look beyond the economic cliff to a surprising extent during the first few months of the COVID crisis, thanks in part to very large and swift policy actions by central banks. Monetary policy that was much easier to implement, massive liquidity provision, and direct credit support to the real economy all played a role in stabilizing financial conditions and credit. Initial central bank policy responses, which included liquidity and unusually large asset purchases, quickly stabilized financial conditions in March and April, while announcements of upcoming targeted credit programs for the real economy by both fiscal and monetary authorities gave investors and lenders confidence to lend at reasonable, rather than astronomical, interest rates.

However, central bank policy can only address the core economic policy challenges of the ongoing crisis, the trajectory of which remains highly uncertain. While central bank policy can and should continue to play a role, the first six months of the crisis demonstrated that it cannot (or should not) do so alone. As a result, the risks to the economy and financial system remain extremely high. There is uncertainty in the near term about fiscal authorities' willingness and ability to support incomes and economic activity, about the limits on central bank lending and risk-taking, and about the efficacy of overreliance on central bank policies given the impact on leverage and debt levels.

The longer-term challenges are equally large: restarting economic growth, deleveraging the economy, and managing what is likely to be large structural changes coming out of the pandemic.

3.1.4 Fiscal Policy and the Inflation's threat

As previously defined, the COVID-19 pandemic started as a supply shock[31] crisis but immediately became a demand shock [32]crisis. This has prompted a historic fiscal response around the world to support healthcare systems and provide lifelines to vulnerable households and businesses. Fiscal measures announced as of 9/11, 2020, are estimated to cost $11.7 trillion globally, or nearly 12% of worldwide GDP Half of these measures have consisted of additional spending or revenue foregone, such as temporary tax cuts, with the other half consisting of liquidity support from the public sector, such as loans, guarantees, and equity injections.
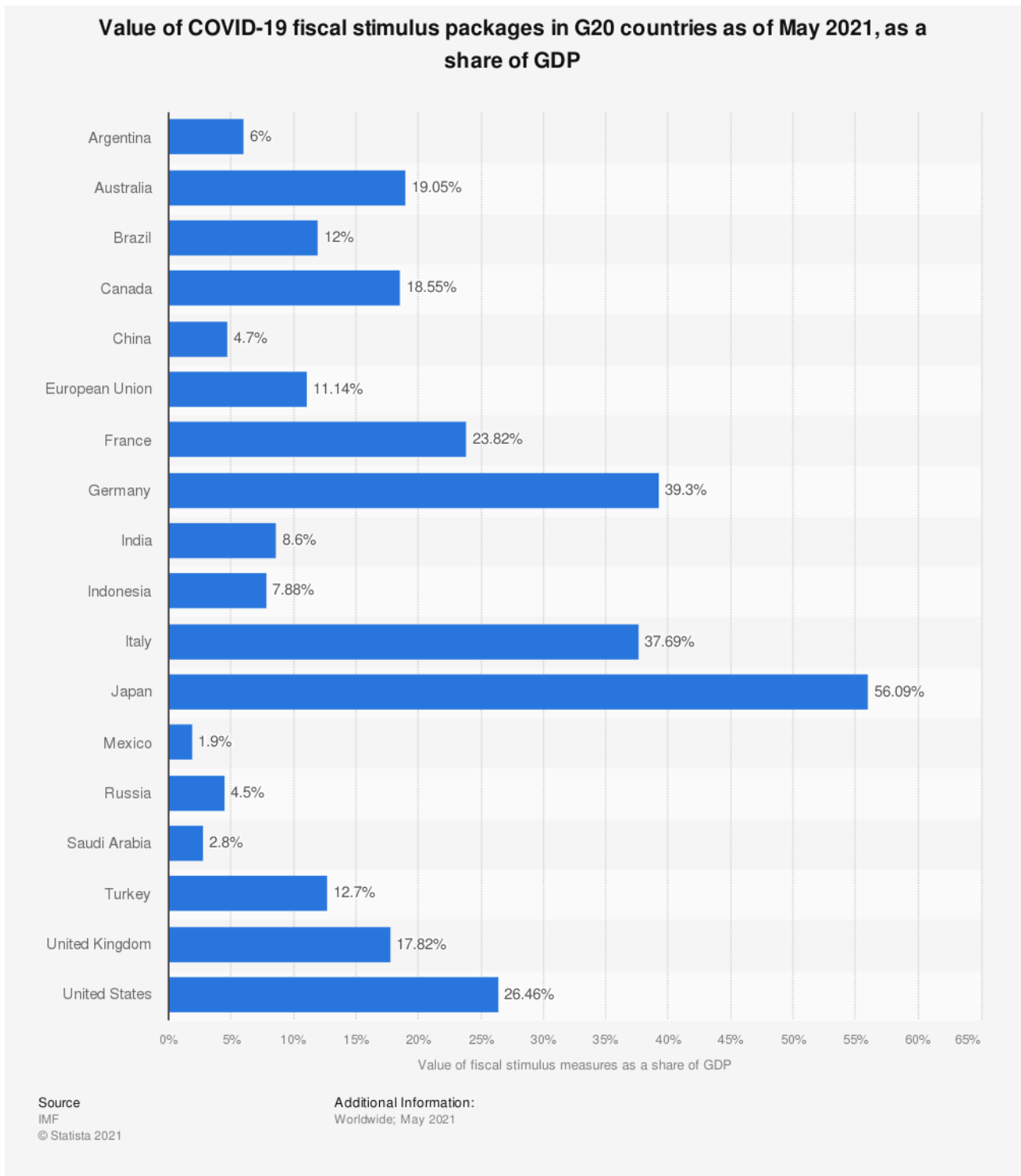
Although the fiscal policy has the most immediate impact on the economy, the formulation and implementation of such policy are usually painfully slow and involved, because the fiscal policy requires enormous amounts of compromise between the Chief and legislative branches. The speediest of diffusion of Covid created the necessity of a prompt reaction among the planet, although, the dimensions and composition of fiscal support have varied vastly by country as shown in Figure 9, reflecting partially countries' available fiscal space[33]; the fiscal support has been massive and much larger than the fiscal response to the global financial crisis.

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[31] "A supply shock is an event that influences production capacity and costs. Supply shocks are usually characterized by aggregate output moving in the opposite direction of inflation and interest rates. For example, a big increase in the price of imported oil will be inflationary because costs of production will rise, which eventually will lead to increases in prices of finished goods. The increase in inflation rates over the near term can lead to higher nominal interest rates. Against this background, aggregate output will be falling. With raw materials more expensive, the productive capacity of the economy is reduced, as is the ability of individuals to purchase goods at now-higher prices. GDP, therefore, tends to fall."

[32] "A demand shock is an event that affects the demand for goods and services in the economy. Demand shocks are usually characterized by aggregate output moving in the same direction as interest rates and inflation. For example, a big increase in government spending will tend to stimulate the economy and increase GDP. It also might increase interest rates by increasing the demand for borrowed funds by the government as well as by businesses that might desire to borrow to finance new ventures. Finally, it could increase the inflation rate if the demand for goods and services is raised to a level at or beyond the total productive capacity of the economy".

[33] "The fiscal response, coupled with the sharp decline in output and government revenue, will push public debt to levels close to 100 percent of GDP in 2020 globally, the highest ever."

Value of COVID-19 fiscal stimulus packages in G20 countries as of May 2021, as a share of GDP

Country	Value
Argentina	6%
Australia	19.05%
Brazil	12%
Canada	18.55%
China	4.7%
European Union	11.14%
France	23.82%
Germany	39.3%
India	8.6%
Indonesia	7.88%
Italy	37.69%
Japan	56.09%
Mexico	1.9%
Russia	4.5%
Saudi Arabia	2.8%
Turkey	12.7%
United Kingdom	17.82%
United States	26.46%

Value of fiscal stimulus measures as a share of GDP

Source
IMF
© Statista 2021

Additional Information:
Worldwide; May 2021

FIGURE 9 VALUE OF COVID-19 FISCAL STIMULUS PACKAGES IN G20 COUNTRIES AS OF MAY 2021, AS A SHARE OF GDP[34]

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[34] IMF. (May 20, 2021). Value of COVID-19 fiscal stimulus packages in G20 countries as of May 2021, as a share of GDP [Graph]. In Statista. Retrieved September 22, 2021, from
https://www.statista.com/statistics/1107572/covid-19-value-g20-stimulus-packages-share-gdp/

How IMF Article (October 2020) [35] stated, the huge fiscal support undertaken since the beginning of the COVID-19 crisis has saved lives and livelihoods. Public health policies that contained the spread of the disease were particularly effective because they also supported the recovery by restoring confidence and permitting a secure reopening of activity. Cash transfers were life – savings for the poor, who spent them largely on necessities. Unemployment benefits supported consumption for people that lost their main source of income. Even so, many policies that provided essential support in the short term may have long-term implications. "Wage subsidies saved jobs and worker-firm relationships, but they may slow labour market reallocation when new vacancies emerge." Temporary tax deferrals and cuts have aided liquidity, but there is a risk that they will become permanent, reducing government revenues. While equity injections have frequently been required to avoid bankruptcies, particularly in hard-hit strategic firms, they may delay sectoral reallocation, which is critical for recovery. Direct or guaranteed loans have so far had low take-up, partly reflecting administrative constraints and conditionality as well as the private debt overhang. "

Public policies to bring the pandemic under control are of paramount importance: developing vaccines and treatments and ensuring their universal access at low cost as soon as possible is the best way to safeguard the economy and public finances, both globally and for individual countries. Multilateral coordination is vital in this regard and in providing financial support for developing economies that have been hard hit by the global recession and are struggling with limited resources. Another important anchor for fiscal policy will be to revive growth and job creation. This will be critical to reverse the rise in poverty and inequality, and will also help improve public finances. To achieve these objectives fiscal strategies will need to be flexible and adapt to the three phases of the pandemic: "(1) the outbreak with lockdowns; (2) partial reopening; and (3) a high degree of control of the virus through medical advances".

Around the globe, the U.S. government was certainly the most expansionary government, that comparing the Covid Crises to Great depression, throughout March and April of 2020, passed three main relief packages and one supplemental package, such us the CARES Act with $2.3 trillion for many different efforts including a direct cash payment of 1,200 per person and $600 of unemployment per week. Finally, after the election of Joe Biden as president in November 2020, a $900 billion stimulus bill was passed in December 2020 and a fifth major stimulus package, the $1.9 trillion American Rescue Plan, was signed into law by President Biden on March 11, 2021, for a total of proxy 6 Trillion stimuli.

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[35] Fiscal Policies To Address The Covid-19 Pandemic, International Monetary Fund | October 2020
file:///C:/Users/Michele%20Ranieri/Downloads/ch1.pdf

Also, Europe took unprecedented actions that seriously expose to a new Euro Crises. On April 23, 2020, EU leaders agreed to work toward the establishment of an EU recovery fund to mitigate the effects of the crisis. They tasked the European Commission with developing an urgent proposal that would also clarify the relationship between the fund and the EU's long-term budget. The European Commission presented the proposal, a recovery plan for Europe, on May 27, 2020.

On July 21, EU leaders agreed on a €750 billion recovery effort called "Next Generation EU" to assist the EU in dealing with the pandemic's aftermath. The recovery package is currently going through the legislative process to be ready in 2021.

Along with the recovery package, EU leaders agreed on a long-term EU budget of €1 074.3 billion for 2021-2027. Among other things, the budget will encourage investment in digital and green transitions, as well as resilience. Together with the €540 billion already set aside for the three safety nets (for workers, businesses, and member states), the overall EU recovery package totals €2 364.3 billion.

The COVID-19 pandemic has caused an unusual recession, and we do not anticipate an atypical recovery. While the primary policy objectives are to contain the virus, achieve full employment, and make the necessary investments for a more resilient and inclusive recovery, economic uncertainties and risks must be carefully monitored in the future. Inflation is one risk that the Administration is keeping a close eye on.

As Bodie well explains, high rates of inflation, the rate at which the general level of prices rise, often are associated with "overheated" economies, that is, economies where the "demand for goods and services is outstripping productive capacity, which leads to upward pressure on prices". While inflation stimulates the economy, if the price soared more than the reduction of unemployment government and production, inflation central have the mandate to maintain Inflation rate under the 2% threshold, typically rising Fed Funds rate. Given The perceived trade-off between inflation and unemployment, most governments[36] walk a fine line in their economic policies, Inflation that is persistently too high can hurt the "wellbeing of households, especially when it is not offset by comparable increases in wages, leading to reduced buying power"(Bernstein&Tedeschi,2021). Inflation and interest rate have also a big impact on equity valuation change, particularly if the company can't raise the price. The price of equity, assuming DCF valuation, will drop sharply if the discount factor soared and cash flow remain stable or even declined, given the high cost. These impact most severely high growth stock, which based their valuation primarily on future discount cash flow.

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[36] "COVID-19 and enormous Fiscal and Monetary policy dramatically altered not only the spending patterns of consumers, as people avoided restaurants, bars and movie theatres but also the typical inflation/deflation link with the underlying economy". https://www.federalreserve.gov/faqs/economy_14400.htm

COVID-19 and enormous Fiscal and Monetary policy dramatically altered not only the spending patterns of consumers, as people avoided restaurants, bars, and movie theatres, but also the typical inflation/deflation link with the underlying economy. Overall inflation, as measured by the Personal Consumption Expenditure (PCE) deflator, fell further during the pandemic, despite significant differences between products and sectors.

Most years, measuring inflation is a tedious task. The Bureau of Labor Statistics (BLS) collects data on the prices of goods and services purchased across the United States through surveys, weights these prices based on how much they contribute to the standard basket of expenditures, then aggregates to make the buyer price level (CPI). Inflation is then measured because of the rate of growth of the CPI over a selected period.[37] As Reinsdorf[38] stated on IMF Blog, the buyer price level (CPI) doesn't reflect these abrupt changes in spending patterns because the CPI weights aren't continuously updated, and therefore the pandemic is confirmed.

The 2020 coronavirus disease (COVID-19) outbreak raised awareness among financial media, academics, and bankers about the difficulties of measuring inflation during a pandemic. While social distancing and lockdown mandates had an impact on consumption patterns, these abrupt changes can introduce biases in inflation measures. Alberto Cavallo investigates the impact on inflation measures of changes in expenditure patterns caused by the 2020 coronavirus pandemic in "Inflation with Covid consumption baskets" (National Bureau of Economic Research, Working Paper 27352, July 2020).

According to the author, "the welfare implications are especially relevant for lower-income households and [also] extend to countries experiencing a divergence [across] sectoral inflation rates" as a result of price movements. Cavallo discovered that the official CPI from the BLS and his calculated COVID-19 CPI were nearly identical in the United States in January and February 2020, based on his findings. However, in March of that year (the beginning of the pandemic's initial outbreak in the United States), the COVID-19 inflation estimate was higher than the official CPI, even though both showed deflation. The gap between the two inflation rates widened as the pandemic spread.

The official CPI fell 0.69 per cent between March and April, while the COVID-19 CPI fell only 0.09 per cent. Furthermore, the official CPI experienced deflation in May 2020, whereas the COVID-19 CPI experienced positive inflation. Some countries experienced higher COVID-19 inflation as a result of vastly different price movements across items (and the price divergence happened simultaneously with shifting weights).

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[37] See https://www.stlouisfed.org/on-the-economy/2021/february/covid19-affecting-inflation
[38] See https://blogs.imf.org/2020/11/10/data-disruption-the-impact-of-covid-19-on-inflation-measurement/

The majority of the differences between official inflation measures and COVID-19 inflation measures were found in food and fuel spending. One reason for the disparity is that expenditure weights are typically laggard, whereas the COVID-19 CPI used real-time expenditure data. (Bureau of Labor Statistics CPI data, on the other hand, are updated every two years for weights.) According to Cavallo, the "Core CPI" index excludes food and fuel, but the "Covid core" was still higher in May 2020 than the official All items less food and energy CPI.

These disparities were caused by a lower expenditure weight on nonenergy transportation sector subcategories such as public transportation and new and used motor vehicles, as well as higher deflation.

According to the author's findings, the cost of living increased faster than the official CPI during the coronavirus pandemic. The author examined the household impact using data from the 2018 BLS Consumer Expenditure Survey and then updated weights using monthly income quintile data from the Opportunity Insights Tracker.

The findings revealed that low-income households spent more on food than on transportation, exacerbating the disparity in inflation measures at the start of the pandemic. According to Cavallo, low-income households experienced higher rates of COVID-19 inflation (1.12 per cent in May 2020) during the pandemic than higher-income households (only 0.57 per cent).[39]

From June 2020 and until June of 2021 inflation soared as the development of vaccines and social distancing let the reopen of the economy. The magnitude of the growth was not fully predicted by economists and the CPI indicator surpass well above Central banks' target, scaring both markets and taking the FED to rethink the monetary policy over the 2021-2023 period. Jared Bernstein and Ernie Tedeschi, in the White House press (April 2021) outlined as in the next several months they expect measured inflation to increase somewhat, primarily due to "three different temporary factors: base effects, supply chain disruptions, and pent-up demand, especially for services"[40].They expect these three factors will likely be transitory, and that their impact should fade over time as the economy recovers from the pandemic. However, in what economists defined the "a hard landing" scenario, when inflationary expectations become untethered from that target and prices rise in a more lasting manner taking to a sort of inflationary, or "overheating," spiral, might lead the central bank to raise interest rates quickly which then significantly slows the economy and increases unemployment; so inflationary pressures are risks that must be carefully monitored.

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[39]See https://www.bls.gov/opub/mlr/2021/beyond-bls/consumer-inflation-during-the-covid-19-pandemic.htm
[40] See https://www.whitehouse.gov/cea/blog/2021/04/12/pandemic-prices-assessing-inflation-in-the-months-and-years-ahead/

3.1.5 Business Cycle and Sector Rotation

We've looked at the tools the government employs to fine-tune the economy to keep unemployment and inflation low. Despite these efforts, economies appear to experience ups and downs regularly. A forecast of whether the macroeconomy is improving or deteriorating is one determinant of many analysts' broad asset allocation decisions. A forecast that differs significantly from the market consensus can have a significant impact on investment strategy.

Researchers demonstrate as the economy recurrently experiences periods of expansion and contraction, although the length and depth of those cycles can be irregular, calling this recurring pattern of recession and recovery "The business cycle". The relative performance of different industry groups is likely to vary as the economy progresses through the business cycle.

Historically, industries with above-average sensitivity to the state of the economy outperform other industries just before the economy begins to recover from a recession, which is why they are referred to as cyclical industries.[41]

In contrast to cyclical firms, defensive industries[42] have less sensitivity to the business cycle. Relating the cyclical/defensive classification to portfolio theory and the notion of systematic or market risk, theoretically when perceptions about the health of the economy become more optimistic, the cyclical firms' stock prices, which are most sensitive to such developments, will rise the most. As a result, firms in cyclical industries will have high-beta stocks. In general, stocks of cyclical firms perform best when economic news is positive and perform worst when it is negative. Defensive firms, on the other hand, will have low betas and performance that is relatively unaffected by overall market conditions. Once the analyst forecasts the state of the macro economy indeed, it is necessary to determine the implication of that forecast for specific industries given that not all industries are equally sensitive to the business cycle.

As (Bodie, 2014) defined, three factors determine the sensitivity of a firm's earnings to the business cycle:

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[41] "Examples of cyclical industries are producers of durable goods such as automobiles. Because purchases of these goods can be deferred during a recession, sales are particularly sensitive to macroeconomic conditions. Other cyclical industries are producers of capital goods, that is, goods used by other firms to produce their own products. When demand is slack, few companies will be expanding and purchasing capital goods. Therefore, the capital goods industry bears the brunt of a slowdown but does well in an expansion." (Bodie, 2014)

[42] "These are industries that produce goods for which sales and profits are least sensitive to the state of the economy. Defensive industries include food producers and processors, pharmaceutical firms, and public utilities. These industries will outperform others when the economy enters a recession." (Bodie, 2014)

- "The sensitivity of sales[43] to the state of the economy." (Bodie, 2014)

- "The operating leverage[44], Firms with greater amounts of variable, as opposed to fixed costs, will be less sensitive to business conditions. This is because, in economic downturns, these firms can reduce costs as output falls in response to falling sales. Profits for firms with high fixed costs will swing more widely with sales because costs do not move to offset revenue variability. Firms with high fixed costs are said to have high operating leverage because small swings in business conditions can have large impacts on profitability. " (Bodie, 2014)

- "The financial leverage. Interest payments on debt must be paid regardless of sales. They are fixed costs that also increase the sensitivity of profits to business conditions. Investors should not always prefer industries with lower sensitivity to the business cycle. Firms in sensitive industries will have high-beta stocks and are riskier. But while they swing lower in downturns, they also swing higher in upturns." (Bodie, 2014)

Analyst Calculate these three factors and analyze historical correlation to understand the degree of sensitivity to the macroeconomic environment for each industry and company. These lead to readapt different investment strategies based on the state of the business cycle taking to what is called "Sector rotation". "The idea is to shift the portfolio more heavily into industry or sector groups that are expected to outperform based on one's assessment of the state of the business cycle " (Bodie, 2014) as Sam Stovall defined in Figure 10.

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[43] " Necessities will show little sensitivity to business conditions. Examples of industries in this group are food, drugs, and medical services. Other industries with low sensitivity are those for which income is not a crucial determinant of demand. Tobacco products are an example of this type of industry. Another industry in this group is movies, because consumers tend to substitute movies for more expensive sources of entertainment when income levels are low. In contrast, firms in industries such as machine tools, steel, autos, and transportation are highly sensitive to the state of the economy." (Bodie, 2014)

[44] which refers to the division between fixed and variable costs
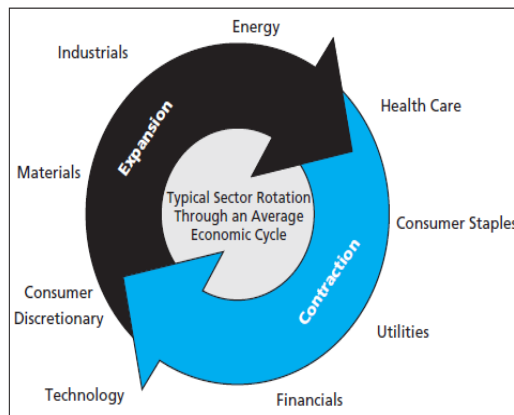
FIGURE 10 SECTOR ROTATION(SOURCE: SAM STOVALL, BUSINESSWEEK ONLINE " A CYCLICAL TAKE ON PERFORMANCE") [45]

Despite this, Hasaj & Scherer (2021)studying smart beta products and return during Covid find that a substantial fraction of smart beta[46] and ESG returns (as well as their variance) can be "attributed to the unprecedented industry rotation that occurred during the COVID-19 fever and treatment period". Covid-19 industry rotations took to a flight to quality (profitable stocks with limited leverage), that were prevalent high tech growth stock. Not surprisingly, they discover that quality and low volatility investing performed well during the global market sell-off known as the fever period. Small caps and momentum perform well during the treatment period, with ample liquidity and rising markets. Value stocks did not perform in either the fever period (value companies typically expose investors to default risk) or the treatment period (capital stock of value firms is difficult to adjust to a still pandemic world).

When the 2021 beginning and vaccination campaign start to roll faster across the states, allowing the reopening of the economy, value stock starts to benefit and rose, taking to an apparent sector rotation, with a rebalance from growth to value. But the discovery of the new Covid Variant and uncertainty about macro economy condition taken investors away from value stock and focus on growth. To summarize, while aggregate market indexes such as the S&P 500 have fully recovered since the outbreak began, not all sectors have performed equally well. Vaccine distribution and the lifting of pandemic restrictions will likely aid the remaining sectors to return to pre-COVID-19 levels, but how the investor will rebalance their portfolio remain uncertain.

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[45] (Bodie, 2014)

[46]" Smart beta relies on the identification of systematic risks that investors don't want to hold and therefore those risks demand a risk premium." (Hasaj & Scherer, 2021)

3.2 Impact on Financial Markets

After this summary of Covid on the macroeconomic scenario, it is essential to analyze how these factors have been reflecting in the financial market, trying to understand how investors reacted. While the overall economy languished with Nearly 5 million more Americans unemployed, compared with February 2020, and the end of the U.S. recession, that began in February, has not been officially determined by the National Bureau of Economic Research, the 2020 stock market were bookended by two different bull market, with a short-lived bear market in the middle. whether or not this scenario went on before (most recently in 1987) and Past bull markets, including the prior one that began in March 2009, began while the U.S. economy still was during a recession, the speed of the market's recovery was not only surprising but also somewhat typical.

Although historically the stock market performance is not always tied to economic performance, Investors looked at Covid as a one-time event rather than something fundamentally wrong with the economy, as outlined by Jackson and Curry in Forbes's Article. However, some fundamental changes are likely to be long-lasting in many industries, where new technologies were the protagonists and some significant shifts within the market itself.

The stock market hit its lowest point in March 2020 and in that period a Mckinsey survey showed how around 58 per cent of surveyed business insiders expected deterioration of the global economy in the next six months at that time; when in April this negative anticipation peaked, 66 per cent of executives from different regions and industries expected a worsening of the world economy. Meanwhile, in late March, Congress, even amid so much political strife, passed a $2.2 trillion stimulus package to put money into the pockets of Americans and offer relief to business owners extremely quickly.

The surprising prompt reaction made by congress took many investors to start looking for buying opportunities—and they were soon joined by a new-to-Wall Street breed of day traders.

Furthermore, market participants capitalized on investment opportunities associated with the pandemic's new normal of more remote work and time spent at home. Indeed, shares of the market's heavyweight technology companies led the market out of the bear territory, assisting the Nasdaq Composite to set a new all-time high in June, two months before the S&P 500. This also caused a market distortion. Growth stocks (companies expected to grow faster than the overall market) were outperforming value stocks (those thought to be underpriced) by the widest margin in decades.

From May on, infection rates slowed down and therefore restrictions and lockdowns were eased.

The S&P 500 experienced its fastest-ever bear market, lasting only 33 days before resuming its third-fastest recovery to a breakeven level in about five months, bolstering confidence in recovery from the

economic downturn, which peaked in September, when around 57% of participants in a McKinsey survey expected economic improvement over the next six months.

The stock market quickly recovered because investors were encouraged that the pandemic would not cause a more severe financial crisis. And that assurance came from the Federal Reserve, which acted quickly and broadly to stabilize markets. These included new quantitative easing (QE) measures as well as loan guarantees to keep businesses afloat.

Furthermore, as reported in the Financial Times, the promising news from final studies in COVID-19 vaccine research has boosted expectations in advanced markets such as the United States and Europe. The S&P 500 then fell 9.6 per cent in three weeks in September 2020, nearly qualifying as a market correction, before rallying again through the top of the year.

Despite the looming November elections in the United States and the surge in Covid-19 cases, stock prices have risen and the market has reached new all-time highs in anticipation of a second stimulus package encouraged by Fed Chair Jerome Powell that stressed the importance of further fiscal spending to support the economic recovery. At the end of the year while the world GDP drop by 3.7 % the MSCI World Index soar more than 14%. As explained by Cox et al. (2020, p. 20) the stock market rebound was largely driven by shifts in sentiment rather than fundamentals: "We find that the most likely candidate for explaining the market's volatility during the early months of the pandemic is the pricing of stock market risk, driven by big fluctuations in risk aversion or sentiment unrelated to economic fundamentals or interest rates."

To sum up, even the Covid crushed the world economy, the stock market continued their bull trend creating one of the ample distortions between the real economy because whatever factors that move the stock market were considered as transitory. The causes of that are multiple, but not all are fully explained. Some wall street operators argued the market is going to go higher because there's no other place to invest the money since stocks offer comparatively attractive returns at a time when interest rates are near-zero. Economist argues as the only issues that could stop the upward trend would be the easing monetary policy and the tampering action, with an increase in interest rate. The institutional investors were not only one of the top benefactors of these situations, with rapid unprecedented gains during recession time, but also the creator of these market movements, with their different strategies. But investors' strategies are often opaque and only explained in the long period. Understanding how and why investors changed or readapted their strategies at different times during different stages of covid could be essential to understand the future scenario.

The analysis will be doing considering three different periods, based on the different stages of Covid and the changes in the macroeconomic environment, analysing first how financial markets, in particular the US market, react:

1. **From January 2020 to June 2020- Pandemic and Reaction :**

   The first stage was characterized by the start of the pandemic that hit all countries. The health crisis became an economic crisis, whit a massive sell-off in the financial market. Yield lost more than 120 Basis Point, the stock market crashed whilst the Government and central banks were trying to implement new policies to slow down the crash. The recession began and uncertainty reached an all-time high and LEI reflected it. The storm affected the economy, but all Government and Central banks tried to implement "Whatever it takes" [47] , to slow the recession, and starting the recovery.

2. **From June to December 2020- the New "Normality":**

   In the second stage, although the world was struggling to contain the virus, it was completely different from the first. The economy started to rebound thanks to the new action adopted, but although the LEI showed the beginning of the recovery, the world economy was completely different from the Pre-Pandemic situation. The necessity to continue to run businesses, whilst implementing measures to contain the virus was implemented, pushed companies to reinvent their business; at the same time new innovative business model grew exponentially and pushed the economy to mitigate the crash.

3. **From December 2020 to June 2021- The return to Pre-Pandemic Levels:**

   The third stage, the last considered in our analysis, was characterized by the implementation of vaccines and bounce back of world GDP. The world economy partially recovered from the loss of previous years and implement a strong vaccination campaign to finally reopen all the activities. Although Government faced several problems in the implementation of a clear road map to re-opening, the soar of GDP surpasses estimated and the positive sentiment about the economy reached pre-pandemic levels. Nevertheless, the overhitting of the economy and the strong soared of inflation worried investors; Investors questioned if the soar of the economy could continue without Fiscal and Monetary stimulus and if the strategies to come back to the pre-pandemic situation were the right path, although adapt business and economy to the new "normality".

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[47] The term were used by Mario Draghi, former ECB president, In 2012.

3.2.1 To Reaction To Covid Outbreak (Q1-Q2/20)

The 2020 stock market crash that began on the 20th of February and ended on the 7th of April has been considered a major and sudden global stock market crash. Even if some economists, such as Campbell Harvey, predicted in 2019 that a recession was probably in the following years, no one imagines that one of the fastest market crashes of modern history will happen. When the World Health Organization claimed the COVID-19 outbreak to be a Public Health Emergency of International Concern on 30 January, the yield curve on U.S. Treasuries inverted[48] again, after 2019, and from that moment the stock market crash.

Even if the curve did not return to normal until 3 March when the Federal Open Market Committee (FOMC) lowered the federal funds rate, on Monday, March 9, Dow Jones Industrial Average (DJIA) fell 2,013.76 points that day to 23,851.02.1 It had fallen by 7.79 What some labelled as "Black Monday 2020" was, at that point, the Dow's worst single-day point drop by U.S. market history. From then the plunge continued until the 16 of March, the Dow hit a replacement record. It lost 2,997.10 points to shut at 20,188.52. That day's point plummet and 12.93% free fall topped the first October 1929 Black Monday slide of 12.82% for one session. Demand for bonds was so high that it drove down yields to record-low levels. within the 33 days between 19 February and 23 March, the S&P 500 fell 34%, the FTSE All-Share Index fell by 33% and therefore the MSCI World Index declined by 34 %. The drop was caused by a set of global fears about the spread of the coronavirus, oil price drops, and the possibility of a 2020 recession. The most hit were Energy firms, lower demand and falling oil prices, Banks, with the increase in bad debts, and other cyclical and transportations industries since the Expectations of lower growth and higher risk.

After March 23, Stocks rebounded posting their best monthly returns since 1987, as investors were encouraged by the expectation of additional government stimulus programs and hope that the economy would be reopening soon. The second quarter of 2020 notched the best quarterly performance since 1998, with each of the benchmark indexes making sizeable gains over their historically poor first-quarter tallies. However, much of the second-quarter growth in the stock market and the economy is more of a bounce back from a dismal March and April, when pandemic-related lockdowns and restrictions virtually shut down the economy and some industries, i.e., the energy or transportation industry. On the other hand, technology stock soared rapidly hitting new records following positive earnings data, with the Nasdaq proved the strongest index soaring more than 30.0% for the quarter and 12 % on the year, followed by the small caps of the Russell 2000, which gained

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[48] An inverted yield curve is an abnormal situation where the return, or yield, on a short-term Treasury bill is higher than the Treasury 10-year note. It only occurs when near-term risk is greater than in the distant future.

25.0% (see Table 1). The large caps of the S&P 500 and the Dow closed the second quarter up nearly 20.0% while the Global Dow vaulted ahead by more than 14.0%. But the US bounce back was largely driven by the NYFANG companies (Facebook, Amazon, Apple, Netflix, and Google), which had seen a substantial increase in demand for their services and products in response to lockdown (Reggiani et al, 2020).

Despite, as shown in the chart, all the major index rebound, observing industry return of SGX versus SVX (Figure 11), on the 2Q of 2020, it is possible to find that even if, apparently all industry rebound, were technology and growth companies, operating across the industry, that led it; in particular in cyclical industries, that were among the top performer of the quarter even if they were the most hit by the recession, only technology company such as in the case of EV, in the Automotive industry, or eCommerce, in the consumer product industry, rebound [49]

TABLE 1 FINANCIAL MARKET SUMMARY Q1/Q2 – 2020 (SOURCE: RIVETTIFINANCIAL)

Market/Index	2019 Close	As of June 30	Quarterly Change 1Q	Quarterly Change 2Q	YTD Change
DJIA	28,538.44	25,812.88	-23.20%	17.77%	-9.55%
Nasdaq	8,972.60	10,058.77	-14.18%	30.63%	12.11%
S&P 500	3,230.78	3,100.29	-20.00%	19.95%	-4.04%
Russell 2000	1,668.47	1,441.37	-30.89%	25.00%	-13.61%
Fed. Funds	1.50%-1.75%	0.00%-0.25%	-150 bps	0 bps	-150 bps
10-year Treasuries	1.91%	0.66%	-122 bps	3 bps	-125 bps

[49] https://en.wikipedia.org/wiki/2020_stock_market_crash
https://www.economicsobservatory.com/what-explains-stock-market-reactions-pandemic
https://rivettifinancial.com/1st-quarter-2020-market-summary/

FIGURE 11 SGX AND SVX 6- MONTH PERFORMANCE AS OF 31/12/2019

3.2.2 Reaction Vaccine News and Presidential Election (3Q/4Q -2020)

While the second-quarter gross domestic product fell more than 31% and many states saw an increase in the number of reported COVID-19 cases, the third quarter started as it was ended the previous one for equity. The follow up of the contagion took the company to readapt business model, i.e., Disney with Disney+, with the pervasive introduction of new technologies, in particular for that kind of sector that were not native. The introduction of new technologies permitted typical cyclic companies not only to partly reduce the loss relates to the several shutoffs but also to rise margin and growth perspective.

Tech stocks soared again rising the S&P 500 out of the negative territory for 2020., the Nasdaq climbed more than 11.0% for the quarter, followed by the large caps of the S&P 500 and the Dow, which gained 8.5% and 7.6%, respectively at the end of the quarter. In fact, despite a big decrease in a cyclical industry, such energy and baking industry which fell between 16% and 4%, others soared massively, such as in the automotive and transportation case. Investors start to value these companies looking to growth perspective relating the new market opportunity rather than the loss crated and all the problems related to World lockdown.

After a brief correction in September, related to geopolitical tension, debate on new stimulus and the NASDAQ whale (Tokic, 2020), equity markets continue their run lead by the incoming presidential election and the positive news on the vaccine. The November presidential election resulted in the defeat of President Donald Trump by former Vice President Joe Biden, that not only promised additional stimulus and infrastructure plan, with high attention to Green transition, financed by more tax on the company but also put their effort in the fight against covid. These and the approval of COVID-19 vaccines that will allow economies to exit the Covid-19 restrictions and lockdowns, and return to normal, stimulated the positive sentiment on the market. As Campbell&Turner(2020) stated The good news announcement from Pfizer has had a more substantial, and durable, impact on stock markets than on the firm itself. Notably, some of the largest gains were experienced in countries that were hit harder by the pandemic – for example, Spain (IBEX 35) and France (CAC 40)- and hit the Nasdaq.[50]

Historically, as explained by Tom Hainline, national investment strategist at U.S. Bank, "When it's a general election, the equity market underperforms slightly,"[51] but at the end of the quarter all major indexes close with a massive gain. Surprisingly, even with the vaccine approval and the spectrum of

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[50] see https://www.economicsobservatory.com/data-vaccine-and-stock-market
[51] see https://www.usbank.com/investing/financial-perspectives/market-news/how-presidential-elections-affect-the-stock-market.html

high corporate tax, among the most important indexes, the Nasdaq was the top performer, with a quarterly increase of 15% closing the yard with an increase of 43% (see Table 2). Also, the small-cap was in the eye of investors the Russel 2000 soared more than 30% in the fourth quarter. According to JP Morgan's monthly review in the last quarter of the year, Value stocks rose by 16% and had their best quarter since 2009. Even more breathtaking was the performance of small caps, which returned 24%, erasing the underperformance vs. large caps for the year. Growth equities gained nearly 13%, underperforming over the quarter, but are still ahead by a wide margin for the calendar year, overperforming during the semester value stock, as shown in Figure 12. The strong demand for industrial metals in Asia is the reason behind the rise of commodity prices. As a result of the vaccine news also the Oil prices rose.   Looking to industry indices the last quarter of the year view among the top performer most of the cyclical sector taking all the industry index, apart from the energy& fossil fuel sector, in the positive territory in the worst economic crises in the last century. Other than the technology sector, Automotive, retail, and Cyclical consumer goods were the top performer in 2020, all pushed by the new business model and use of technology. To note that among the top performer industry was, by far, the renewable energy with an increase of 500%, most based on positive sentiment regarding the future transactions rather than real fundamental changes, taking to some analysts define the green Bubble[52].

TABLE 2 FINANCIAL MARKET SUMMARY Q3/Q4 – 2020 (SOURCE: RIVETTIFINANCIAL)

Market/Index	2019 Close	2020 Close	Q3 Change	Q4 Change	2020 Change
DJIA	28,538.44	30,606.48	7.63%	10.17%	7.25%
Nasdaq	8,972.60	12,888.28	11.02%	15.41%	43.64%
S&P 500	3,230.78	3,756.07	8.47%	11.69%	16.26%
Russell 2000	1,668.47	1,974.86	4.60%	30.99%	18.36%
Global Dow	3,251.24	3,487.52	4.96%	17.78%	7.27%
Fed. Funds	1.50%-1.75%	0.00%-0.25%	0 bps	0 bps	-150 bps
10-year Treasuries	1.91%	0.91%	1 bps	24 bps	-100 bps

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[52] See Are ESG Stocks in a Bubble? | Nasdaq

FIGURE 12 SGX AND SVX 6- MONTH PERFORMANCE AS OF 30/06/2020

3.2.3 Recovery, Inflation and Sector Rotation (1Q/2Q -2021)

The overwhelming sentiment entering January was that it couldn't get much worse and the "slow and gradual" shift to value stocks relative to growth stocks apparently began. The emergence of virus mutations, the uneven distribution of COVID-19 vaccines, and the gradual relaxation of pandemic-related restrictions took to high volatility in the stock market, mainly caused by the emergence of a new phenomenon in stock price manipulation.

But since then, the CPI fastest rose, beating by far analyst consensus, take to the fear that unexpected and uncontrolled inflation would have a serious impact on the economy and financial market, taking a 10-year return climb quickly. As previously explained, investors favoured value stocks over growth, when inflation soared since interest rates are usually increased to combat high inflation, pushing small-cap and mid-cap stocks higher.

The small caps of the Russell 2000 gained nearly 12.5%, the global Dow climbed 9.4% and therefore the large caps of the Dow (7.8%) and also the S&P 500 (5.8%) posted solid gains. Tech shares, which had driven the market for much of 2020, dipped during the quarter, but still gained enough ground to push the Nasdaq up by almost 3.0%. Energy shares posted a number of the most important gains within the quarter, thereupon market sector surging over 30.6 Financials rose 18.0%; then also industrials (12.0%), materials (10.8%), and land (10.0%) jumped. Only information technology did not advance by the top of the quarter. The yield on 10-year Treasuries climbed over 80 basis points. petroleum prices jumped and therefore the dollar increased in value. Gold prices went down nearly 10.0% within the first quarter.

Moreover, Investors were encouraged to sector rotation by President Joe Biden's $1.9 trillion stimulus proposal, accelerated vaccine distribution, and better-than-expected fourth-quarter corporate earnings. In additions tech stocks have lost some lustre as the prospect of a Covid-19 vaccine makes a return to a pre-pandemic way of life more realistic.

Solid gains in April gave a fresh start to the second quarter in April. COVID vaccines became available to the vast majority of Americans. The federal government and several states pushed forward with reopening after relaxing many pandemic-related constraints. Economic data was favourable and encouraging. Price inflation expanded, although the Federal Reserve asserted that it would continue stimulus measures, even if inflation reached and exceeded the Fed's 2.0% target. Inflation was the word of the month as consumer prices continued to increase, stoking fears that the Federal Reserve would cut back on stimulus measures in place. The personal consumption expenditures price index rose 0.6%, the Consumer Price Index climbed 0.8%, and producer prices increased 0.6%. Although, in normal circumstances, high inflations are related to an economy overheated Near the peak of the business cycle, with high-interest rates and price

pressures on basic commodities; the slowing recovering of the economy, in particular viewing the labour market data, indicated that the market anticipated by far the full recovery. Nevertheless, Fed officials repeated assurances that the price hikes were temporary due to "transitory supply chain bottlenecks" and that the interest rate will not change until full recovery and full employment. In addition, Investor confidence has been boosted in June with the announcement by President Joe Biden of a bipartisan infrastructure spending package.

While Economic recovery continued in June, mixed macroeconomic data took once again to partial rebalance of investor portfolio. Tech shares rebounded from a moderate dip in May, pushing the Nasdaq to a series of record highs in June slowing the sector rotation process. SGX, that until that moment underperformed by far SVX, bounce back, closing the semester underperforming only by 1,5% value index, as shown in Figure 13. Inflationary pressures may reach the peak as supply-chain pressures that had driven commodity prices higher over the past several months were eased. In general, the second quarter was positive for equities. Table 3 shows how, the Nasdaq gained 9.5%, followed closely by the S&P 500 (8.2%), the Dow (4.6%), and the Russell 2000 (4.1%). Real estate, information technology, energy, and communication services all posted quarterly gains of more than 10.0% to lead the market sectors.

FIGURE 13 SGX AND SVX 6- MONTH PERFORMANCE AS OF 31/12/2020

TABLE 3 FINANCIAL MARKET SUMMARY Q1/Q2 – 2021 (SOURCE: RIVETTIFINANCIAL)

Market/Index	2020 Close	As of June 30	1Q Change	2Q Change	As of June 30 Change
DJIA	30,606.48	34,502.51	7.76%	4.61%	12.73%
Nasdaq	12,888.28	14,503.95	2.78%	9.49%	12.54%
S&P 500	3,756.07	4,297.50	5.77%	8.17%	14.41%
Russell 2000	1,974.86	2,310.55	12.44%	4.05%	17.00%
Fed. Funds	0.00%-0.25%	0.00%-0.25%	0 bps	0 bps	0 bps
10-year Treasuries	0.91%	1.44%	82 bps	-30 bps	53 bps
US Dollar-DXY	89.84	92.34	4.16%	-0.95%	2.78%
Crude Oil-CL=F	$48.52	$73.51	27.32%	23.92%	51.50%
Gold-GC=F	$1,893.10	$1,770.50	-10.62%	3.63%	-6.48%

4   Data and Methodology

"Strategy is about setting yourself apart from the competition. It's not a matter of being better at what you do – it's a matter of being different at what you do."
Michael Porter

Pandemic seriously impact the equilibrium across all the sides of the economic environment stopping for a moment the world economy, but otherwise give a lot of opportunities for the company to reinvent themselves a. Even if a big part of the fast recovery could be explained from the reaction of Government and Central Bank, is equally true as not all company were able to adapt their business model to the new environment. Often these operations were possible with the introduction of new technology that not only permits to not fully stop the economy but also to change the profitability of some businesses. The financial market really understood these since the beginning of the pandemic, rewarding most of the companies that see the pandemic as an opportunity and punishing those who are not. Considered that the movement in the financial is the result of the Buy & Sell of Institutional investors, we can easily interpret the movement in the financial market as the result of the change portfolio composition of Institutional investors, and as a consequence of investment strategies.

For this reason in chapter three we made a panoramic overview of the impact of covid on both the economic environment and financial market, we tried to understand how this impact could be explained by the change in the investment strategies of the Asset Management industry and which industry outperform.

As explained in Chapter Two, researchers and scholars identify two main types of stock, based on both their intrinsic characteristics and their historical perception in the financial market, such as Value and Growth. Starting from this point, evidence has shown how, even if Investment style strategies could be varied as much are the number of Portfolio Manager, most of all investment strategies could be reconducted to this theory, identifying three main strategies Value, Growth and GARP or Blend strategies.

Our analysis aims are to establish if Covid not only takes to a change in investment strategies but also takes to a radical shift toward Value to Growth during the last year. Based on the result of the analysis and the valuation of the change, we tried to establish the future scenario and the possible consequence of the real impact of Covid. The explanation of the method used, and the source are presented in the next paragraphs.

4.1 Research methods: RBSA applied through 13F

As outlined in Sharpe (1992), "the asset allocation accounts for a large part of the variability in the return on a typical investor's portfolio". Where Asset allocation is defined as an "investment strategy in which individuals divide their investment portfolios between different diverse asset classes to minimize investment risk" [53]. Defining which asset class considers is essential to determine investment exposure. Aggregating the information regarding the exposures of each component of an investor's overall portfolio is essential to determine the investor's effective asset mix (Sharpe,1992). Finally, once determine the correct asset allocation mix, is possible to extrapolate investor strategies, stating that the composition reflects the Investor strategies.

As explained in chapter two, style investing is a widely using technique to determine investment strategies, and it's mainly composed of two methods, Holding-based and Return-bases. The former tries to define investment strategies based on qualitative analysis of the holding of the portfolio, the latter tries to define investment strategies simulating a passive benchmark portfolio based on the return.

Given the aim of the analysis is to evaluate aggregated holding of the overall Investor, which most of the cases is composed of more than 10.000 securities that are often considered also other Funds, the holding-based return is considered difficult to apply and consistent for our analysis. For these reasons the Return Based style analysis (RBSA) was the method chosen, trying to evaluate overall investor holding and not of a single fund., starting from the overall return.

As explained on page 29, RBSA is a factor model that aims to assess the composition of a portfolio trying to create a passive benchmark that replicates the return of the selected portfolio. The passive benchmark composition, composed of the weight of each asset class, would represent the composition of the portfolio for each asset class. Once stating the composition, it is possible to evaluate the investment strategies. Finally reiterate this process could evidence the change of the composition over time.

To do our analysis we defined a sample of 20 of the Major Long only Institutional Investors, trying to represent as much as possible the overall industry of asset management, and applying the RBSA to each member of the sample. Then once we assess the asset classes composition and how each investor change over time, we started the investment strategies based on the result. Finally, we aggregated the result to capture evidence from the whole sample considered representative of the overall industry.

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[53] According to :
https://corporatefinanceinstitute.com/resources/knowledge/strategy/asset-allocation/#:~:text=Asset%20allocation%20refers%20to%20an,the%20same%20rules%20and%20regulations.

4.2   Sample Composition

The asset management industry, and particularly the open-end funds industry, is a pretty wide industry with the presence of more than 5000 players, representing more than 63 Trillion dollars. Nevertheless, as explained in chapter 2 the vast majority of AUM is managed by few institutional investors, such as Blackrock and Vanguard, and in a few countries, such as the United States and Europe

According to Bloomberg, the aggregated 13F filling of Q2-2021 is valued at 42.2 trillion[54]. From this, the major categories were[55] :

- Investment Advisor: 30.7TRI
- Bank: 3.8TRI
- Hedge Fund Manager: 2.4TRI
- Pension Fund: 1.2TRI
- Brokerage: 1.4TRI
- Insurance Company: 704BLN

As shown, the industry is dominated by the Investment Advisor industry, where also Investment Bank such as Credit Suisse, followed by Bank and Hedge funds, are included. As we can observe, besides Hedge Fund Industry, all the major investors are Long Only investors.

Since the limitation of Return Based style analysis, for our analysis, the choice of the Institutional investors refers to long-only investors. As explained in Chapter Two, there are two restrictions on the style of the benchmark weights. The former Is that could not be less than 0, the former is that the sum of all benchmarks must be equal to 1. This demonstrates as in the case of not Long the only investor, such as Hedge Fund, some benchmark could be negative, given the possibility to sell short, and of consequence the sum different than 1, such in the case of Long/short strategy, etc.

After explaining the reason why Long-only investors were selected, we try to define to create the most representative sample for our analysis. To do so we construct the sample choosing Investors that represent not only the major by AUM, but also different categories, such as Advisor, Bank and Assurance, style of investment, Growth or Value, and Geography location, with the prevalence of the US(65%) and Europe(35%). For this reason, some of the investor considered are not necessarily the most important but they are chosen in the sample of 20 Institutional investors because represent some of the characteristics above.

The list and the description of investment approach, made by Bloomberg, based on the 13F of 30/06/2021, and Thomson Reuters, of each member of the sample chosen, are presented below:

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[54] Not all institutions are obliged to deposit quarterly 13F.
[55] Source: Bloomberg Aggregated 13F (30/06/2021)

- **VANGUARD GROUP**: is a global investor that employs both active and passive strategies, investing across all market caps and various industries. The firm adheres to value and growth investment styles, including their combination. Vanguard also manages portfolios that focus on consumer discretionary and staples, energy, healthcare, industrial, I.T., materials, mining, precious metals, real estate, telecommunications, and utility sectors. The firm also utilizes external managers and typically constructs diversified portfolios. Vanguard employs both top-down and bottom-up approaches for its investment process. Quantitative modelling is used to assess different security factors, including growth prospect, relative return potential and valuation. Vanguard conducts in-house research complemented by external sources. The firm employs a team approach.

- **BLACKROCK** employs fundamental and scientific active and passive strategies, adhering to GARP, growth and value investment styles. For the fundamental active mandate, the firm manages global, regional, U.S. and sector-specific portfolios, seeking to determine and exploit market inefficiencies. The scientific active approach includes long-only, partial short and market neutral strategies. For the passive mandate, BlackRock Institutional Trust Company utilizes an index approach for both developed and emerging markets. BlackRock Institutional Trust Company conducts in-house research and employs a team approach.

- **CAPITAL GROUP COMPANIES INC**: employs a long-term, value-oriented approach to investing. The firm focuses on identifying stocks at reasonable prices relative to their prospects. Fundamental analysis is typically applied to identify attractive investments. Capital World Investors invests on a global basis, managing domestic and foreign equities. Decision-Making Process: The firm conducts proprietary research, combining the efforts of its research offices located globally. This research includes meeting with companies and interviews with a company's suppliers, bankers, customers, and competitors. External sources are also utilized, including consultations with industry specialists, economists, and government officials. Each portfolio's assets are divided into smaller portions, which are assigned to individual portfolio counsellors and a research portfolio group that collectively manages a portion of the assets focused on a specific area that the group follows.

- **STATE STREET CORP**: invests across all market-caps, primarily managing U.S. and international portfolios. The firm generally offers active and enhanced strategies, as well as index strategies to cover various market segments and geographical regions. For the index equity strategies, State Street Global Advisors aims to match the benchmark for a specific domestic or global equity market. State Street monitors and evaluates the trade-offs and relative advantages or disadvantages between transaction costs and tracking error. The firm looks to buy and hold

qualified stocks, trading only when there are participant cash flows, a change to the index, or to reinvest cash from dividend income, tax reclaims or corporate actions. The active and enhanced equity strategies are implemented on a quantitative basis. Under these mandates, core and concentrated portfolios are managed accordingly, and other styles such as growth and value may be incorporated. As a quantitative investor, State Street does not adhere to market timing. For the domestic portfolios, State Street Global Advisors combines active, bottom-up stock selection with risk-controlled, benchmark-oriented portfolio construction. The strategy focuses on identifying and exploiting anomalies within the equity market. The index plus strategy seeks out the best stocks and industries within the investment universe utilizing proprietary multi-factor and industry selection models. This quantitative process employs fundamental financial factors, as well as market and corporate sentiment analysis to identify undervalued stocks that possess superior earnings growth potential. State Street conducts the majority of the research in-house. Portfolio managers collaborate with the advanced research centre group.

- **FIDELITY MANAGEMENT & RESEARCH** is an active, global investor that offers a wide range of strategies, including growth, blend, high yield, indexing, and value. The investment process is bottom-up driven, primarily utilizing fundamental analysis in identifying favourable investments. The firm manages domestic and international portfolios, typically covering the U.S., Canada, Japan, Hong Kong, Europe, and global emerging markets. Decision-Making Process: Fidelity Management & Research Company LLC conducts in-house research and also utilizes a global network of research resources providing constant market and company information. These resources include online, computer-based research tools, as well as a proprietary, personal computer-based operating system that gives portfolio managers global access to Street research and earnings models, SEC filings, trading information and research notes on companies worldwide.

- **T ROWE PRICE GROUP INC**: employs various strategies, including growth, core, value, and income. The firm offers U.S., global and regional portfolios, as well as sector-focused mandates. The investment process is centred on a bottom-up approach that analyzes companies in a global context. Fundamental analysis is employed to target companies with superior and sustainable growth prospects and improving fundamentals. Each company's valuation is measured against the local market and broad sector opportunity set. T. Rowe Price Associates invests in small- to large-cap companies. For the growth-oriented strategy, the firm seeks high-quality companies with market-leading positions in growth segments, emphasizing sustainable growth. T. Rowe Price Associates targets businesses with high-quality earnings, strong free cash flow growth, shareholder-oriented management, and rational competitive environments. The firm also looks to

exploit differences between secular and cyclical trends. For the value strategy, T. Rowe Price Associates focuses on relative value relationships, seeking companies with improving financial outlooks. Both qualitative and quantitative techniques are used to evaluate the potential for improved investor perception and verify relative valuation anomalies respectively. T. Rowe Price Associates, Inc. conducts in-house research and employs a team approach. The firm utilizes external sources such as SEC filings, published financial information, the company prepared information and on-site visits with suppliers and competitors, as well as management company interviews.

- **JP MORGAN CHASE & CO:** offers various strategies, including active extension, behavioural, core, enhanced, growth, long/short, quantitative and value. Investments are carried out through U.S., international and global portfolios. Emphasis is placed on identifying and monitoring key valuation and risk metrics. The firm primarily employs fundamental, bottom-up research to identify favourable investments. For domestic investments, a three-step process is applied, combining research, valuation, and stock selection. JP Morgan Asset Management purchases companies that are undervalued and consider selling them when they appear to be overvalued. In addition to valuation, the firm looks for a catalyst that could prompt a rise in a stock's price, a high potential reward compared to potential risk, or temporary mispricing due to market overreactions. JP Morgan Asset Management conducts in-house research. The investment team benefits from a collaborative cross-border dialogue between different teams and regions.

- **BANK OF AMERICA CORPORATION**: does not disclose information regarding their investment approach. It is a Bank with total current equity assets of $901.5B under management invested in 7,502 securities. By industry sector, its largest current exposures are in the Technology (14.1%) and Health Care (7%) sectors. Its largest five-year increase is in the Technology sector. Its largest five-year decrease is in the Energy sector. By geographic region, its largest current exposures are in North America (95.2%) and Western Europe (3.2%). Its largest five-year increase is in North America. By market cap, its largest current exposures are in Large Cap (88%) and Mid Cap (9%) stocks.

- **MORGAN STANLEY**: tailors portfolio to the needs and objectives of the clients. The firm invests with on a global basis, investing with a long-term perspective. Morgan Stanley Smith Barney LLC diversifies investments across various industries and market-caps. The firm conducts in-house and utilizes third-party research analysis.

- **WELLINGTON MANAGEMENT GROUP LLP**: adheres to core, growth, and value strategies, investing across all market caps and offering global, regional, emerging market, European, Australasian, Far Eastern and U.S. portfolios. The firm primarily employs a top-down

approach for its investment process, utilizing quantitative tools and techniques and conducting fundamental and technical analyses. WMC seeks to understand global trends and outlooks for particular markets, sectors and securities, developing customized valuation and other models. For the global value strategy, the firm employs a contrarian approach that emphasizes on long-term fundamentals, targeting large-cap companies that are temporarily out of favour. WMC also offers specialty or unconstrained and style-neutral mandates, as well as portfolios that focus on specific industries like finance, healthcare, and technology sectors. WMC also tailors portfolios based on client needs and objectives. Decision Making Process conducts in-house research complemented by external sources, including academic seminars, company filings and related publicly available reports, industry conferences, research from broker or dealers and third-party providers and trade shows. The firm meets with company management, competitors, customers, practitioners, and suppliers. Investment decisions are made by the respective portfolio managers or teams.

- **GOLDMAN SACHS GROUP INC**: employs various investment styles including growth, value, and international strategies. The firm diversifies portfolios across all market-caps, geographic location, and industries. Goldman Sachs Asset Management utilizes fundamental, bottom-up analysis in allocating assets and selecting stocks. Equity investments are generally sold when the firm believes that the market price fully reflects or exceeds the investments' fundamental valuation or when other more attractive investments are identified. Goldman Sachs Asset Management employs a team-based approach. The firm conducts in-house research.

- **LEGAL & GENERAL GROUP PLC**: is a global investor that employs both passive and active strategies in managing its portfolios. For the index strategies, the firm utilizes a pragmatic replication of benchmarks through systems software and quantitative methods. In the UK and European markets strategy, LGIM mainly uses a fundamental approach, looking for companies with high or improving returns. The investment team computes cash flow expectations for each company, and weighs the results against the market consensus. Investments are then made in those companies where a discrepancy is present in the cash flow expectations between the market consensus and internal research. In addition, the firm places emphasis on evaluating company management. The active strategies offer a tailored investments portfolio to clients. LGIM selects securities that offer superior investment opportunities, typically in large companies that displayed above average returns. The firm may also invest in small-cap businesses. The investment process is driven by absolute return strategies, seeking to be responsive to changing markets. LGIM gathers information from internal and external sources.

- **AMUNDI PIONEER ASSET MANAGEMENT**: is an active manager that employs a value approach to investing. The firm uses a top-down approach through fundamental analysis in

determining investments in the international market. Amundi's equity-asset allocation employs a macroeconomic research. Amundi uses internal and external research. Investment decisions are made by an investment committee.

- **BAILLIE GIFFORD AND COMPANY** primarily adheres to a growth approach, investing on a global basis. The investment process is primarily driven by fundamental analysis, focused on identifying quality, growing companies that display sustainable, long-term competitive advantages in their industry and faster expected earnings growth than the overall market. The firm conducts quantitative research to find out potential investments has the competitive, financial, and strategic advantages. Baillie Gifford & Co. seeks most competitive, innovative, and efficient growth companies. The firm conducts in-house research.

- **BERKSHIRE HATHAWAY INC**: does not disclose information regarding their investment approach. It is a Holding Company with total current equity assets of $331.4B under management invested in 210 securities. By industry sector, its largest current exposures are in the Technology (47%) and Financials (24.7%) sectors. Its largest five-year increase is in the Technology sector. Its largest five-year decrease is in the Energy sector. By geographic region, its largest current exposures are in North America (94.5%) and Asia Pacific (Developed) (2.6%). Its largest five-year increase is in North America. Its largest five-year decrease is in Western Europe. By market cap, its largest current exposures are in Large Cap (99.3%) and Mid Cap (0.7%) stocks.

- **CREDIT SUISSE GROUP AG**: is a global investor that offers various strategies in managing investments. In creating customized portfolios, the firm applies an active management style that focuses on opportunities that are geared towards attractive returns. A proprietary global strategy is employed which makes use of a technological system based on a CFROI framework. The investment process takes into account both bottom-up and top-down considerations. Security selection is carried out by bottom-up specialists while a regional asset allocation is established by a multi-asset team. Investments typically cover blue chip companies in Switzerland, Europe, North America, and emerging markets. Specialty strategies include dividend focused, value, domestic indirect real estate, small- and mid-cap focused, thematic and style-based, and quantitative optimization. Credit Suisse Asset Management conducts proprietary research wherein local teams share their resources through a global platform.

- **SCHRODERS PLC**: primarily manages UK, European and international portfolios. Investments are offered through various mandates, including core, value, and growth investment styles, as well as other specialist mandates focused on a specific market-cap or region. The firm generally makes use of fundamental research and analysis in identifying potential investments. The investment process is primarily driven by bottom-up stock selection that looks beyond short-term news flows.

For its global investments, SIM employs a core investment style with a growth bias. The firm looks for high quality international companies with strong growth prospects, sustainable competitive advantage, and reasonable valuation. Fundamental research is complemented by macroeconomic and thematic review. Idea generation begins with quantitative and qualitative screens which incorporate macro-outlook and proprietary valuation methodologies to rank companies based on local market strength. Companies are then ranked on relative strength within global sectors and across regions. Potential investments are further evaluated based primarily on growth/valuation, quality, and sustainable competitive advantage. Core and cyclical holdings are identified and ideas are tested using proprietary quantitative model output. Local analysts in different countries conduct primary research on markets and companies. Investment teams are organized according to strategy and mandate. SIM generally has access to company management.

- **PICTET FUNDS**: is a global manager that invests in both emerging and developed markets, covering the U.S., Europe, Japan, Switzerland, and EAFE, among others. The firm generally employs active, quantitative, and index strategies in managing equity investments. The regional-focused portfolios are managed using a bottom-up, fundamental approach that examines region, country, and sector characteristics. The Swiss equities strategy does not put limitations on using either growth or value styles, rather looks for companies with strong business franchises. A proprietary tool that models future cash flows, profitability and growth of capital is used, which is also applied in other strategies. The global emerging markets investments are driven by a valuation-based approach that focuses on identifying mispricing. The emerging European approach uses a similar approach, emphasizing corporate governance, management, economic instability, and institutional reform. Similarly, the Asia ex-Japan strategy draws on the emerging markets database, and combines the bottom-up process with an asset allocation framework based on surplus economic liquidity, risk and sentiment, as well as valuation. The small-cap strategy utilizes fundamental analysis, targeting smaller companies with possible price acceleration relative to profit growth that is not yet recognized by the market, and undervalued companies with a catalyst for change. PAM manages passive and enhanced index portfolios using proprietary techniques. The firm conducts the majority of its research in-house, while the remainder is gathered from external sources.

- **AXA**: utilizes a bottom-up, fundamental approach to stock selection. The firm focuses on European growth companies and invests across all market-caps, with the majority of the investments in the large-cap segment. The stock selection process is cantered on the evaluation of a company's business model, management, strategy, and financial stability. Particular emphasis is also placed on valuation and business cycle position. For the socially responsible investment

approach, AXA IM seeks financially superior companies that meet social, environmental, and corporate governance standards. For the small-cap investments, the firm targets companies that outperform their peers in the micro- and small-cap segments. AXA IM relies on both in-house and external research, including constant dialogues with company management. The firm also contacts other stakeholders such as unions, public authorities, and international agencies, particularly for the socially responsible investments.

- **ARK INVESTMENT MANAGEMENT LLC** : does not disclose information regarding their investment approach. Founded: 2014. ARK Investment Management LLC (ARK) is a New York, NY-based investment management firm founded by Catherine D. Wood. It is an Investment Advisor with total current equity assets of $53B under management invested in 346 securities, with Growth active investment style. By industry sector, its largest current exposures are in the Health Care (31.1%) and Technology (28.3%) sectors. Its largest five-year increase is in the Health Care sector. By geographic region, its largest current exposures are in North America (83.6%) and Western Europe (7.5%). Its largest five-year increase is in North America. By market cap, its largest current exposures are in Large Cap (72.5%) and Mid Cap (22.4%) stocks.

After defining the sample, we observe how some investors deposit more than one 13F; this is partly explained due to the presence of multiple head offices in a different country for each investor and the presence of the various sub-investment company, such in the case of Blackrock. For this reason, we considered, in our analysis, only the equity position offered by the 13F in the 2Q of 2021 of the largest fund registered, as a proxy of the investors holding.

The list of the sample selected ordered by AUM, according to 13F, and distinguished by investor type are summarized in Table 4.

TABLE 4 SAMPLE BY AUM (SOURCE:13F, BLOOMBERG)

Investor	Equity Value 13F (Q2-2021)	Investor Institution	Country
Vanguard Group Inc	4.016.509.076.139	Investment Advisor	US
State Street Corporation	1.894.794.327.142	Investment Advisor	US
Blackrock Fund Advisors	1.319.040.152.021	Investment Advisor	US
Fidelity Management & Research Llc	1.101.224.297.278	Investment Advisor	US
T Rowe Price Associates Inc	1.078.822.608.168	Investment Advisor	US
Bank Of America	861.856.927.961	Bank	US
JP Morgan Chase & Co	780.746.179.885	Bank	US
Wellington Management Group LLP	600.729.947.113	Investment Advisor	US
Capital World Investors	588.239.412.961	Investment Advisor	US
Morgan Stanley Smith Barney LLC	403.240.424.467	Investment Advisor	US
Goldman Sachs Group Inc	370.044.567.970	Brokerage	US
Legal & General Group Plc	298.945.346.892	Insurance Company	EU
Berkshire Hathaway Inc	293.023.409.797	Investment Advisor	US
Baillie Gifford & Company	207.617.224.438	Investment Advisor	EU
Amundi Pioneer Asset Management	130.674.957.285	Investment Advisor	EU
Credit Suisse Ag	127.968.592.529	Investment Advisor	EU
Pictet Asset Management Ltd	92.401.328.836	Investment Advisor	EU
Schroder Investment Management Group	78.101.034.155	Investment Advisor	EU
Ark Investment Management LLC	53.511.126.372	Investment Advisor	US
Axa	35.467.071.594	Investment Advisor	EU

4.3 Monthly return and Asset class Data

Return Based Style analysis based their theories on the creation of passive index benchmark to simulate the return minimizing tracking variance, and from that, understand their strategies. To calculate the monthly return of each investor Bloomberg will be used.

Using the quarterly 13F[56] and Bloomberg Function "PORT" is possible to reiterate the portfolio composition over time, updating it based on the quarterly 13F. This gave the possibility to extrapolate monthly return based on the overall portfolio composition in whole Investors holding Once extrapolating the return, it will be processed using Return Based Style Analysis.

Another element that is crucial for our analysis is the definition of what asset classes include in the factor model. As Sharpe (1992) states, the usefulness of an asset class factor model depends on the asset classes chose for its implementation. Even if the conditions are not strictly necessary, the asset class chosen or the style index should be "1) mutually exclusive, 2) exhaustive and 3) have returns that "differ".

Moreover, each index should represent a market-capitalization-weighted portfolio of securities, where no security is included in more than one portfolio, although it is suitable to consider as many securities as possible for each index; finally, the index returns should either have low correlations with one another or, in cases in which correlations are high different standard deviations." (Sharpe, 1992)

In our analysis, we focused only on the composition of the equity portfolio. So instead of considering all the asset classes, such as Bond or Real Estate, we selected ten indexes, which each represented an Equity style of investing. The selection of the index considers the aim to look at investment strategies, from a Value and Growth Perspective, and to do this we selected eight indexes that represent the difference among Value and Growth and the various substyle. These eight indices were selected from S&P Global indexes, which express a major index of style investing in the United States, considering the Value and Growth Investment strategies.

As stated in the S&P US Style indices methodology[57] , the "S&P Dow Jones Indices, a division of S&P global, measure the performance of U.S. equities fully or partially categorized as either growth or value stocks, as determined by Style Scores for each security. The Style series is weighted by float-

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[56] "The Securities and Exchange Commission's (SEC) Form 13F is a quarterly report that is required to be filed by all institutional investment managers with at least $100 million in assets under management. It discloses their equity holdings and can provide insights into what the smart money is doing in the market. Form 13F is required to be filed within 45 days of the end of a calendar quarter, or if that day falls on a Saturday, Sunday or holiday, the deadline is the next business day."
For more detail See https://en.wikipedia.org/wiki/Form_13F

[57] See https://www.spglobal.com/spdji/en/documents/methodologies/methodology-sp-us-style.pdf

adjusted market capitalization (FMC), and the Pure Style index series is weighted by Style Score subject to the rules described in Index Construction"

The Style indices measure growth and value along two separate dimensions, with three factors model used to measure. To classify stock as Value they considered relative valuation factors, while to classify stock as growth they considered more qualitative facto as Growth rate and Momentum indicators. The list of factors used is outlined in Table 5.

TABLE 5 LIST OF FACTORS (SOURCE: S&P GLOBAL)

Growth Factors	Value Factors
Three-Year Net Change in Earnings per Share (Excluding Extra Items) over Current Price	Book Value to Price Ratio
Three-Year Sales per Share Growth Rate	Earnings to Price Ratio
Momentum (12-Month % Price Change)	Sales to Price Ratio

Companies in each parent index are ranked according to their growth and value scores. A company with a high Growth Score has a higher Growth Rank, whereas a company with a low-Value Score has a lower-Value Rank.

As previously stated, one of the design goals is to create a Style index series that roughly divides the total market capitalization of each parent index into growth and value indices, while limiting the number of stocks that overlap across both. This series is intended to be exhaustive (covering all stocks in the parent index universe) and is weighted by float market capitalization. Indices of Pure Growth and Pure Value There are no stocks that overlap between these indices, and index constituents are weighted according to their Style. Style indices and Pure Style indices have distinct characteristics that address different needs. These differences are summarized in Table 6.

Characteristic	Style Index Series	Pure Style Index Series
Universe coverage	Exhaustive, all parent index stocks are covered	Only Pure Style stocks are covered
Overlapping stocks	Stocks that do not have Pure Growth or Pure Value characteristics have their market capitalization divided between Growth and Value indices in proportion to their distance from the pure regions	None
Weighting scheme	Market capitalization-weighted	Style Score weighted
Breadth	Broader	Narrower
Usage	Exposure to the broad style market (For example, relative value exposure)	Pure style exposure (For example, deep value exposure) or "style spread" strategies, quantitative analysis

To consider the different aspects of these strategies, we will consider the distinction between the Style and the pure Style and the difference between small and large Cap. The illustration of such indexes shows the different composition and among the Positive P/E[59], confirmed how Growth stock has the highest P/E of Value stock, as explained in Chapter Two.

Moreover, to make the analysis the most accurate as possible we considered other styles, selecting 2 indexes from MSCI[60], such as the EAFE and the EM strategies. [61]

Given the necessities to maintain cash for investors, we will also consider the 3-Month Treasury Bill return.

After selecting the indexes, we extrapolate the monthly return from January 2013 until June 2021, from both Bloomberg, S&P Global and Fred. Then we implement a correlation analysis as shown in Table 7. As expected, the correlation between various indexes was high, because, although each index represents a different style, all the index represents the same asset class (Equity). In this case, as explain by Sharpe (1992), we calculate the standard deviations of each index, as shown in Table 8, to understand if, although they are correlated, they have different high standard deviations.

Looking at the table we can observe how each style indexes have a monthly standard deviation superior to 4% and are very different among each member. This result is consistent with what Sharpe states, so it is reasonable to think that the reliability of the index chosen is good.

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[58] S&P U.S. Style Indices Methodology (S&P Global)
[59] Source: Bloomberg at 14/09/2021
[60] Data of 14/09/2021 (Source: Bloomberg)
[61] See https://www.spglobal.com/spdji/en/documents/methodologies/methodology-sp-us-style.pdf

TABLE 7 CORRELATION ANALYSIS STYLE INDEXES

	S&P 500 Pure Value	S&P 500 Pure Growth	S&P SmallCap 600 Pure Value	S&P SmallCap 600 Pure Growth	S&P 500 Growth	S&P 500 Value	S&P SmallCap 600 Growth	S&P SmallCap 600 Value	TB3MS	MSCI EAFE	MSCI Emerging Markets
S&P 500 Pure Value	1,000										
S&P 500 Pure Growth	0,799	1,000									
S&P SmallCap 600 Pure Value	0,926	0,736	1,000								
S&P SmallCap 600 Pure Growth	0,853	0,845	0,873	1,000							
S&P 500 Growth	0,768	0,954	0,686	0,777	1,000						
S&P 500 Value	0,957	0,836	0,869	0,826	0,841	1,000					
S&P SmallCap 600 Growth	0,867	0,847	0,883	0,986	0,791	0,855	1,000				
S&P SmallCap 600 Value	0,938	0,782	0,968	0,930	0,729	0,895	0,952	1,000			
TB3MS	-0,138	-0,117	-0,165	-0,151	-0,095	-0,099	-0,132	-0,146	1,000		
MSCI EAFE	0,810	0,806	0,696	0,707	0,812	0,836	0,720	0,728	-0,096	1,000	
MSCI Emerging Markets	0,683	0,678	0,600	0,604	0,681	0,683	0,596	0,620	-0,055	0,803	1,000

TABLE 8 STATISTICAL MEASURE FOR EACH INDEX

	Mean	Median	Standard Deviation	Min	Max
S&P 500 Pure Value	1,173%	1,728%	5,756%	-28,736%	18,899%
S&P 500 Pure Growth	1,476%	1,549%	4,454%	-15,562%	16,565%
S&P SmallCap 600 Pure Value	1,183%	1,306%	7,731%	-32,007%	24,190%
S&P SmallCap 600 Pure Growth	1,305%	1,645%	5,935%	-25,816%	18,757%
S&P 500 Growth	1,537%	1,763%	3,969%	-9,963%	14,454%
S&P 500 Value	1,081%	1,365%	4,078%	-15,254%	12,878%
S&P SmallCap 600 Growth	1,352%	1,581%	5,119%	-19,676%	17,226%
S&P SmallCap 600 Value	1,249%	1,542%	5,783%	-25,446%	19,175%
TB3MS	0,680%	0,230%	0,824%	0,020%	2,400%
MSCI EAFE	0,439%	0,835%	4,062%	-13,820%	15,380%
MSCI Emerging Markets	0,367%	0,545%	4,649%	-15,610%	13,030%

Finally, we summarized the list of the Index chosen, with the description of each index according to Bloomberg and their Positive P/E, which shows how Value indexes have a P/E lower than Growth indexes, as shown in Table 9.

TABLE 9 INDEXES CONSIDERED IN THE ANALYISI SUMMARY(PERSONAL ELABORATION)[62]

Indexes	Descriptions
S&P 500 Value (SVX)	The S&P 500 Value Index is a market capitalization-weighted index. All the stocks in the underlying parent index are allocated into value or growth. Stocks that do not have pure value or pure growth characteristics have their market caps distributed between the value & growth indices. Before 12/19/2005 this index represented the S&P 500/Barra Value Index Positive P/E =18.89[63]
S&P 500 Pure Value (SPXPV)	The S&P 500® Pure Value index is a style-concentrated index designed to track the performance of stocks that exhibit the strongest value characteristics by using a style-attractiveness-weighting scheme. Positive P/E = 11.95
S&P SmallCap 600 Value (SLMV)	The S&P SmallCap 600 Value Index is a market capitalization-weighted index. All the stocks in the underlying parent index are allocated into value or growth. Stocks that do not have pure value or pure growth characteristics have their market caps distributed between the value & growth indices. Positive P/E 12.55
S&P SmallCap 600 Pure Value (SPSPV)	S&P Pure Value Indices include only those components of the parent index that exhibit strong value characteristics, and weights them by value score. Constituents are drawn from the S&P SmallCap 600®. Positive P/E =9.94
S&P 500 Growth (SGX)	The S&P 500 Growth Index is a market capitalization-weighted index. All the stocks in the underlying parent index are allocated into value or growth. Stocks that do not have pure value or pure growth characteristics have their market caps distributed between the value & growth indices. Prior to 12/19/2005, this index represented the S&P 500/Barra Growth Index Positive P/E = 35.16
S&P 500 Pure Growth (SGXPG)	S&P Pure Growth Indices includes only those components of the parent index that exhibit strong growth characteristics and weights them by growth score. Positive P/E = 42.21
S&P SmallCap 600 Growth (SLMG)	The S&P SmallCap 600 Growth Index is a market capitalization-weighted index. All the stocks in the underlying parent index are allocated into value or growth. Stocks that do not have pure value or pure growth characteristics have their market caps distributed between the value & growth indices. Intraday values calculated by Bloomberg and not supported by S&P. Positive P/E =20.09

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[62] Source: Bloomberg, S&P Global, MSCI , FRED Economic Data

S&P SmallCap 600 Pure Growth (SPSPG)	S&P Pure Growth Indices includes only those components of the parent index that exhibit strong growth characteristics and weights them by growth score. Constituents are drawn from the S&P SmallCap 600®. Positive P/E 14.53
MSCI EAFE (MXEA)	The MSCI EAFE Index is an equity index that captures large and mid cap representation across 21 Developed Markets countries around the world, excluding the US and Canada. With 843 constituents, the index covers approximately 85% of the free float adjusted market capitalization in each country. It covers DM countries in Europe, Astualasia, Israel, and the Far East. Positive P/E = 17.21
MSCI Emerging Markets (MXEF)	The MSCI Emerging Markets Index captures large and mid-cap representation across 27 Emerging Markets (EM) countries. With 1,407 constituents, the index covers approximately 85% of the free float-adjusted market capitalization in each country. Positive P/E = 14.40
TB3MS	3-Month Treasury Bill: Secondary Market Rate.

4.4 Style investing: Example of analysis

After selecting the indexes that represent the different styles, we will create an Excel spreadsheet to apply the Return Based style analysis for each member considered in the sample, as in the example below.

Considering Berkshire Hathaway Inc, the holding company, of one of the most important investors in the history, of Warren Buffet; the peculiar of his investment style made it one of the most "Intelligent Investor"[64]. Often considered a Value investor, his strategies were under study by year and certainly not common to most of them.

After extrapolating the monthly return from Bloomberg between January 2013 and June 2021, we inserted it in the spreadsheet and calculated the Style analysis for each quarter since June -2021 and until June-2016, creating a passive benchmark for all quarters considering the 36 months, as shown in Figure 14.
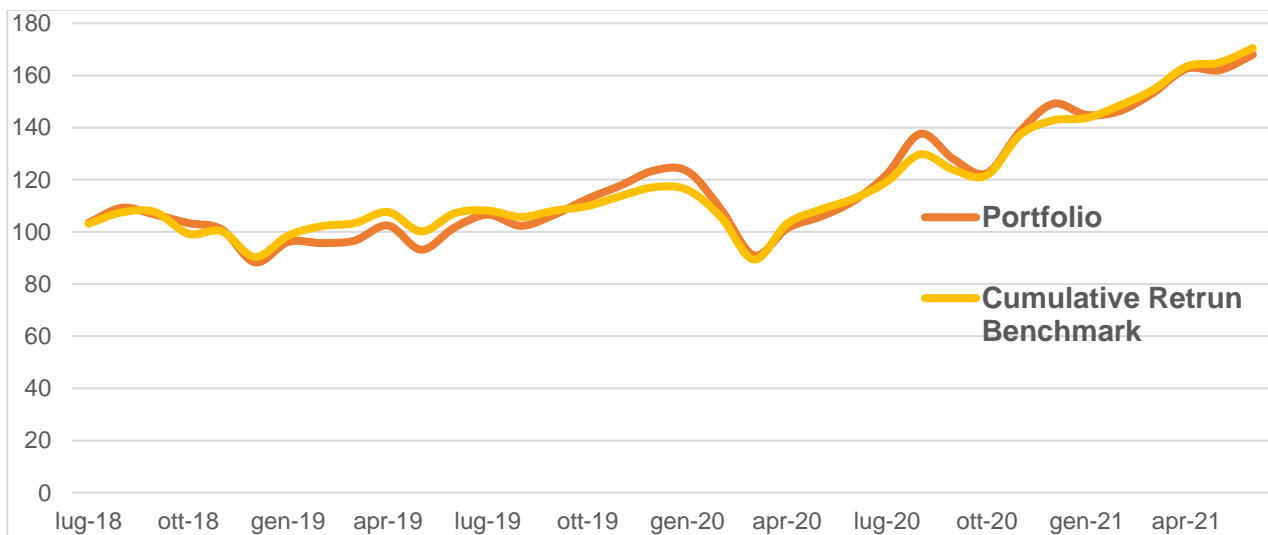
FIGURE 14 BERKSHIRE HATHA WAY RETURN VS BENCHMARK PORTFOLIO SINCE JULY 2018

After the creation of the passive benchmark composed by the sum- product of the indexes(Figure 15), we had plotted the result on the Value/growth Style Box defined the style investing during the 36 months, distinguish from Value to Growth and Small Cap to Large Cap, as in Figure 16

Since this table is possible to understand a first impression of the location of the strategy in the universe of Value Growth strategies. For each year will be also calculated the R^2, explaining how

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[64] The term derived by homonymous book "The Intelligent Investor". Graham, Benjamin. 2003. New York, NY: HarperBusiness."

part of the strategy is explained by the model, and the $1 - R^2$, explaining the Selection skills of the Investor that could be Positive, over performance, or Negative, underperformance, compared to the benchmark(Figure 17)
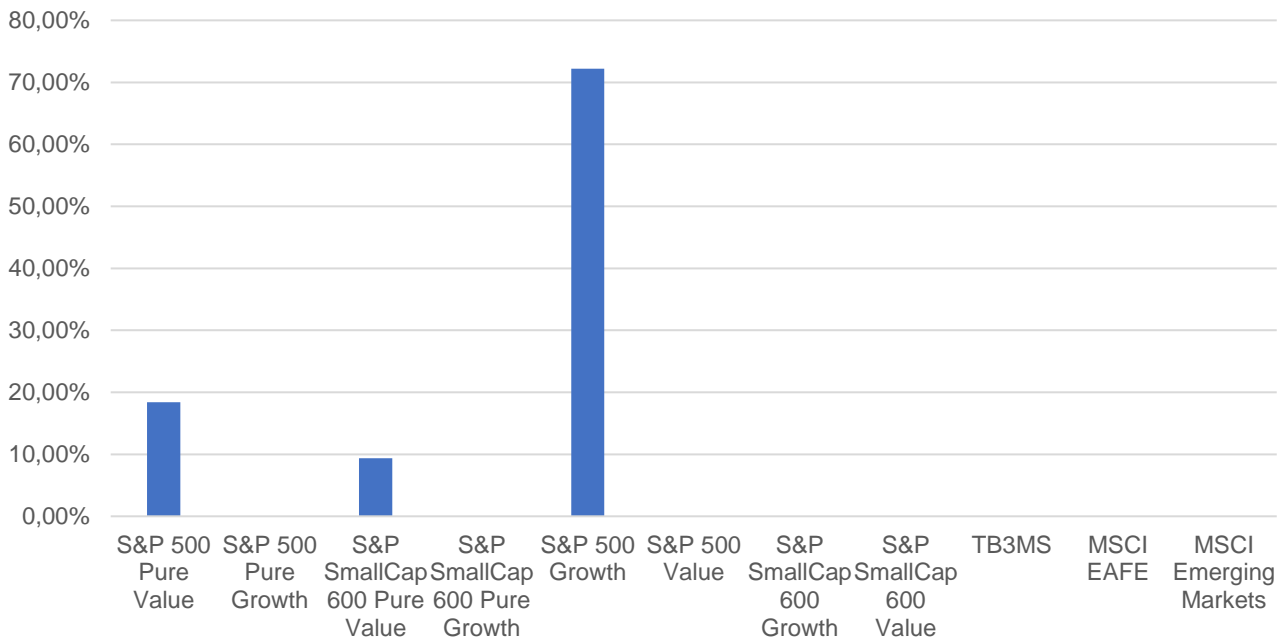
FIGURE 15 PASSIVE PORTFOLIO COMPOSITION OF BERKSHIRE HATHAWAY INC. Q2/2021
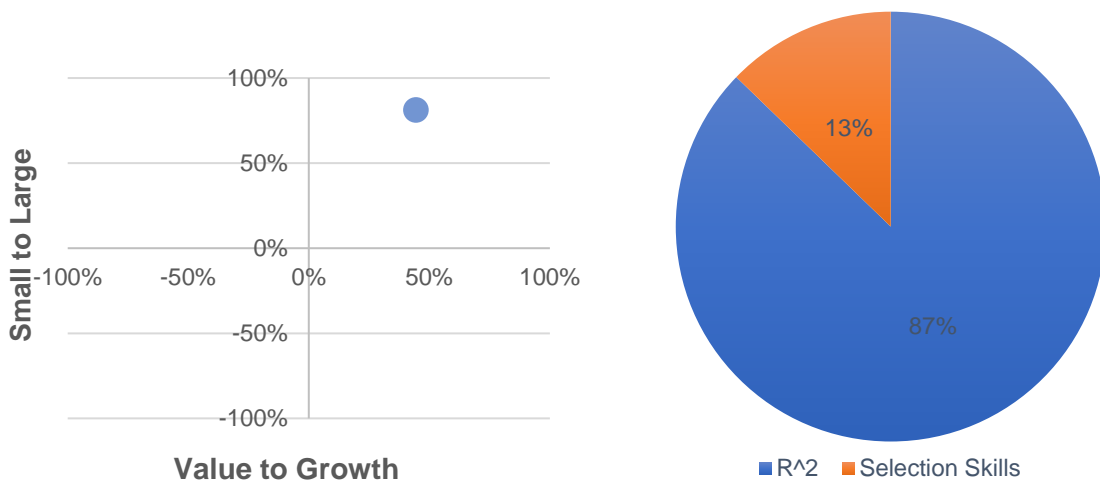
FIGURE 16 STYLE BOX Q2-2021

FIGURE 17 INVESTMENT STYLE EXPLAINED BY THE MODEL (R^2)

After calculating the Passive benchmark, representative of the style investing during the 36-month period starting by the end of the quarter considered in the example; we iterated this process for all the quarters until Q2 of 2016, through the 36 months rolling period, to understand how the portfolio strategy changed quarter by quarter based on their 13F return.

The summary of the style variation during the period is represented in the Graphs Below:
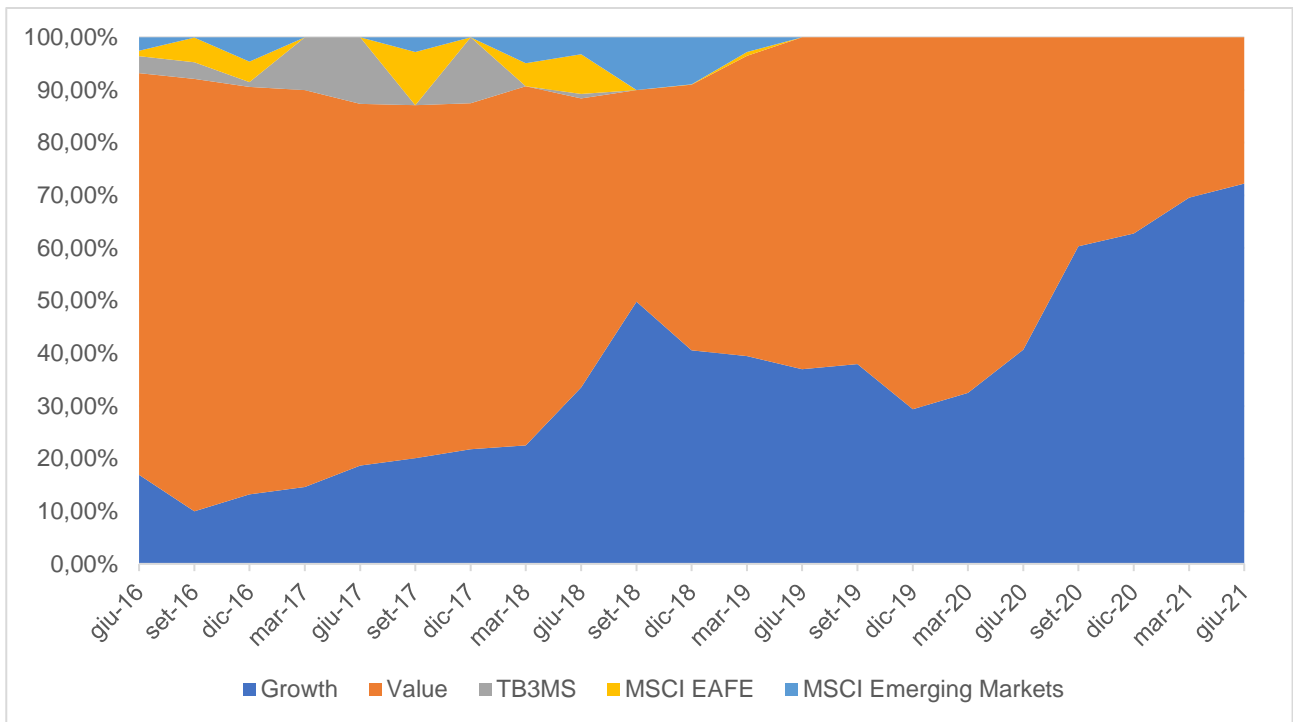
FIGURE 18 STYLE DRIFT MACRO CATEGORIES
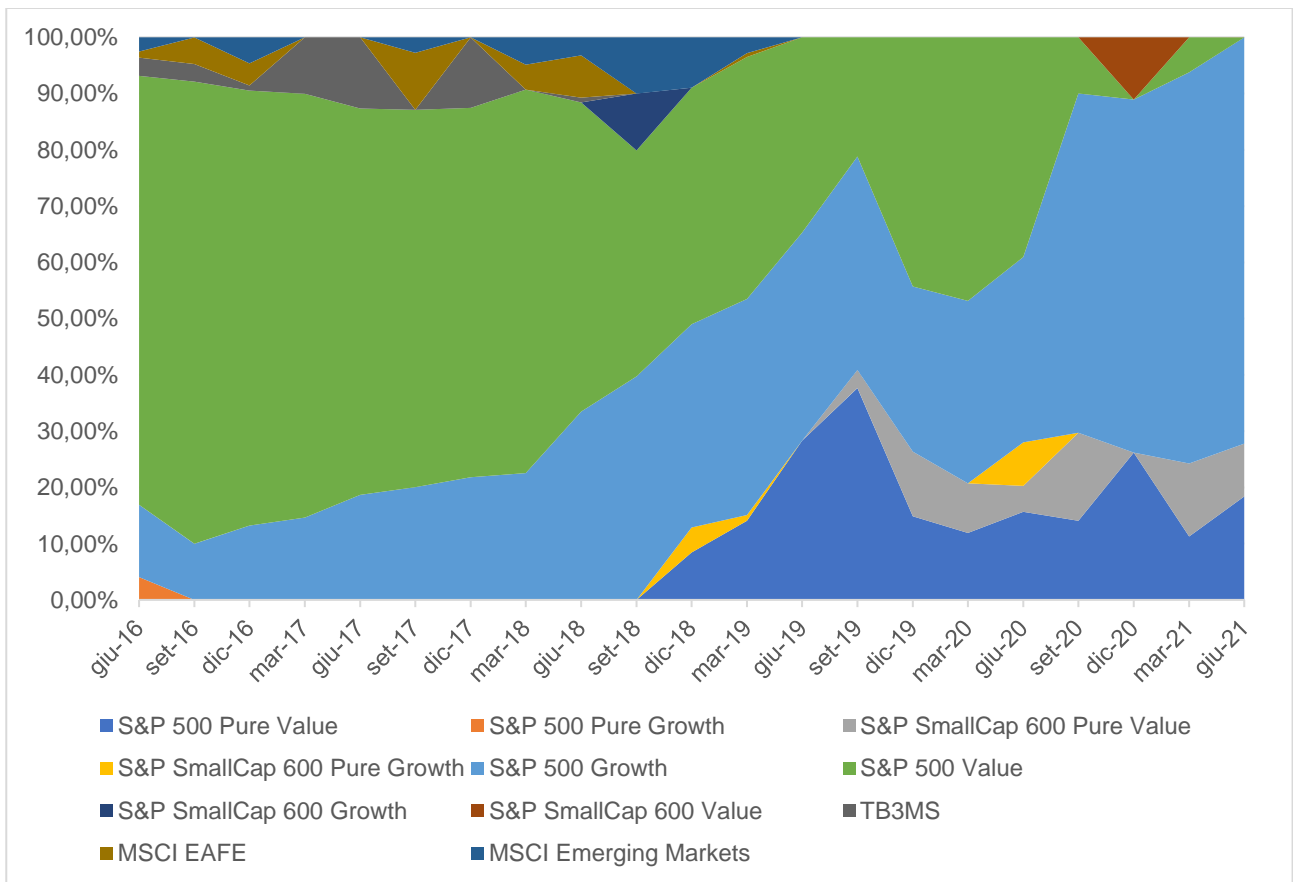
FIGURE 19 STYLE DRIFT FOR EACH STYLE INDEX

While Figure 18 represents the variations of the style during the rolling quarter, based on the macro-categories Value, Growth, Emerging Markets, and EAFA, Figure 19 shows what was the change in the style consider a more detailed analysis, with the distinction between the pure style and not and the Capitalization style. These two graphs gave the opportunity to see not only the last 4 years' investment style but also how since 2020, when the Covid pandemic started, the Investor reacted, in terms of rebalancing their asset allocation strategy in the new scenario.

Analyzing the result fabricated by the RBSA for, as in the example, Berkshires Hathaway we can understand how the investor changes their strategies. Since 2016 Warren Buffet, historically considered a Value Investor, have had their portfolio composed of Large Cap Value stock, in fact, the analysis showed how during the pre-covid period the big part of investor return is reconducted to S&P 500 Value index. This result Is consistent viewing the holding-based characteristics of the portfolio.

Expect a short period in 2018, where the growth part of the Growth portfolio soared, the Investment strategies were pretty defined, investing in Value stock principally and Growth company, rather than an only growth stock, until the end of 2019. But, starting from 2020 the growth strategy became prevalent reducing sensibly the Value part. This shift in investment strategies had its clue in 2Q of 2020 when the pandemic hit the most all value business, including Airlines and Petroleum Industry. The necessity to adapt the strategies to not fail as the company in the pre covid Portfolio, such Delta Airlines, etc, taken to a massively sell-off of a value stock.

Moreover, we have inserted on the model a "judgment formula" of the Investment style. Measuring the distance between the difference of Value and Growth aggregate factor, for each relative period, considering a discriminant factor of 10%, the model could express a summary of investment style and the change over time. The formula is express below:

EQUATION 4

- $\{[\text{Mean(SGX)} + \text{Mean(SGXPG)} + \text{Mean(SLMG)} + \text{Mean(SLMPG)}] - [(\text{Mean(SVX)} + \text{Mean(SVXPV)} + \text{Mean(SLMV)} + \text{Mean(SLMPV)}] \geq 10\,\%\} = \text{Growth Investing}$

- $\{[\text{Mean(SGX)} + \text{Mean(SGXPG)} + \text{Mean(SLMG)} + \text{Mean(SLMPG)}] - [(\text{Mean(SVX)} + \text{Mean(SVXPV)} + \text{Mean(SLMV)} + \text{Mean(SLMPV)}] \leq 10\,\%\} = \text{Value Investing}$

- $\{0\% \geq [\text{Mean(SGX)} + \text{Mean(SGXPG)} + \text{Mean(SLMG)} + \text{Mean(SLMPG)}] - [(\text{Mean(SVX)} + \text{Mean(SVXPV)} + \text{Mean(SLMV)} + \text{Mean(SLMPV)}] \geq 10\,\%\} = $ Blend Investing

For the scope of the analysis, we first identified the Style history considering the entire period of analysis. Then we reiterate the process considering the period before the pandemic officially starts in March 2020 and the period from March 2020 to June 2021.

The result, as in the Berkshire example below (Table 10), shows how this model captured the changes in the investment styles over the considered period. The model judged the investment styles for the investor during the overall period as Value Large investor; in fact, not only show how the sum of the mean of value index exceed more than 10% of that of the growth index but also shown that, among value benchmarks, the large-cap Value index was prevalent.

TABLE 10 INVESTMENT STYLE SUMMARY BERKSHIRE HATHAWAY INC.

Style history (06/2016-06/2021)	Value[65]	Prior Covid Style investing (06/2016-12/2019)	Value	Post-Covid style investing (12/2019-06/2021)	Growth
S&P 500 Value[66]	46%	S&P 500 Value	57%	S&P 500 Growth	55%

The same model and formula were applied for each of the three-period considerate for our purpose. With this model is possible to understand how the investor readapts their strategies after Covid and during the three different stages analyse in chapter 3.

As observed in the table below, considering Berkshire Hathaway example, the investment style remained consistent, with their historical strategies, until the end of the first period of the pandemic. After then the style drastically changed. The model shown as during the second period of the pandemic investor returns were explained by the use of Growth strategies. The weights of SGX soared from 30% to more than 60% taking tacking the style during period Two, reaching the peak in period three with 71% weights, as shown in Table 11. This scenario is reliable looking at the investor portfolio, in fact, since the start of the pandemic his value stocks lose part of their value or sold, such in the case of Financial or Airlines, and growth stock soared, such as in the case of Apple.

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[65] $\{[Mean(SGX) + Mean(SGXPG) + Mean(SLMG) + Mean(SLMPG)] - [(Mean(SVX) + Mean(SVXPV) + Mean(SLMV) + Mean(SLMPV)] \leq 10\,\% \} = Value\ Investing$

[66] Is calculated as the maximum of the mean of the benchmark in the major style, if the style was blend, then it was the maximum benchmark

TABLE 11 INVESTMENT STYLE SUMMARY DURING COVID BERKSHIRE HATHAWAY INC.

Q1/Q2-2020	Value		Q3/Q4-2020	Growth		Q1/Q2-2021	Growth
S&P 500 Value	**43%**		**S&P 500 Growth**	**62%**		**S&P 500 Growth**	**71%**

To sum up, the RBSA model enables to understand, with a certain degree of accuracy explained by the R^2, how the return of the investment strategies could be replicated using a passive investment strategy composed by the sum of the weights of each benchmark, approximately defined the Investor Strategy asset allocation. Reiterate this process over a selected period could enable evidence of the change in the investment strategy also. Contextualizing the result with the change in the macroeconomic scenarios, such as in the case of Covid disruptive crises, unable to understand how they impact or not the asset allocation mix and the investment strategy.

4.5 Covid impact on Investment Strategies: Results and Analysis of style investing

After the illustration of how the RBSA method was applied, this process was retired for each member of the sample. To understand the difference among the various investment styles used before and during the pandemic, the results of the aggregate analysis were analysed by dividing the result for each period considered in the previous chapter. The results, considering the aggregated period, are shown in Table 12:

TABLE 12 SUMMARY OF ANALYSIS RESULTS

Institutional Investor	Return since 2020	Return 2021 to 6/2021	R^2	Selection Skills	2016-2020	2020 to june/2021
AMUNDI	42,56%	15,12%	99,00%	1,00%	Growth	Growth
ARK	157,67%	2,19%	70,81%	29,19%	Growth[67]	Growth
AXA	41,29%	12,29%	98,75%	1,25%	Growth	Growth
BERKSHIRE	35,97%	9,56%	83,76%	16,24%	Value	Growth
BG&C	118,04%	12,81%	81,09%	18,91%	Growth	Growth
BLACKROCK	34,84%	12,65%	99,57%	0,43%	Growth	Growth
BofA	31,41%	15,19%	99,29%	0,71%	Blend	Growth
CAPITAL	47,18%	14,11%	98,05%	1,95%	Growth	Growth
CREDIT SUISSE	45,80%	12,21%	98,21%	1,79%	Value	Growth
FIDELITY	51,69%	15,38%	91,07%	8,93%	Growth	Growth
GOLDMAN SACHS	39,22%	14,24%	99,09%	0,91%	Blend	Growth
JP MORGAN	39,30%	14,04%	99,42%	0,58%	Growth	Growth
L&G	36,12%	14,75%	99,74%	0,26%	Blend	Blend
MORGAN STANLEY	30,85%	12,65%	99,36%	0,64%	Blend	Growth
PICTET	38,50%	11,58%	96,69%	3,31%	Growth	Growth
SCHRODER	32,59%	12,41%	97,75%	2,25%	Blend	Blend
STATE STREET	34,98%	15,34%	99,88%	0,12%	Blend	Blend
T ROWE	44,16%	13,51%	98,30%	1,70%	Growth	Growth

[67] Ark investment was funded in 2017. For the absence of necessary data the model was readapt on the data available.

|						
VANGUARD	37,29%	15,28%	99,63%	0,37%	Blend	Growth
WELLINGTON	31,06%	12,86%	98,53%	1,47%	Blend	Growth

As the tables below show, the mean R^2 result for all members of the sample during the entire period is 95% (**Figure 20**), with a high of 99,87% and a low of 70,81%, illustrating how the model can explain the style of investors. Instead, the residual part, 5%, shows the mean of the selection skills of the sample. Furthermore, observing the most active investors and with high selection, skills are ARK and Baillie. Both demonstrate that by far the other member of the sample since the pandemic began with more than 100% return during 2020, while the mean return of the sample is 43%.

Figure 20 MEAN R^2 ENTIRE SAMPLE
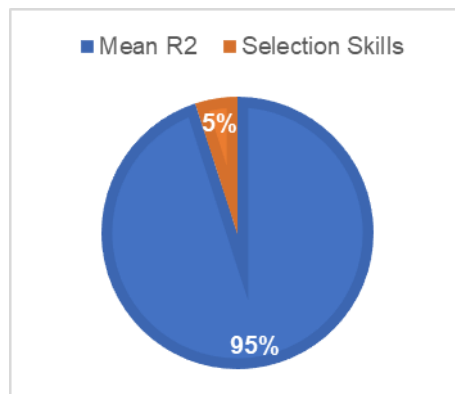
Looking at the result of the analysis summarised in the chart below, the model shows how before the pandemic began, 50% of the investors use a Growth strategy and 40% Blend strategies with a balance between Growth and Value stock. The only 2 Value investors remained Warren Buffet, with his Berkshire Hathaway holding, and Credit Suisse.

After the pandemic had begun based on the result of the model, 85 % per cent of the investors use a growth strategy and the remain 15% per cent a Blend Strategy. None of the investors used a Value strategy. In more detail, the major shift in the investment style was made by the biggest investor considered in the Sample, including Vanguard and Blackrock, who pushed their strategy from Blend to Growth. Moreover, not only the major investment advisor changed their strategies to grow, but also some Banks as in the case of JP Morgan and Goldman Sachs.
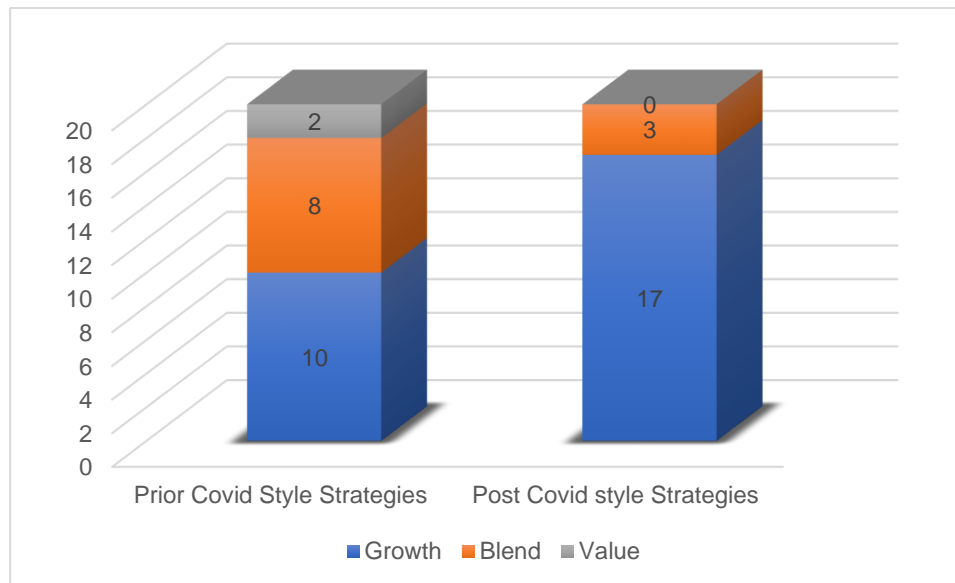
FIGURE 21 STYLE INVESTING BEFORE AND AFTER THE PANDEMIC

To sum up, the first result shows how the model explains, with a high level of certainty, the strategies applied by the investors before and after the beginning of the pandemic. As chapter one and two outlined, in every sector the only company that view the pandemic as an opportunity growth reaching a record high, also the asset management industry reflects this phenomenon. In chapter 2, we outlined how investors chose different asset allocations based on their strategy, risk, and goal. However, Figure 17 shows how investors that before Covid used a well-defined asset allocation, in a short period of time-shifted their asset allocation, exposing their portfolio to growth stocks. Although the sample represents different types of investors, with different time horizons and risk tolerance, it seems that most of them don't think that the short and long period value stocks will outperform, generating the historical Value Premium, as illustrated in chapter two.

Then, it is key to specify that the model simply explains the overall strategy of the Investor, while the real weights of the asset classes are not specified[68], i.e., two investors could use as an overall strategy the same strategy but have a completely different portfolio. This explains why for example, although the model establishes that both AXA and ARK have a growth strategy, they have had completely different returns in 2020. The former is one of the major assurance companies in Europe and the latter is a thematic Mutual Fund that buys only Disruptive technology companies.

Furthermore, a second issue regarding the discrepancy about return is related to Market Timing[69] issues Few investors were able to construct and readapt their portfolio in order to benefit from the

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[68] The weight of each asset class for each member of the sample was calculate but not express in the result, as the aim of the analysis is simply to define the overall strategy.

[69] "Market timing is the act of moving investment money in or out of a financial market—or switching funds between asset classes—based on predictive methods." https://www.investopedia.com/terms/m/markettiming.asp

Covid crises, and although all members of the sample were able to generate returns since the beginning of 2020, not all of them were able to demonstrate the overall market that gained the 34%. The market timing skills were particularly important during the overall Covid period; even if most of their investors have adopted a growth strategy since Covid, these do not necessarily mean that during all the phases of Covid this was the winner strategy, as observed in chapter three.

The last explanation of the divergence was related to market selection skills. Even if those who adopted a Growth strategy outperform the market, not all growth stocks soared in the same way. Comparing Ark and Berkshire Hathaway have both high selection skills based on the result of the analysis, but while the former had three-digit return betting most of its portfolio on Tesla Inc.[70], the latter had underperformed the average betting most of its portfolio on APPLE.

Finally, although, as Table 13 shows, there is no doubt about which investor has outperformed since the beginning of the pandemic, hence in January 2020, it is interesting to observe how the same strategy could have taken to such different performance. Looking at the top 3 performers since the beginning of the pandemic, we can observe how their outperformance could be explained by the asset allocation use before the pandemic. On the other hand, the last three performers were investors that, although swift their asset allocation toward Growth Stocks have kept a strong component of their investment in value stocks. Meanwhile, this strategy has not performed as well as the Pure growth strategy, since the start of 2021 gives the possibility to outperform both Ark and Baillie, which have below-average returns.

We can conclude that investors, considered in the sample, used in prevalence a Blend Strategy before the pandemic, gaining on average 70% return (14% annualized return). Since the pandemic began not all investor were positioned as well as other to better exploit the opportunity, that Covid generated in some industry. Investors who were most exposed to growth strategies before 2020 outperformed, by far, other members, gaining an abnormal return. The growth strategy could be considered the best performing strategy since the start of the pandemic. Despite this, the investors who better performed since 2020 did not perform as well as investors who adopted a more growth balanced strategy. This observation shows how despite the growth strategy were both the most adopted and performing among investor, could be not considered as momentum as it was during 2020. If this scenario materialized, the future trend could take to a further reduction in exposure to growth stocks, starting the rotation to value stock, despite some analysts affirm that the rotation was started yet.

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[70] TESLA INC gained 712% during the 01/2020 – 06/2021 period (source: Bloomberg)
Apple INC gained 86% during the 01/2020 – 06/2021 period (source: Bloomberg)

TABLE 13 TOP AND LEAST PERFORMER SINCE 2020

Institutional Investor	Return 2016-2020	Return since 2020	Return 2021 to 6/2021	R^2	Prior Covid Style investing	Post-Covid style investing
Top 3 Performer since 2020						
ARK INVESTMENT MANAGEMENT LLC	82,61%	157,67%	2,19%	70,81%	Growth	Growth
BAILLIE GIFFORD & COMPANY	93,56%	118,04%	9,56%	81,09%	Growth	Growth
FIDELITY MANAGEMENT & RESEARCH LLC	63,09%	51,69%	15,38%	91,07%	Growth	Growth
Least 3 Performer since 2020						
BANK OF AMERICA	56,94%	31,41%	12,81%	99,29%	Blend	Growth
WELLINGTON MANAGEMENT GROUP LLP	63,78%	31,06%	12,86%	98,53%	Blend	Growth
MORGAN STANLEY SMITH BARNEY LLC	57,51%	30,85%	12,65%	99,36%	Blend	Growth
Media	**69,58%**	**70,12%**	**12,91%**	**90,02%**		

4.6 Covid Impact: RBSA three-stage results

The snapshot of the results of the analysis, considering the macro period before and after COVID, gives important observation about how, based on an RBSA, a change in investment style for major investors happened and took the majority of them to use a Growth strategy. Although the significance of the result is high, the period after covid was chartered by different stages.

In chapter three we illustrated how the after-pandemic world and financial market could be considered as a three-stage period. These stages view not only distinct macroeconomic conditions but also distinct movements in the financial market semester by semester. The first semester of 2020 was characterised by the start of the pandemic and exponential growth that took the major country to stay-at-home restrictions, we observe how during this period the soar of the stock market was caused by the soar of a growth stock. Then, we observe, how, although the vaccine news and the partially reopen of the world economy, the first semester trends continued also in the second semester. Finally, since the start of 2021, the value stock partially came back led by the positive sentiment about the economy, and inflation soared.

Nevertheless, the analysis has shown how looking at the two periods, before and after Covid, a shift in investment strategies toward growth not only happened but also continued during all periods. In addition, we observe how the different returns could be explained by both Market timing and selection skills.

Furthermore, it is essential to understand how investors move during the Covid, quarter by quarter considering the three-period identified in chapter three. To do so, we brought down the result express by the model for the three-semester considerate, capturing not only how the strategies changed but also how they moved. We would expect that investors change or partially readapt their strategies during the first period and then slowly pull back their asset allocation toward cyclical and value, trying profit from the economy reopening and the strong rebound pushed by accommodating both Fiscal and Monetary Policy

The results of the analysis are summarized in TABLE 14.

TABLE 14 THREE STAGE RBSA RESULTS

Institutional Investor	Before 2020	Q1/Q2-2020	Prevalent style	Q3/Q4-2020	Prevalent style	Q1/Q2-2021	Prevalent style
AMUNDI	Growth	Growth	S&P 500 Growth	Growth	S&P 500 Growth	Growth	S&P 500 Growth
ARK	Growth	Growth	S&P 500 Pure Growth	Growth	S&P 500 Growth	Growth	S&P SmallCap 600 Pure Growth
AXA	Growth	Growth	S&P 500 Growth	Growth	S&P 500 Growth	Growth	S&P 500 Growth
BERKSHIRE	Value	Value	S&P 500 Value	Growth	S&P 500 Growth	Growth	S&P 500 Growth
BG&C	Growth	Growth	S&P 500 Pure Growth	Growth	S&P 500 Growth	Growth	S&P 500 Pure Growth
BLACKROCK	Growth	Growth	S&P 500 Value	Growth	S&P 500 Value	Growth	S&P 500 Value
BofA	Blend	Blend	S&P 500 Value	Growth	S&P 500 Growth	Growth	S&P 500 Growth
CAPITAL	Growth	Growth	S&P 500 Growth	Growth	S&P 500 Growth	Growth	S&P 500 Growth
CREDIT SUISSE	Value	Growth	S&P 500 Value	Growth	S&P 500 Growth	Growth	S&P 500 Growth
FIDELITY	Growth	Growth	S&P 500 Growth	Growth	S&P 500 Growth	Growth	S&P 500 Growth
GOLDMAN SACHS	Blend	Growth	S&P 500 Value	Growth	S&P 500 Growth	Growth	S&P 500 Growth
JP MORGAN	Growth	Growth	S&P 500 Value	Growth	S&P 500 Growth	Growth	S&P 500 Growth
L&G	Blend	Blend	S&P 500 Value	Blend	S&P 500 Growth	Growth	S&P 500 Growth
MORGAN STANLEY	Blend	Growth	S&P 500 Growth	Growth	S&P 500 Growth	Growth	S&P 500 Growth
PICTET	Growth	Growth	S&P 500 Growth	Growth	S&P 500 Pure Growth	Growth	S&P 500 Pure Growth
SCHRODER	Blend	Blend	S&P 500 Value	Blend	S&P 500 Value	Growth	S&P 500 Growth
STATE STREET	Blend	Blend	S&P 500 Value	Blend	S&P 500 Growth	Blend	S&P 500 Growth
T ROWE	Growth	Growth	S&P 500 Pure Growth	Growth	S&P 500 Pure Growth	Growth	S&P 500 Pure Growth
VANGUARD	Blend	Growth	S&P 500 Value	Growth	S&P 500 Growth	Growth	S&P 500 Growth
WELLINGTON	Blend	Growth	S&P 500 Value	Growth	S&P 500 Value	Blend	S&P 500 Value

At a first glance, the RBSA results show how investors change their strategies as fast as the pandemic changed the world. During the first semester of 2020, when the pandemic began and hit the world, Investors, even though the world economy was projected to enter in one of the worst recessions in a decade, immediately shifted their portfolio allocation toward growth stock, reducing most value stock.

Comparing pre covid strategies to the first semester shows how only one investor, Berkshire, adopted value strategy, historically considered a more defensive strategy during a recession, as Kalensnik&Polychronopoulos (2020) stated "Value strongly outperforms in bear markets and over the full cycle of recession–recovery when preceded by the bursting of a bubble".

Starting from 2020 the growth strategy becomes the most prevalent with 75% of the member in the sample who adopt them. An interesting element looking at TABLE 14 is that even if investors, as in the case of Goldman Sachs or Vanguard, shift their portfolio toward Growth stock their major exposure remains versus Value stock. This first evidence, explain why Covid impacted drastically the financial market in a few days and volatility reach historical height. Furthermore, Kalensnik&Polychronopoulos (2020) stated how when happens events such as the Great Lockdown, which generated a shock to fundamentals sparking a bear market, historically value tends to perform poorly.

Moreover, during the second semester of 2020, which was characterized by the partial recovery of the economy, the presidential election, and the approval of the vaccine, investors instead of exposing their asset allocation toward cyclical stock, continue to expose their strategies toward Growth stocks. In fact, at the end of the semester, 85% of the investors adopted a Growth strategy, increment by the shift of both Value investors, such as Warren Buffet, and Blend investors, such as Bank of America. Since the second semester of 2020, none of the investors has adopted the Value strategy as the first strategy. Despite this, some Blend and Growth investors had a big part of the return express by Large Value stocks, such as Blackrock already.

Since the start of 2021, as explain in chapter Three, the vaccination campaign start to roll out faster, the economy bounce back, in particular in the USA and Europe, and Value stock overperformed. Nevertheless, RBSA results show that the progressive rotation of the portfolio toward growth stocks continues, and at the end of the period, 90% of the investors in the sample adopted a Growth strategy. In addition, only Two investors remain with the Blend strategy and among them, there was Wellington that in contrast to others shift their portfolio from growth to value stocks.

FIGURE 22 INVESTMENT STYLE: THREE-STAGE SUMMARY

	2016-2020	Q1/Q2-2020	Q3/Q4-2020	Q1/Q2-2021
■Value	2	1	0	0
■Blend	8	4	3	2
■Growth	10	15	17	18
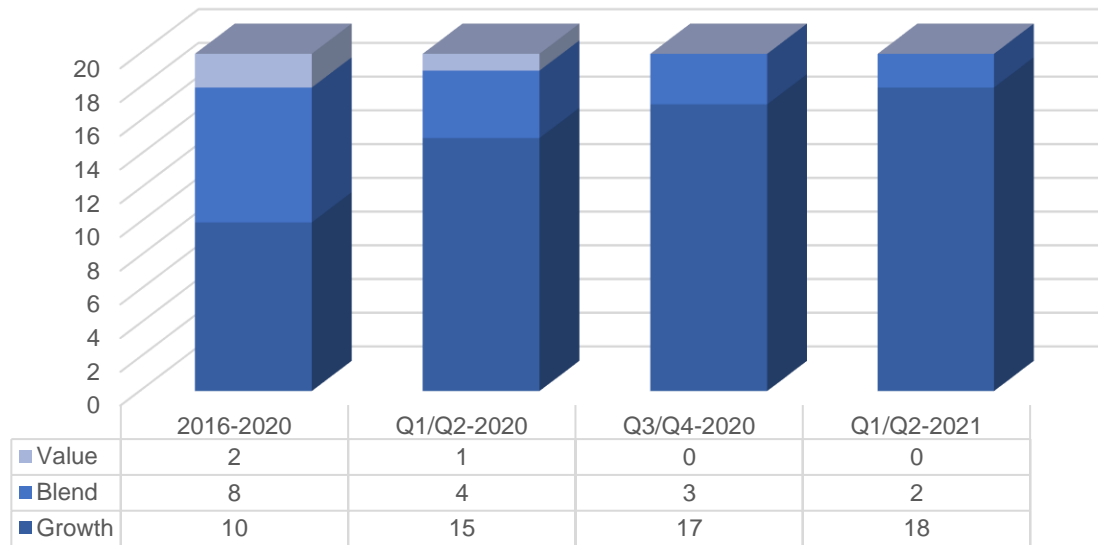
In addition, Figure 22 shows how the prevalent styles change during the whole period. The first observation is that during the all period considered the prevalent style was versus large Stocks. This observation is coherent with the fact that the member of the sample represents the largest Asset Manager in the world and they concentrate versus Large-cap, because of several factors, such as risk, liquidity, and volume.

Figure 23 shows the prevalent asset class that composes the portfolio of each investor during all periods considered. From this evidence, it is possible to observe how, before 2020 the major asset class strategy, used by more than 60% of the investors in the sample, was the Large Value index; after the start of the pandemic the asset allocation of large Value stock started to decrease in favour of large Growth stock. This result is consistent with Figure 22 that stated how 15 members of the sample adopted growth strategies at the end of the first semester. Nevertheless, until the second semester, although investors started to adopt a growth strategy, the prevalent asset class were the Large value index.

Then, since the second semester of 2020, the Large Value index was drastically reduced and the Large Cap Growth index became the driver, representing the 70% of asset class composition of an Investors portfolio. These radically shift, demonstrate how the real change of the overall strategy happened in the second semester of 2020. These explain not only why the sell-off of value stock persist during the entire year, but also why growth stock soared without stopping during the entire pulling their valuation near to historically high of Dot Com Bubble.

Moreover, the last stages of our analysis, which considers the first semester of 2021 shows interesting results. The first was that, although 2021 was characterized, as previously explained, by the reopening

of the economy and the over performance of value stock, only 10% of the investors used it as a prevalent asset class despite the overall strategy were growth strategy, such as Blackrock. Secondly, the weights of growth asset class soared but this was explained by a sored in a small-cap and pure growth company.
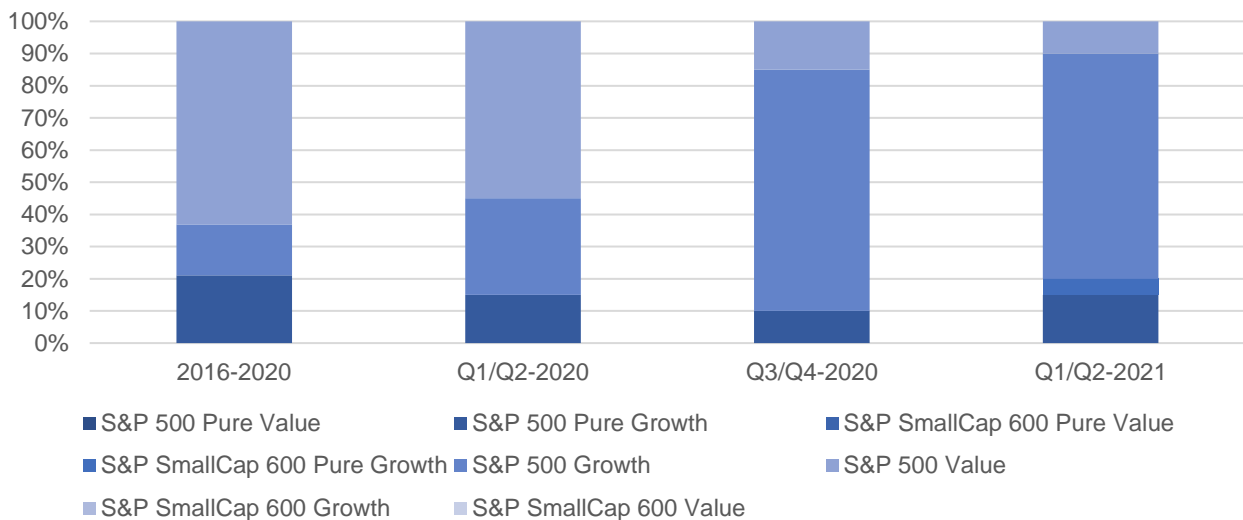
FIGURE 23 INVESTMENT STYLE BY PREVALENT ASSET CLASS USED

Finally, the last observation of the quarterly analyses is related to the two winning investors of the pandemic, Ark Investments and Baillie Gifford & Company. Looking at their style and the major asset class is possible to observe how their portfolio was the position, toward growth stock, well ahead of the start of the pandemic. In the previous paragraph, we observe how the explanation of abnormal return could be related to market timing and selection skills. Observing Table 14we could confirm it. Both Ark and Baillie, although remain in the growth style, adopted three different strategies among the three stages period. They tried to benefit from the pandemic during the overall period trying to select among growth stocks, the top performer. Nevertheless, this strategy generates enormous returns during 2020 but with high risk regarding its sustainability. After all, since the start of 2021 ARK soared only by 2%, underperforming by far other Investors, and Baillie 12%, in line with other investors. Showing how 2020 was a particular year and after covid strategies must be readapted to the new normal situation, maybe reducing the asset allocation in growth stocks.

5   Conclusions and Additional Considerations

"Wide diversification is only required when investors do not understand what they are doing."
— *Warren Buffett*

This Dissertation starts with the aim to understand how the Covid pandemic impacted the Investment management industry, trying to understand how they reacted, and if or not they changed their investment strategies to gain from both the Fiscal and Monetary stimulus.

Our analysis started considering the asset management industry, focusing first on the investment management side. Then we offered an overview of the main characterises of the investment management practice, focusing more on the stock-picking process and the investment strategies. The former could be considered as the practice that investors use to assess if a particular stock represents an investment opportunity, while the latter refers to the practice of investment that an investor uses, based on their goals, risk perception and long-term vision.

Then we focus on the distinction among the different strategies, observing that historically two main strategies were considered, based on the distinction between Value Stock and Growth Stock. As retail investors define which strategy to use based on the short- and long-term goals, institutional investors, who often have the mandate to manage client's money, must define and use investment strategies based on their clients need and their investment philosophy[71]. Nevertheless, the investment strategies used by the investor are not fully disclosed for several reasons, such as the need to reveal the source of their competitive advantage and the high level of competition in the market. While Institutional investors with more than $100 million of AUM, according to the Securities and Exchange Commission (SEC)[72] , are obliged to fill within 45 days of the end of a calendar quarter the holdings report, there is no document, besides holding report, that discloses investment style.

The attention on Investment style, as outlined in chapter two, soared exponentially in the last century, as soared the number of investors with a different style. The investment style, that should be in line with investment philosophy, represents the "strategy or theory used by an investor to set asset

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[71] "An investment philosophy is a set of beliefs and principles that guide an investor's decision-making process. It is not a narrow set of rules or laws, but more a set of guidelines and strategies that take into account one's goals, risk tolerance, time horizon, and expectations. As such, investment philosophy often goes hand-in-hand with a compatible investing style." *https://www.investopedia.com/terms/i/investment-philosophy.asp*

[72]   *https://www.investor.gov/introduction-investing/investing-basics/glossary/form-13f-reports-filed-institutional-investment*

allocation and choose individual securities for investment"[73]. Furthermore, it could define the source of either the success or the failure of an institutional investor.

Starting from this framework, we deepen in the analysis of investment strategies and how it is possible to define them based on public reports. According to Style Analysis, there are two main approaches, once based on the qualitative analysis of holding – Based, and once based on the quantitative analysis of return. While the former gave the possibility to define in a particular moment the Style used, based on the static analysis of the asset allocation, the latter allows appreciating how these strategies change over time creating a passive benchmark, based on the factor model. Given the aim of our analysis, the RBSA model was considered the fittest approach, trying to choose the right Asset class, focusing more on the distinction between Value and Growth investing.

Then, in chapter 3, we start to analyse the impact of the Covid – 19, focusing on both the macroeconomic environment and the financial market. Looking at the Macroeconomic overview we focus on the main pillars, used by investors, to evaluate the state of the economy and in consequence their asset allocation. The pandemic impacted the state of the economy changing in a few days the trend of the Global GDP.

The World GDP slashed in a matter of a month, as never before, and this was derived by the partially shut off the economy and uncertainty about short term future. Entire industry stopped to produce their products or service for a couple of weeks, but while most of the industry reopen their activity as soon the break, other never restart until a couple of months, taking the whole economy to a recession.

The soared of the unemployment rate, in the United Stated where the labour market was pretty dynamic, was a direct consequence of the shut up and bankruptcy of some businesses. What surprising analysts were that, after a partially faster recovery, the unemployment rate remain at a high level, indicating that the recession was more deepened than thought.

Then we analyse the prompt reaction of both the Government and Central Banks of the main country. Despite the response during the financial crisis was slowly and, in some cases, not adapt, Central Bank around the world reacted quickly and with an enormous resource. The Federal Reserve was the first both in the timeline and the amount, with several and new schemes. The ECB took several actions to prevent that the economic crises transformed into financial crises, also. The accommodative money policy didn't be the only money put in the economy.

Also, governments in all countries started to inject into the economy trillion of Dollars not only to stop the healthcare crises but also to give a boost to the restart of the economy and prevent social crises. Both the enormous amount of direct and indirect payment combined with more conscious restriction to slow the pandemic gave a boost to the stop of the recession period. All the action took,

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[73] https://www.investopedia.com/terms/i/investmentstyle.asp

by both Government and the Bank, to the materialization of V – shape recovery for some industries, which surpasses pre-pandemic levels, and a slow recovery for the industry most affected by the spread of the disease.

The economic data, with all each LEI (Leading Economic Indicators), became month by month, the most waiting News for investors that tried to understand the state of the economy. Surprisingly, the recovery was faster than expected, taking to a major concern about the economist, the Inflation. While under controlled inflation was a target for all Central Banks, uncontrolled inflation, if not followed by the labour market, was a serious problem for both the economists and the sustainable growth of the economy. Despite Scholars, such as Castelvecchi, and the Chairman of FED, Jerome Powell, trying to explain how the soar of inflation was related to temporary effect, investors most focused on the impact that, a faster recovery could take not only to a rise in Interest Rate but also to the start, before the estimate, of Tapering[74] program.

All these events have happened since the start of the pandemic, taking serious consequences on Financial Market in terms of both Volatility and surprising return. The distance between the state of the economy and the state of the financial market has become wider than before. While 2020 was the Covid year, investors look to 2020 as the year of Bank and Government's massive stimulus, Ramon Spano[75] stated. These stimuli have had a double effect on the financial market. The first effect was to stabilize and calm the financial market during the "earthquake" that happened in March. The second effect was to accelerate the recovery since 2021, with the major analyst that has raised their growth estimate.

The analysis continued with an overview of how the stock market behaved since the start of the pandemic. Considered that stock market movement was influenced by both the state of the economy and the sentiment about the future growth, reflected by the amount of Public Information, we divide the post-pandemic period into three stages, trying to interpret the movement in relation with the Public information available, that during pandemic increase or decrease uncertain and volatility.

While the Financial Market "play a vital role in facilitating the smooth operation of capitalist economies by allocating resources and creating liquidity for businesses and entrepreneurs"[76], market movement is the result of the interaction between buyers and sellers, that not always use an efficient

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[74] "Tapering refers to policies that modify traditional central bank activities. Tapering efforts are primarily aimed at interest rates and at controlling investor perceptions of the future direction of interest rates. Tapering efforts may include changing the discount rate or reserve requirements.

Tapering may also involve the slowing of asset purchases, which, theoretically, leads to the reversal of quantitative easing (QE) policies implemented by a central bank. Tapering is instituted after QE policies have accomplished the desired effect of stimulating and stabilizing the economy." See https://www.investopedia.com/terms/t/tapering.asp

[75] Director of Azimut Investment SA.

[76] https://www.investopedia.com/terms/f/financial-market.asp

mechanism to fair value securities. Despite different actors active in the financial market, Institutional Investors are the main market mover, with a huge amount of AUM and the most skilled people to develop and implement investment strategies. In a normal period, the interpretation of stock market movement could give an idea of how investors are setting their strategies, but during a pandemic crisis, with all the events that happened in the last year and a half, it was very complicated to give a judgment about the strategies adopted.

In our financial market analysis, we illustrated how, although there was no doubt that the NASDAQ Index was the best performing index among the overall period, the three-stage saw ambiguous movement in the market and not always correlated with the historical trend. Not only the pandemic but also all the events, such as Vaccine, Presidential Election and Geopolitical Tension, aliment a historically high degree of uncertainty among investors that have been more active than before. Nevertheless, the bull market never ends, taking to extreme high valuation and big rumour about it or not the market was in a bubble[77].

After analysing both the macroeconomic environment and then the financial market, in Chapter 4 we tried to apply the Return Based Style Analysis (RBSA) to understand how the investment style, among investors chosen in the sample, changed after the pandemic and who was the winner and losers. To do this we extrapolated data from Bloomberg and elaborate it in an Excel Spreadsheet, focusing first on pre-and post-pandemic investment style, and secondly on change during the three periods considered.

The main results of our analysis are:

- the mean R^2 result for all members of the sample during the entire period is 95%, with a high of 99,87% and a low of 70,81%, illustrating how the model can explain the style of investors.
- Before the pandemic began, 50% of the investors use a Growth strategy, 40% Blend strategies and 10% a Value Strategy (among them there is Warren Buffet)
- After the pandemic had begun, based on the result of the model, 85 % per cent of the investors used a growth strategy and the remain 15% per cent a Blend Strategy.
- The market timing skills and selection skills were particularly important during the overall Covid period; even if most of their investors have adopted a growth strategy since Covid, not all were able to outperform the market.

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[77] "The term "bubble," in an economic context, generally refers to a situation where the price for something—an individual stock, a financial asset, or even an entire sector, market, or asset class—exceeds its fundamental value by a large margin. Because speculative demand, rather than intrinsic worth, fuels the inflated prices, the bubble eventually but inevitably pops, and massive sell-offs cause prices to decline, often quite dramatically. In most cases, in fact, a speculative bubble is followed by a spectacular crash in the securities in question." See https://www.investopedia.com/articles/stocks/10/5-steps-of-a-bubble.asp

- During the first semester of 2020, when the pandemic began and hit the world, investors, even though the world economy was projected to enter in one of the worst recessions in a decade, immediately shifted their portfolio allocation toward growth stock, reducing most value stock. Comparing pre covid strategies to the first semester shows how only one investor, Berkshire, adopted a value strategy. The growth strategy becomes the most prevalent with 75% of the member in the sample who adopt them.

- During the second semester of 2020, which was characterized by the partial recovery of the economy, the presidential election, and the approval of the vaccine, investors instead of exposing their asset allocation toward cyclical stock, continue to expose their strategies toward Growth stocks. At the end of the semester, 85% of the investors adopted a Growth strategy, incremented by the shift of both Value investors, such as Warren Buffet, and Blend investors, such as Bank of America.

- Since the start of 2021, as explained in Chapter Three, the vaccination campaign starts to roll out faster, the economy bounce back, in particular in the USA and Europe, and Value stock overperformed. Nevertheless, RBSA results show that the progressive rotation of the portfolio toward growth stocks continued, and at the end of the period, 90% of the investors in the sample adopted a Growth strategy.

- Both Ark and Baillie, the top performer of the sample, although remain in the growth style, adopted three different strategies among the three stages period. They tried to benefit from the pandemic during the overall period trying to select among growth stocks, the top performer. Nevertheless, this strategy generates enormous returns during 2020 but with high risk regarding its sustainability. After all, since the start of 2021 ARK soared only by 2%, underperforming by far other Investors, and Baillie 12%, in line with other investors.

Some of the evidence summarized above, showing how the market movement could be explained as the reallocation of major institutional investors to benefit, or in some cases to not be knocked down, from the pandemic. The results confirm that Covid contributed to an overall shift of strategy from a more balanced, Blend strategy, to a more riskiest growth strategy. If we considered the amount of money injected into the company and the soar of AUM, we can explain how the performance of the stock market has been uncorrelated with the real economy.

When in September 2020 the Financial Time[78] unmasked Softbank; who, through its $100bn Vision Fund, denominating it the "Nasdaq whale", aggressively bought a large amount of deep out-of-

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[78] https://www.ft.com/content/75587aa6-1f1f-4e9d-b334-3ff866753fa2

money call options of the big-tech U.S. stocks, such as Apple and Tesla[79], the NASDAQ corrected more than 10% from its peak. Even if, according to (Tokic, Robinhoods and the Nasdaq whale: The makings of the 2020 big-tech bubble, 2020) , the NASDAQ bubble reach its peak, the bull trend continued till today, and analysis shows how investor continues to augment their exposure on growth stocks.

The Author suggest how the cause of this trend could be explained by the positive feedback trading model as the framework. Long, Shleifer, Summers, and Waldmann (1990) develop the positive feedback model "to explain how bubbles develop in a lab setting based on the interaction of market players with different trading strategies. These are the key market participants: (a) positive feedback traders,(b) rational speculators, (c) rational arbitrageurs, and(d) passive investors. Positive feedback traders trade solely based on technical analysis and buy as prices rise expecting the trend continuation. Rational speculators understand and exploit the trading strategy of the positive feedback traders by creating artificial price patterns and uptrends, which attracts the positive feedback traders. Rational arbitrageurs in theory restore the market efficiency (Fama, 1965) by selling overvalued assets and buying undervalued assets—essentially trading against the noise traders or the positive feedback traders.

However, beyond the short-term traders (speculators), the markets are also populated by long-term passive investors who remain relatively passive during the bubbles, understanding that is impossible to time the bubble. Fundamental investors hold the key to the bubble development, since they, theoretically, could join the rational arbitrageurs, and thus make it more difficult for the positive feedback traders to overpower the rational arbitrageurs and inflate the bubble. Whether the passive investors act or not depends on the broad environment surrounding the bubble, especially the monetary and fiscal policy support. Specifically, rational speculation can trigger a positive-feedback trading bubble only in a setting with supportive monetary and fiscal policy, which keeps passive investors "passive" and thus, markets inefficient." (Tokic, 2020)

According to (Tokic, 2020), the primary step in explaining the big-tech bubble of 2020 is to know the action (or the inaction) of the passive long-term investors. These investors, in theory, would sell before the recession starts to avoid the large drawdowns, and buy because the recession easiest into the new growth cycle. However, the covid-19 recession was highly unexpected concerning timing. Yes, the yield curve was inverted in 2019, which normally results in a recession, but most investors expected the recession to start after the presidential elections, or in early 2021, which didn't include

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[79] "the large volume in call options in bigtech stocks send a strong signal to the market that potentially there is a "good news" pending and somebody with the privileged information had been acting on it, which triggered a buying wave in the underlying stocks and created an uptrend that attracted the trend-followers." Ibi

the covid-19 projections. Thus, the passive investor likely did not anticipate the sharp stock exchange correction in March of 2020. Subsequently, after the good lockdown, an unprecedented monetary and monetary stimulus created the environment supportive of a bubble to develop which kept the passive investors passive because the bubble inflated. The overall environment because of an unprecedented monetary and monetary policy supported the bubble and kept the long-term passive investors passive. As a result, the rational speculation (the Fed, the Nasdaq whale, and other institutions) successfully attracted the regeneration traders (Robinhood retail army and others) who overpowered the rational arbitrageurs (fundamentally driven hedge funds and market makers) and inflated the broad stock exchange bubble led by the big-tech.

All this observation was taken into further consideration; comparing also the 2020 "Nasdaq Bubble" topmost severe "Dot Com Bubble". Consistent with Siegel (2014) since 1982, when the Fed's financial condition policy quashed inflation, interest rates fell sharply, and the stock exchange entered its greatest market ever. By 1996, price/earnings ratios on the S&P 500 Index reached 20, considerably above its average post-war level. "Robert Shiller of Yale University and John Campbell of Harvard wrote a scholarly paper showing that the market was significantly overvalued. The market became an ever-increasing preoccupation of middle and upper-income Americans" (Siegel, 2014). Business books and magazines proliferated, and therefore the all-business cable news stations, particularly CNBC, drew huge audiences. Adding impetus to the already surging market was the explosion of technology. the web allowed investors to remain in-tuned with markets and with their portfolios from anywhere within the world. Despite the upward march of the Dow Industrials, the important activities within the market were within the technology stocks that were listed on the Nasdaq, including such shares as Cisco, Sun Microsystems, Oracle, JDS Uniphase, and other companies also because the rising group of Internet stocks. From November 1997 to March 2000, the Dow Industrials rose 40 per cent, but the NASDAQ index rose 185 per cent, and therefore the dot-com index of 24 online firms soared nearly tenfold from 142 to 1,350. When technology spending unexpectedly slowed, the bubble burst and a severe market began. Stock values plunged by a record $9 trillion, and therefore the S&P 500 Index declined by 49.15 per cent, eclipsing the 48.2 per cent decline within the 1972 to 1974 market and therefore the worst since the good Depression. The NASDAQ fell 78 per cent and therefore the dot-com index by quite 95 per cent

According to (Griffin John M., 2011), From January 1997 to March 2000, both institutions and individuals actively purchase technology shares with institutional buying exceeding the sum of direct and indirect (through mutual funds) individual purchases. During March 2000, institutional investors quickly pulled capital out of the market, while individual investors continued to purchase. The run-up of individual technology stocks, particularly in large stocks was by Institutional. Individuals, in

contrast, purchase large amounts following individual stock peaks and through the year following the market peak in March 2000. Cross-sectional patterns for individual stock peaks are generally according to institutions moving with and following returns altogether but the littlest stocks. In contrast to the reason that institutions drove prices higher with a rational but mistaken belief in future growth opportunities, they discover that institutions trade the direction of clear mispricing during a small sample of equity carve-outs. "Results directly challenge the view that sophisticated investors consistently move against mispricing, a central building block of market efficiency" (Griffin, JEFFREY, TAO, & SELIM, 2011). Nor does the evidence support bubble models during which individuals move prices while smart money (institutions) passively stand aside. They also find evidence inconsistent with share supply restrictions and lockups being the only explanation for the bubble. According to Abreu and Brunnermeier (2003), evidence suggests that the collapse of the market was driven by foremost sophisticated market participants that actively purchased technology stocks during the run-up and quickly reversed course in March 2000, while Individual investors actively bought during both the run-up and particularly the collapse, highlighting their relatively unsophisticated behaviour within the stock exchange. According to Author the stabilizing and destabilizing roles that sophisticated investors play in capital markets should be the object of Future research

Since 2001, one of the most used metrics to state if the market was overvalued is the Buffet indicator[80]. When in August, the Market Insider Article state as "Warren Buffett's favourite market indicator hits 205%, signalling stocks are way too expensive and a crash may be coming"[81], investors didn't care about, continuing their Bull Run. According to Current Market Valuation SIte[82], as of September 16(2021), the Buffet Indicator is equal to 239%[83]. According to the site, this indicator is "91% (or about 3.0 standard deviations) above the historical average, suggesting that the market is Strongly Overvalued" and at all-time highs. However, with interest rates at historic lows, there's reason to suspect that "this time is different" may hold. The historical chart of the Buffett Indicator is shown in Figure 24 :

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[80] The "Buffett indicator" compares the stock market's valuation to the size of the economy.

[81] "The Wilshire 5000 Total Market Index closed just shy of $46.69 trillion on Wednesday, as the S&P 500 g to bland Nasdaq indexes ended the day at record highs. Meanwhile, the latest estimate for second-quarter GDP is $22.72 trillion, putting the Buffett indicator at 205%. That reading is well above the 187% it reached in the second quarter of 2020, when the pandemic was in full swing and GDP was about 15% lower."
https://markets.businessinsider.com/news/stocks/warren-buffett-indicator-gauge-stocks-gdp-market-crash-expensive-valuation-2021-8

[82] https://www.currentmarketvaluation.com/models/buffett-indicator.php

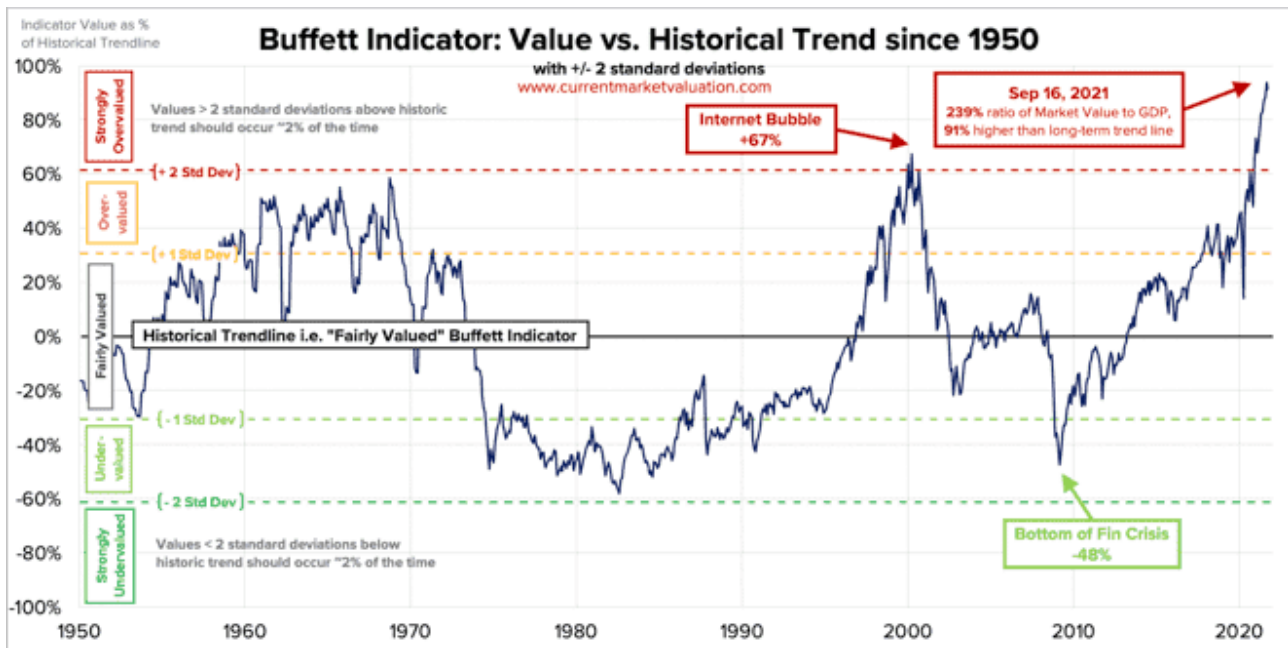[83] Aggregate US Market Value: $54.9T
Annualized GDP: $22.9T

FIGURE 24 BUFFET INDICATOR (SOURCE: CURRENTLY MARKET VALUATION)

As we can observe there are several similitudes between the last 2 years and the dot com Bubble, such as the hype in the growth of disruptive technologies companies, the spike in IPO (in particularly with SPAC[84]) that reached the level since 2000 even most of the new companies are unprofitable[85], or the soared in the attention in the financial market, thank to open access to retail traders(renominated "Robinhood traders" (Tokic, Robinhoods and the Nasdaq whale: The makings of the 2020 big-tech bubble, 2020)).

Also, the Buffet indicator shows that the marker surpasses the Dot Com level, in terms of overvaluation. But, while the overall market doesn't scare as much as did in 2000, some industries were classified as a bubble that could melt up. Nasdaq article[86], published in February 2021, alerted about how the ESG outperformance (outlined in chapter 3) evokes dot com Bubble, arguing that "the stock market was right that technology companies were going to do well in the future, but the valuation went a little high". From then, the main ETF fund, the ISHARES Global Clean Energy ETF lose more than 35% in a few months, after gaining more than 300% since 23/03/2020.

In our analysis we show how despite value outperform Growth stock since the start of 2021, this could not be fully explained by the rotation of institutional investors, that do not sell Growth stock as

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[84] "A special purpose acquisition company (SPAC) is a company with no commercial operations that is formed strictly to raise capital through an initial public offering (IPO) for the purpose of acquiring an existing company". See https://www.investopedia.com/terms/s/spac.asp

[85] For example Airbnb, Palantir, Snowflake or Robinhood.

[86] https://www.nasdaq.com/articles/esg-outperformance-evokes-memories-of-the-dot-com-bubble-2021-02-25

fast they buy during a pandemic. In our analysis the asset allocation dedicated to large growth stocks soared constantly overall period, classifying it as a trend.

The positive sentiment about growth stock soared constantly since the start of the pandemic, and neither the vaccine news nor the positive data about the real economy taken investors to readapt again their asset allocation, and balance it as it was before the pandemic; investors seem more concerning about invest in a large profitable growth company, that in stock that could benefit from the sector rotation, during the change in the economic cycle and the rise of interest rate, but with low growth rate and uncertain about their competitive advantage. This statement supports the hypothesis that this period was different compared to Dot Com Bubble, where Institutional investors drastically first Buy and then Sell massively Growth stocks (Griffin, JEFFREY, TAO, & SELIM, 2011) without strong fundamental growth.

Looking at the line chart, the S&P 500 Growth index skyrocket since the end of March, when the day White House passes the $2 Trillion stimuli, with a movement similar to that of 1998, when the Fed announced a future cut on the interest rate. But on that occasion were the two relative indexes (P/E and P/B) to soar. This was not a good signal for stocks; despite the price continue to soar until the melt-up of the Bubble, the fundamental of the stocks (Earnings and Book Value) didn't grow at the same level. Even if the Bubble melt-up in 2000, this strange phenomena of high valuation with poor fundamentals persist until 2005, although only a few growth companies survived, such as Amazon and Apple. Since then, the index needed more than 10 years to surpass the Dot Com valuation, but maintaining fair valuation, with P/E and P/B in the historical band. This sustainable growth trend persists until the start of the pandemic. Since the minimum touched on February 23(2020), Large growth stock soared 80%, but this time also the fundamental sored, despite not at the same level. P/B soared reaching a historical high, but P/E did not. This singling that, since the pandemic started, growth stock effectively saw an exponential growth of earning that justify a soar in valuation, considering the estimated growth rate, but this growth didn't rise the Book of these companies, probably because of the loss of the previous year.

FIGURE 25 SGX LINE CHART AND RELATIVE VALUATION AS OF 01/01/1995 (SOURCE: BLOOMBERG)

The graph showed, that although between the two periods there were a lot of similarities, the fundamental context and the economic context was very different. This observation supports the observation that the wide overperformance of Growth Vs Value was indeed caused by the opportunistic reallocation of Institutional investors, but in contrast to Dot Com Bubble didn't transform in speculation, and there is no signal, either in the market and in the analysis that investor wants to exit by their investment in Growth stocks.

In more detail, according to Bloomberg Estimates, Figure 26 shows how, while the profitability of value stocks in the next two years is set to return to pre-pandemic level, the profitability of Growth, in terms of ROA and ROE, is set to double the pre-pandemic level, continuing the positive trend started in 2017.

FIGURE 26 SGX VS SVX PROFITABILITY ANALYSIS (SOURCE: BLOOMBERG)

The sustainable soared in profitability will be reflected in terms of relative valuation. Observing Figure 27, according to Bloomberg estimates, the relative valuation of both Value and Growth stock that spiked during the pandemic, due to reduction of the denominators, is set to return to stable and sustainable valuation. While Values valuation is set not only to decrease, give the soar in Earning and Book due to reopening of the economy, but also to reach valuation discounted comparing with pre-pandemic valuation, indicating the low level of confidence of investor on the future growth of value stock.

On the other hand, Growth relative valuation is set to decrease, reaching a sustainable level, but with a premium in comparison to pre-pandemic valuation. This shows how investors not only make a huge bet during the pandemic but also expect that the growth rate will be greater than the historical value.

Applying Sustainable Growth Rate (SGR)[87] formula to calculate expected Growth rate[88] , considering in 2022 a growth rate of 30% [89] for a Growth stock, while 8%[90] for Value. Considering the positive trend of ROE, the wide difference of profitability by two categories is expected to grow.

FIGURE 27 SGX VS SVX RELATIVE VALUATION ANALYSIS (SOURCE: BLOOMBERG)

The last observation is about the soar not only in terms of valuation but also in terms of influence on the financial market; observing Figure 28 the bull trend started from the end of financial crises coincide with the constant growth of incidence of SGX on SPX, that since the start of the pandemic surpass historical high reached during Dot Com Bubble; but while in 2000 the soared was

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[87] "The sustainable growth rate (SGR) is the maximum rate of growth that a company or social enterprise can sustain without having to finance growth with additional equity or debt. The SGR involves maximizing sales and revenue growth without increasing financial leverage. Achieving the SGR can help a company prevent being over-leveraged and avoid financial distress." See https://www.investopedia.com/terms/s/sustainablegrowthrate.asp

[88] G = ROE x (1- Div.Payout)

[89] 44,5% x (1 – 0,33%) =29,68%

[90] 15,75% x (1-0,50 %) = 7,88%

uncorrelated with the soar in fundamental, this time fundamental of growth company are never been so strong.
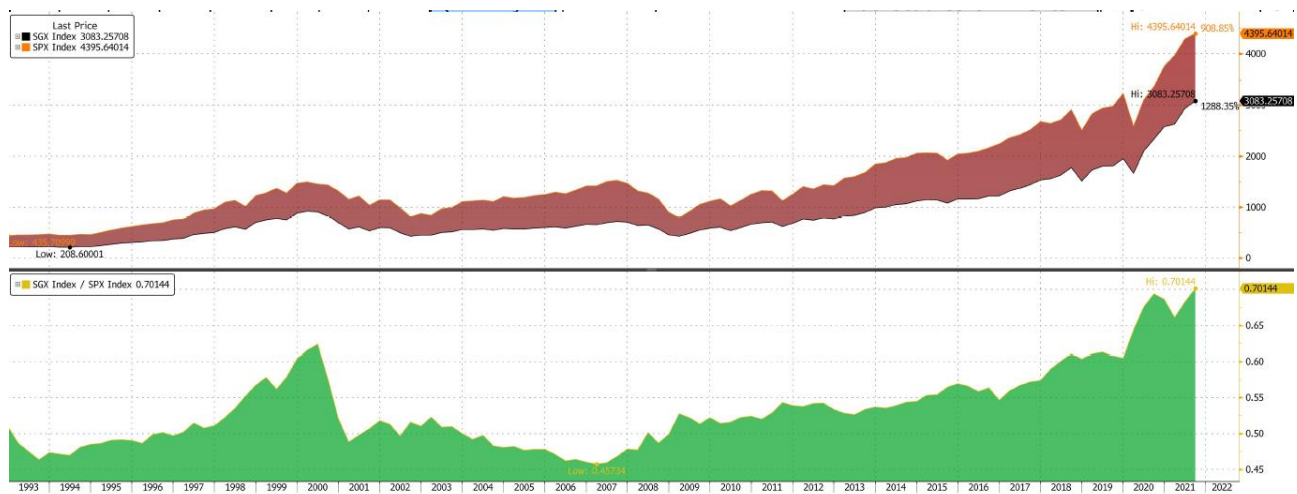
FIGURE 28 SGX / SPX (SOURCE: BLOOMBERG)

To sum up, our analysis shows how since the start of the pandemic the overperformance of growth investing could be justified by the shift in style investing and asset allocation strategy of major Institutional investors. Even if this phenomenon has several similitudes with the period that took to the melt-up of the "Dot Com Bubble", this time the underlying Growth companies are different. Further observations show how this time the shift in investment style, from Value/Blend toward Growth Investing, was followed by real growth of fundamental of those companies, and this trend is expected to move forward.

Despite the importance of Value Company, which will represent an important slice in equity asset allocation, our analysis shows how pandemic smashed Value investing, taking the Growth company to become the driver of the sored in the economy, both in the short and long term. But before asses of Growth strategy will outperform Value stock at this rate without generating a bubble, further researches are needed, always taking in mind Sir John Templeton words, "The four most dangerous words in investing are: 'this time it's different' ".

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ABSTRACT

"When the facts change, I change my mind. What do you do, sir?"

John Maynard Keynes

Since the birth of the Stock exchange, Investors apply different techniques to analyze and construct portfolios off security. Different types of investors and asset managers created various strategies overtime having as their main objective to try to beat the market and competitors developing stable returns. Long-only equity investors could be differentiated among them taking into consideration several characteristics, such as the nature of the investors or the strategy applied; however, all of them aim to create stable returns and exploit market inefficiency. The continuous growth of the Assets Under Management and the attention on the equity market brought to an expansion of the different types of Mutual funds and investment advisory based on different styles; nevertheless, the different study demonstrates that in the viewpoint of market efficiency, obtaining superior gains would not be feasible systematically since information is reflected into share prices immediately (Fama, 1970).

Since the beginning of 1900, the investments and asset management industry transform, from the nature of preserve capital to speculative short time-oriented, investors were already characterized as value-driven in which risk and rewards were calculated unconsciously and implicitly (Sarna & Malik, 2010). Even if, during the 20th-century investment technic growths, historically all strategies could be reconducted to two main pillars: the Value and Growth Investing.

Graham & Dodd (1934) were one of the first scholars to make a distinction between value and growth stocks (glamour stocks), while the actual recognition of 'growth' stocks can be assigned to T Rowe Price Jr. (Babson, 1951). While value and growth stocks can be defined in many ways, which will be discussed later, the simplest definition of value and growth stocks is defined.

Value stocks are those stocks that trade at low prices compared to the fundamentals of the listed company (e.g., earnings, book value, cash flow, dividends), whereby Growth stocks are those stocks that trade at high prices compared to the fundamentals of the listed company (see e.g., Fama & French, 1993, 1998; Lakonishok et al, 1994; Pinto et al, 2010). Despite the empirical evidence of Fama and French (2004) demonstrate the presence of a value premium that cannot be explained by the CAPM, in particular from 1963, the asset management industry continues to expand its attention to growth strategies hoping to outperform the market in a short time. As we will see later, often the concept of a Growth company and Growth stocks does not always match and transform the security analysis process to a merely bottom-up approach, led by speculation and wrong indicators, this could bring to a financial bubble. In the late '90s, growth stocks skyrocketed in value outperforming value stock but

were not grounded in fundamental patterns of profitability growth. Investors, motivated by the extreme optimism surrounding the prospectus for technology, media, and telecommunications stocks that did not reconcile with economic logic (Chan & Lakonishok 2004) and shifted their strategy to this classes of equity taken to the largest bubble in the modern financial history as shown in Figure 1. The Covid-19 economic crisis had a very strong impact on the financial market in March 2020, however, this was different from the crisis that occurred in the past; this was due to the immediate response of the Central Bank and its monetary policy which reduced the economic and social impact. Observing the financial market during 2020 and consequently also understanding and observing the investment strategy of the main institutional investors, there are difficulties to understand the pattern observing the prior crises. The immediate reaction that takes to the historical peak of the VIX index was the behaviour of investors that shifted their strategies towards high tech growth companies, which were the main beneficiary of the lockdown and became known as "stay at home" companies.

The rebalancing of portfolio allocation generates a positive sentiment about the financial market that could be led by the tech sector although many economists said it would be the worst economic crisis since the 29'. The response of the Institutional investor was primarily considered a defensive strategy versus the course of the business cycle, however, the end of the restrictions in the main part of the world did not bring to the rebalance of the portfolio in favour of value stock.

The positive sentiment on the growth stock started in 2016 and after a partial break during 2020 of exponential growth, the movement was similar to that of the dot com bubble; nevertheless, not all the tech stock had a real benefit from the Covid situation. Looking at major Growth indexes, such as SGX and the difference between the SVX, it's possible to confirm this phenomenon, which could only be partially explained by the real economic situation. The S&P P/E reached the highest level in the last decade; however, asset managers didn't worry about that and continue to buy overvalued stock, creating a vicious cycle among institutional and retail investors. Looking at the theory of growth investing is difficult to explain how asset managers are valuing risk and growth forecast, in particular for small-cap, and several other indicators, such as P/E of Russel 2000 Growth index, confirm this thought. Looking at the fundamental of the tech sector obviously, we cannot compare this period with the dot com bubble, where even in the best-case scenario all the companies were extremely overvalued, but the sentiment and behaviour of asset managers are not far away as analysts argue.

Why investors, despite the previous experience, are exposing their portfolio to this type of asset? Is there a change in strategies from value to growth in the long run or a short-time speculation process?
Different from other crises, where recession period affects asset manager return, the strong performance of financial markets permits to generate a large return, but not all the asset manager

generates positive alpha. One of the best performing, if not the best, was the Asset manager Cathie Wood, that with their Ark investment firms only concern about high-growth companies that will lead the innovation process, generates three-digit returns during 2020, and exponential growth of their AUM. Value investors, on the other hand, have had high difficulty generating excess return without investing in top performer stock and pushing their allocation to overvalued stocks. This and other factors amplify the overperformance of a growth stock.

Is there a shift of style, from value to growth, among Institutional Investors that exploits with covid-19 based on fundamental change?

My research question has the purpose of analyzing the value and growth investing strategies, looking to performance and style analysis among the main investors since the pandemic start, and try to understand if the Covid-19 crisis influence the strategies among them and how. This Dissertation starts with the aim to understand how the Covid pandemic impacted the Investment management industry. Looking at performance as of December 2020, it could be arguable that 2020 was characterized by growth, of economy and GDP, that has been reflected in the capital markets Growths, but this had not happened. 2020 was the year where the necessity to shut up the economy to prevent the spread of the virus takes to an average 3,5% decrease in the World GDP (IMF Report 23/03/2021)[91]. Despite this, not only the global stock market increase by 13% [92] but also the performance of major Mutual funds growths.

Moreover, Sagal (2021) outlined how, according to an analysis from strategy consultant Casey Quirk, Publicly traded asset managers' revenues and profit margins were up in 2020, but most gains are going to a small group of firms that have been able to capitalize on trends like investors' appetite for alternatives, In the report was explained how, although "The dispersion of winners and losers among investors is more pronounced and accelerating", it's been a positive year for the industry, despite at the beginning of 2020, they would have expected to see more margin and revenue pressure

Asset managers all around benefitted from markets hitting highs after an initial downturn due to the pandemic in March and April, as stated by Cassey Quirk. For asset managers in the top quartile, revenue increased by 9% last year hitting the highest level; on the other side managers that were at the bottom saw a decrease in revenue. According to the BCG report[93], Asset Management Industry has surfaced from the global pandemic with assets growing by 11% in 2020 to end the year at $103 trillion, where North America, the world's largest asset management region, represents $49 Trillion. Asset Management is a really fragmented industry and investments are divided by asset class.

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[91] See https://www.imf.org/en/Publications/WEO/Issues/2021/01/26/2021-world-economic-outlook-update
[92] See https://www.theguardian.com/business/2020/dec/30/ive-never-seen-anything-like-it-2020-smashes-records-in-global-markets
[93] Global Asset Management 2021 (bcg.com)

In our analysis, we will focus on Long Only investor that represents the big players in the equity market, as shown in Fig.3. Investment Advisors, such as Blackrock and Vanguard, and Investment Banks, such as JP Morgan and Goldman Sachs, have not only the capacity to buy and manage any company but also to influence the financial market with their buying power and historical track record. Critics of the increasing concentration of the asset management industry say investors will face a declining number of investment options over time and pressures will mount on small firms — a unique source of top returns. They also fear that a few firms could pose a systemic risk to the industry if investors pull their money en masse during a crisis. Furthermore, it is possible to affirm that operations made by Institutional investors, such as a change in asset allocation or reposition of their strategies, are the main source of movement in the financial market, given the huge amount of AUM. Then we offered an overview of the main characterises of the investment management practice, focusing more on the stock-picking process and the investment strategies. The former could be considered as the practice that investors use to assess if a particular stock represents an investment opportunity, while the latter refers to the practice of investment that an investor uses, based on their goals, risk perception and long-term vision. Selecting an investment style is a preliminary necessity in the decision-making practices of investment (Bauman & Miller,1997). The portfolio Manager could use various techniques to decide on what to invest using different methods that are based on the strategy and the purpose of the asset manager. Investors try to create increasable and sustainable returns (Graham & Dodd, 1934) using different strategies that could have common features. The principle of classification also exists in the world of investing and the categorization of securities that have similarities regarding characteristics and performances is called Style investing" Barberis & Shleifer (2003). Several factors could determine the style of investment and the preference of investors; Bourguignon & De Jong (2003) argue as the selection of the investment style depends not only on the macroeconomic and analytical factor but also, upon personal- or organizational characteristics as well as the economic behaviour. Bourguignon & De Jong (2003) and Bird & Casavvechia (2007), although there are, within the financial market, various investment styles, hardly believe that the most publicized investing philosophy is the Growth and Value schools in the stock market. Among these schools a classification becomes apparent; the stocks in these schools are either value or growth stock, the importance of these two can be seen from the influence they have on investors. It is often argued that investment managers always prefer one of these two stocks; due to this evident extreme preference, indexes were changed to satisfy investors. Nevertheless, these two stocks are each other's antagonists, as acknowledged by the two scholars Graham & Dodd (1934). Value stocks are stocks whose price-to-earnings, price-to-book, and/or price-to-cash flow is/are low relative to the market average as defined by Graham & Dodd (1934) for the first time. Growth stocks

are usually the ones that are trading at high prices concerning stock fundaments (i.e., cash flows, dividends, book value, and earnings). While various scholars define value (growth) stocks as stocks that contain low (high) price-multiples, scholars as Bourguignon & De Jong (2003) and famous Investors as Fisher view these stocks as a solid investing not looking and not merely connect to short time profit; Is essential to understand the difference between a Growth company, defined by Salomon (1963) and Miller and Modigliani (1961) as a firm with the management ability and the opportunities to consistently make investments that yield rates of return greater than the firm's required rate of return and Growth stocks which is a stock with a higher expected rate of return than other stocks in the market with similar risk characteristics.

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The starting point for any successful investment process is a coherent and sound, tested, investment philosophy that is held as an article of faith by the team of professionals implementing it (David Ben-Ur and Chris Vella); The common view on equity investment is to 'pick a winner' – investing in the shares of a company in the expectation that they will increase in value over time. This is a simplistic approach to investing and inevitably leads to as much success as a failure as share prices rise and dip due to a myriad of economic factors (many of which do not concern the direct performance of the portfolio shares) (Hudson, 2019).

Since Benjamin Graham and David Dodd published their book on security analysis in 1934, equity portfolio management has evolved dramatically. Furthermore, Modern Portfolio Theory and CAPM, in conjunction with new data sources and powerful computers, have transformed the way investors select stocks and build portfolios. Consequently, what was once mostly considered "the art of investing" is increasingly becoming a science (Alford, Jones, Lim). An important development in active equity management during the last several years has been the creation of portfolio strategies based on value- and growth-oriented investment styles.

Value investing is based on the simple assumption that certain stocks are undervalued by the market and that the efficient market hypothesis is not realized. The investor reaction to good or bad news is not equal weight with the impact on the underlying company and this creates an over or under miss priced in the market. Value investors see this error in the market as an opportunity to buy a security at a discount rate that will generate a profit when the market will price properly the news (Hudson, 2019). In other words, they seek to buy companies that are trading at bargain prices and wait

potentially for the market to realize the value of a company over time and sell only when the market price of the stock is close to or above its intrinsic value. To do so the value-oriented investor will focus on the price component of the P/E and P/B ratio and look for "cheap" stock comparing to market peers.

Growth Investing aims to invest in equities whose value will grow faster than the average rate found in its industry or market and generate a huge capital gain in the long period. This means that, unlike value investing, growth investing permits buying equities that are overvalued compare to market or industry peers. We will define growth investors as those who invest in companies based on how the market values their potential for growth rather than existing investments (Damodaran, 2012). Pure Growth investors, unlike Value, will be bullish about company or industry, either the price of the stock reflects this sentiment, based on future prospective since the product or service could lead to strong performance and indeed the price of the stock, as well as the EPS, will increase too. For that reason, growth investors are willing to pay a premium price (e.g., higher price-to-earnings ratio) in anticipation that a company will deliver higher earnings growth moving forward. "A growth investor focuses on the current and future economic "story" of a company, with less regard to share valuation, he or she will analyze the determinants of the EPS" that will exploit their growths in the future and often assume that the P/E will remain constant over the near term, meaning the stock price will rise as forecasted earnings growth is realized. "The growth investing approach is also known as a qualitative approach" (Ang&Ching, 2013). It means looking at a business and its management alone, without much consideration for quantitative factors like a valuation. Since prospects are not reflected in financial statements, paying a premium price is still considered rational.

Growth at a reasonable price, or 'GARP', is a hybrid model between value and growth investing. The aim is to find equities that have a combination of both the qualities value and growth investors look for; the aim is not to split a fund evenly between value and growth stocks, but to select high-growth stocks whose growth is undervalued, the most basic growth at a reasonable price (GARP) strategy is to buy stocks with a P/E ratio less than the expected growth rate (Damodaran, 2012).

During the last century, several scholars analyze the performance of Value and Growth stocks in different scenarios and contexts. The spread between the performances of those stocks signals the presence of either a Value premium or a Growth premium. In the last decade although investors tend to give more attention to growth-oriented strategies since 2016 when the Russell 1000 Growth index outperformed the Russell 1000 Value index for the first time since the Dot Com period, despite study and research has shown that a value approach tends to generate superior returns in the long period signalling the presence of a Value premium.

The growing emphasis on investment style necessitated the development of style analysis tools. On the one hand, because portfolio managers do not always adhere to their stated style mandates (or even have stated style mandates), investors and their advisors must be able to determine the style of a portfolio independently. While Institutional investors with more than $100 million of AUM, according to the Securities and Exchange Commission (SEC)[94] , are obliged to fill within 45 days of the end of a calendar quarter the holdings report, there is no document, besides holding report, that discloses investment style. The attention on Investment style, as outlined in chapter two, soared exponentially in the last century, as soared the number of investors with a different style. The investment style, which should be in line with investment philosophy, represents the "strategy or theory used by an investor to set asset allocation and choose individual securities for investment"[95]. Furthermore, it could define the source of either the success or the failure of an institutional investor. Starting from this framework, we deepen in the analysis of investment strategies and how it is possible to define them based on public reports. According to Style Analysis, there are two main approaches, once based on the qualitative analysis of holding – Based, and once based on the quantitative analysis of return. While the former gave the possibility to define in a particular moment the Style used, based on the static analysis of the asset allocation, the latter allows appreciating how these strategies change over time creating a passive benchmark, based on the factor model. Given the aim of our analysis, the RBSA model was considered the fittest approach, trying to choose the right Asset class, focusing more on the distinction between Value and Growth investing.

Then, in chapter 3, we start to analyse the impact of the Covid – 19, focusing on both the macroeconomic environment and the financial market. Looking at the Macroeconomic overview we focus on the main pillars, used by investors, to evaluate the state of the economy and in consequence their asset allocation. The pandemic impacted the state of the economy changing in a few days the trend of the Global GDP.

The World GDP slashed in a matter of a month, as never before, and this was derived by the partially shut off the economy and uncertainty about short term future. Entire industry stopped to produce their products or service for a couple of weeks, but while most of the industry reopen their activity as soon the break, other never restart until a couple of months, taking the whole economy to a recession.

The soared of the unemployment rate, in the United States where the labour market was pretty dynamic, was a direct consequence of the shut up and bankruptcy of some businesses. What surprising

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[94]   *https://www.investor.gov/introduction-investing/investing-basics/glossary/form-13f-reports-filed-institutional-investment*

[95] *https://www.investopedia.com/terms/i/investmentstyle.asp*

analysts were that, after a partially faster recovery, the unemployment rate remain at a high level, indicating that the recession was more deepened than thought.

Then we analyse the prompt reaction of both the Government and Central Banks of the main country. Despite the response during the financial crisis was slowly and, in some cases, not adapt, Central Bank around the world reacted quickly and with an enormous resource. The Federal Reserve was the first both in the timeline and the amount, with several and new schemes. The ECB took several actions to prevent that the economic crises transformed into financial crises, also. The accommodative money policy didn't be the only money put in the economy.

Also, governments in all countries started to inject into the economy trillion of Dollars not only to stop the healthcare crises but also to give a boost to the restart of the economy and prevent social crises. Both the enormous amount of direct and indirect payment combined with more conscious restriction to slow the pandemic gave a boost to the stop of the recession period. All the action took, by both Government and the Bank, to the materialization of V – shape recovery for some industries, which surpasses pre-pandemic levels, and a slow recovery for the industry most affected by the spread of the disease. The economic data, with all each LEI (Leading Economic Indicators), became month by month, the most waiting News for investors that tried to understand the state of the economy. Surprisingly, the recovery was faster than expected, taking to a major concern about the economist, the Inflation. While under controlled inflation was a target for all Central Banks, uncontrolled inflation, if not followed by the labour market, was a serious problem for both the economists and the sustainable growth of the economy. Despite Scholars, such as Castelvecchi, and the Chairman of FED, Jerome Powell, trying to explain how the soar of inflation was related to temporary effect, investors most focused on the impact that, a faster recovery could take not only to a rise in Interest Rate but also to the start, before the estimate, of Tapering[96] program. All these events have happened since the start of the pandemic, taking serious consequences on Financial Market in terms of both Volatility and surprising return. The distance between the state of the economy and the state of the financial market has become wider than before. While 2020 was the Covid year, investors look to 2020 as the year of Bank and Government's massive stimulus, Ramon Spano[97] stated. These stimuli have had a double effect on the financial market. The first effect was to stabilize and calm the financial

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[96] "Tapering refers to policies that modify traditional central bank activities. Tapering efforts are primarily aimed at interest rates and at controlling investor perceptions of the future direction of interest rates. Tapering efforts may include changing the discount rate or reserve requirements.

Tapering may also involve the slowing of asset purchases, which, theoretically, leads to the reversal of quantitative easing (QE) policies implemented by a central bank. Tapering is instituted after QE policies have accomplished the desired effect of stimulating and stabilizing the economy." See https://www.investopedia.com/terms/t/tapering.asp

[97] Director of Azimut Investment SA.

market during the "earthquake" that happened in March. The second effect was to accelerate the recovery since 2021, with the major analyst that has raised their growth estimate.

The analysis continued with an overview of how the stock market behaved since the start of the pandemic. Considered that stock market movement was influenced by both the state of the economy and the sentiment about the future growth, reflected by the amount of Public Information, we divide the post-pandemic period into three stages, trying to interpret the movement in relation with the Public information available, that during pandemic increase or decrease uncertain and volatility.

While the Financial Market "play a vital role in facilitating the smooth operation of capitalist economies by allocating resources and creating liquidity for businesses and entrepreneurs"[98], market movement is the result of the interaction between buyers and sellers, that not always use an efficient mechanism to fair value securities. Despite different actors active in the financial market, Institutional Investors are the main market mover, with a huge amount of AUM and the most skilled people to develop and implement investment strategies. In a normal period, the interpretation of stock market movement could give an idea of how investors are setting their strategies, but during a pandemic crisis, with all the events that happened in the last year and a half, it was very complicated to give a judgment about the strategies adopted. In our financial market analysis, we illustrated how, although there was no doubt that the NASDAQ Index was the best performing index among the overall period, the three-stage saw ambiguous movement in the market and not always correlated with the historical trend. Not only the pandemic but also all the events, such as Vaccine, Presidential Election and Geopolitical Tension, aliment a historically high degree of uncertainty among investors that have been more active than before. Nevertheless, the bull market never ends, taking to extreme high valuation and big rumour about it or not the market was in a bubble[99]. Pandemic seriously impact the equilibrium across all the sides of the economic environment stopping for a moment the world economy, but otherwise give a lot of opportunities for the company to reinvent themselves a. Even if a big part of the fast recovery could be explained from the reaction of Government and Central Bank, is equally true as not all company were able to adapt their business model to the new environment. Often these operations were possible with the introduction of new technology that not only permits to not fully stop the economy but also to change the profitability of some businesses. The financial

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[98] https://www.investopedia.com/terms/f/financial-market.asp

[99] "The term "bubble," in an economic context, generally refers to a situation where the price for something—an individual stock, a financial asset, or even an entire sector, market, or asset class—exceeds its fundamental value by a large margin. Because speculative demand, rather than intrinsic worth, fuels the inflated prices, the bubble eventually but inevitably pops, and massive sell-offs cause prices to decline, often quite dramatically. In most cases, in fact, a speculative bubble is followed by a spectacular crash in the securities in question." See https://www.investopedia.com/articles/stocks/10/5-steps-of-a-bubble.asp

market really understood these since the beginning of the pandemic, rewarding most of the companies that see the pandemic as an opportunity and punishing those who are not.

In Chapter 4 we tried to apply the Return Based Style Analysis (RBSA) to understand how the investment style, among investors chosen in the sample, changed after the pandemic and who was the winner and losers. To do our analysis we defined a sample of 20 of the Major Long only Institutional Investors. We construct the sample choosing Investors that represent not only the major by AUM, but also different categories, such as Advisor, Bank and Assurance, style of investment, Growth or Value, and Geography location, with the prevalence of the US(65%) and Europe(35%). The list of the sample selected ordered by AUM, according to 13F, and distinguished by investor type are summarized in Table 4.

Return Based Style analysis based their theories on the creation of passive index benchmark to simulate the return minimizing tracking variance, and from that, understand their strategies.

Using the quarterly 13F[100] and Bloomberg Function "PORT" is possible to reiterate the portfolio composition over time, updating it based on the quarterly 13F. This gave the possibility to extrapolate monthly return based on the overall portfolio composition in whole Investors holding. Another element that is crucial for our analysis is the definition of what asset classes include in the factor model. In our analysis, we focused only on the composition of the equity portfolio. So instead of considering all the asset classes, such as Bond or Real Estate, we selected ten indexes, which each represented an Equity style of investing. The selection of the index considers the aim to look at investment strategies, from a Value and Growth Perspective, and to do this we selected eight indexes that represent the difference among Value and Growth and the various substyle. These eight indices were selected from S&P Global indexes, which express a major index of style investing in the United States, considering the Value and Growth Investment strategies. After selecting the indexes, we extrapolate the monthly return from January 2013 until June 2021, from both Bloomberg, S&P Global and Fred. Then we implement a correlation analysis as shown in Table 7. As expected, the correlation between various indexes was high, because, although each index represents a different style, all the index represents the same asset class (Equity). In this case, as explain by Sharpe (1992), we calculate the standard deviations of each index, as shown in Table 8, to understand if, although they are correlated, they have different high standard deviations. Looking at the table we can observe how each style indexes have a monthly standard deviation superior to 4% and are very different among

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[100] "The Securities and Exchange Commission's (SEC) Form 13F is a quarterly report that is required to be filed by all institutional investment managers with at least $100 million in assets under management. It discloses their equity holdings and can provide insights into what the smart money is doing in the market. Form 13F is required to be filed within 45 days of the end of a calendar quarter, or if that day falls on a Saturday, Sunday or holiday, the deadline is the next business day."

For more detail See https://en.wikipedia.org/wiki/Form_13F

each member. This result is consistent with what Sharpe states, so it is reasonable to think that the reliability of the index chosen is good.

After selecting the indexes that represent the different styles, we will create an Excel spreadsheet to apply the Return Based style analysis for each member considered in the sample as shown in paragraph 4.4.

After the illustration of how the RBSA method was applied, this process was retired for each member of the sample. To understand the difference among the various investment styles used before and during the pandemic, the results of the aggregate analysis were analysed by dividing the result for each period focusing first on pre-and post-pandemic investment style, and secondly on change during the three periods considered:

- **From January 2020 to June 2020- Pandemic and Reaction :**

The first stage was characterized by the start of the pandemic that hit all countries. The health crisis became an economic crisis, whit a massive sell-off in the financial market. Yield lost more than 120 Basis Point, the stock market crashed whilst the Government and central banks were trying to implement new policies to slow down the crash. The recession began and uncertainty reached an all-time high and LEI reflected it. The storm affected the economy, but all Government and Central banks tried to implement "Whatever it takes" [101] , to slow the recession, and starting the recovery.

- **From June to December 2020- the New "Normality":**

In the second stage, although the world was struggling to contain the virus, it was completely different from the first. The economy started to rebound thanks to the new action adopted, but although the LEI showed the beginning of the recovery, the world economy was completely different from the Pre-Pandemic situation. The necessity to continue to run businesses, whilst implementing measures to contain the virus was implemented, pushed companies to reinvent their business; at the same time new innovative business model grew exponentially and pushed the economy to mitigate the crash.

- **From December 2020 to June 2021- The return to Pre-Pandemic Levels:**

The third stage, the last considered in our analysis, was characterized by the implementation of vaccines and bounce back of world GDP. The world economy partially recovered from the loss of previous years and implement a strong vaccination campaign to finally reopen all the activities. Although Government faced several problems in the implementation of a clear road map to re-opening, the soar of GDP surpasses estimated and the positive sentiment about the economy reached pre-pandemic levels. Nevertheless, the overhitting of the economy and the strong soared of inflation worried investors; Investors questioned if the soar of the economy could continue without Fiscal and

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[101] The term were used by Mario Draghi, former ECB president, In 2012.

Monetary stimulus and if the strategies to come back to the pre-pandemic situation were the right path, although adapt business and economy to the new "normality".

The main results of our analysis (see Figure 21, Figure 22, Figure 23, Table 13) and conclusion are presented below:

- The mean R^2 result for all members of the sample during the entire period is 95%, with a high of 99, 87% and a low of 70,81%, illustrating how the model can explain the style of investors.

- Before the pandemic began, 50% of the investors use a Growth strategy, 40% Blend strategies and 10% a Value Strategy (among them there is Warren Buffet)

- After the pandemic had begun, based on the result of the model, 85 % per cent of the investors used a growth strategy and the remain 15% per cent a Blend Strategy.

- The market timing skills and selection skills were particularly important during the overall Covid period; even if most of their investors have adopted a growth strategy since Covid, not all were able to outperform the market.

- During the first semester of 2020, when the pandemic began and hit the world, investors, even though the world economy was projected to enter in one of the worst recessions in a decade, immediately shifted their portfolio allocation toward growth stock, reducing most value stock. Comparing pre covid strategies to the first semester shows how only one investor, Berkshire, adopted a value strategy. The growth strategy becomes the most prevalent with 75% of the member in the sample who adopt them.

- During the second semester of 2020, which was characterized by the partial recovery of the economy, the presidential election, and the approval of the vaccine, investors instead of exposing their asset allocation toward cyclical stock, continue to expose their strategies toward Growth stocks. At the end of the semester, 85% of the investors adopted a Growth strategy, incremented by the shift of both Value investors, such as Warren Buffet, and Blend investors, such as Bank of America.

- Since the start of 2021, as explained in Chapter Three, the vaccination campaign starts to roll out faster, the economy bounce back, in particular in the USA and Europe, and Value stock overperformed. Nevertheless, RBSA results show that the progressive rotation of the portfolio toward growth stocks continued, and at the end of the period, 90% of the investors in the sample adopted a Growth strategy.

- Both Ark and Baillie, the top performer of the sample, although remain in the growth style, adopted three different strategies among the three stages period. They tried to benefit from the pandemic during the overall period trying to select among growth stocks, the top performer. Nevertheless, this strategy generates enormous returns during 2020 but with high risk

regarding its sustainability. After all, since the start of 2021 ARK soared only by 2%, underperforming by far other Investors, and Baillie 12%, in line with other investors.

Some of the evidence summarized above, showing how the market movement could be explained as the reallocation of major institutional investors to benefit, or in some cases to not be knocked down, from the pandemic. The results confirm that Covid contributed to an overall shift of strategy from a more balanced, Blend strategy, to a more risky growth strategy. If we considered the amount of money injected into the company and the soar of AUM, we can explain how the performance of the stock market has been uncorrelated with the real economy.

When in September 2020 the Financial Time[102] unmasked Softbank; who, through its $100bn Vision Fund, denominating it the "Nasdaq whale", aggressively bought a large amount of deep out-of-money call options of the big-tech U.S. stocks, such as Apple and Tesla[103], the NASDAQ corrected more than 10% from its peak. Even if, according to (Tokic, Robinhoods and the Nasdaq whale: The makings of the 2020 big-tech bubble, 2020) , the NASDAQ bubble reach its peak, the bull trend continued till today, and analysis shows how investor continues to augment their exposure on growth stocks. The Author suggest how the cause of this trend could be explained by the positive feedback trading model as the framework. Positive feedback traders trade solely based on technical analysis and buy as prices rise expecting the trend continuation. Rational speculators understand and exploit the trading strategy of the positive feedback traders by creating artificial price patterns and uptrends, which attracts the positive feedback traders. Rational arbitrageurs in theory restore the market efficiency (Fama, 1965) by selling overvalued assets and buying undervalued assets—essentially trading against the noise traders or the positive feedback traders. However, beyond the short-term traders (speculators), the markets are also populated by long-term passive investors who remain relatively passive during the bubbles, understanding that is impossible to time the bubble. Fundamental investors hold the key to the bubble development, since they, theoretically, could join the rational arbitrageurs, and thus make it more difficult for the positive feedback traders to overpower the rational arbitrageurs and inflate the bubble. Whether the passive investors act or not depends on the broad environment surrounding the bubble, especially the monetary and fiscal policy support. Specifically, rational speculation can trigger a positive-feedback trading bubble only in a setting with supportive monetary and fiscal policy, which keeps passive investors "passive" and thus, markets inefficient." (Tokic, 2020)

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[102] https://www.ft.com/content/75587aa6-1f1f-4e9d-b334-3ff866753fa2

[103] "the large volume in call options in bigtech stocks send a strong signal to the market that potentially there is a "good news" pending and somebody with the privileged information had been acting on it, which triggered a buying wave in the underlying stocks and created an uptrend that attracted the trend-followers." Ibi

According to (Tokic, 2020), the primary step in explaining the big-tech bubble of 2020 is to know the action (or the inaction) of the passive long-term investors. These investors, in theory, would sell before the recession starts to avoid the large drawdowns, and buy because the recession easiest into the new growth cycle. However, the covid-19 recession was highly unexpected concerning timing. Yes, the yield curve was inverted in 2019, which normally results in a recession, but most investors expected the recession to start after the presidential elections, or in early 2021, which didn't include the covid-19 projections. Thus, the passive investor likely did not anticipate the sharp stock exchange correction in March of 2020. Subsequently, after the good lockdown, an unprecedented monetary and monetary stimulus created the environment supportive of a bubble to develop which kept the passive investors passive because the bubble inflated. the overall environment because of an unprecedented monetary and monetary policy supported the bubble and kept the long-term passive investors passive. As a result, the rational speculation (the Fed, the Nasdaq whale, and other institutions) successfully attracted the regeneration traders (Robinhood retail army and others) who overpowered the rational arbitrageurs (fundamentally driven hedge funds and market makers) and inflated the broad stock exchange bubble led by the big-tech.

All this observation was taken into further consideration; comparing also the 2020 "Nasdaq Bubble" topmost severe "Dot Com Bubble". Consistent with Siegel (2014) since 1982, when the Fed's financial condition policy quashed inflation, interest rates fell sharply, and the stock exchange entered its greatest market ever. From November 1997 to March 2000, the Dow Industrials rose 40 per cent, but the NASDAQ index rose 185 per cent, and therefore the dot-com index of 24 online firms soared nearly tenfold from 142 to 1,350. When technology spending unexpectedly slowed, the bubble burst and a severe market began. Stock values plunged by a record $9 trillion, and therefore the S&P 500 Index declined by 49.15 per cent, eclipsing the 48.2 per cent decline within the 1972 to 1974 market and therefore the worst since the good Depression. The NASDAQ fell 78 per cent and therefore the dot-com index by quite 95 per cent. According to (Griffin John M., 2011), From January 1997 to March 2000, both institutions and individuals actively purchase technology shares with institutional buying exceeding the sum of direct and indirect (through mutual funds) individual purchases. According to Abreu and Brunnermeier (2003), evidence suggests that the collapse of the market was driven by foremost sophisticated market participants that actively purchased technology stocks during the run-up and quickly reversed course in March 2000.

Since 2001, one of the most used metrics to state if the market was overvalued is the Buffet indicator[104]. When in August, the Market Insider Article state as "Warren Buffett's favourite market

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[104] The "Buffett indicator" compares the stock market's valuation to the size of the economy.

indicator hits 205%, signalling stocks are way too expensive and a crash may be coming"[105], investors didn't care about, continuing their Bull Run. According to Current Market Valuation SIte[106], as of September 16(2021), the Buffet Indicator is equal to 239%[107]. According to the site, this indicator is "91% (or about 3.0 standard deviations) above the historical average, suggesting that the market is Strongly Overvalued" and at all-time highs. However, with interest rates at historic lows, there's reason to suspect that "this time is different" may hold. The historical chart of the Buffett Indicator is shown in Figure 24 :

As we can observe there are several similitudes between the last 2 years and the dot com Bubble, such as the hype in the growth of disruptive technologies companies, the spike in IPO (in particularly with SPAC[108]) that reached the level since 2000 even most of the new companies are unprofitable[109], or the soared in the attention in the financial market, thank to open access to retail traders(renominated "Robinhood traders" (Tokic, Robinhoods and the Nasdaq whale: The makings of the 2020 big-tech bubble, 2020)).

Also, the Buffet indicator shows that the marker surpasses the Dot Com level, in terms of overvaluation. But, while the overall market doesn't scare as much as did in 2000, some industries were classified as a bubble that could melt up. Nasdaq article[110], published in February 2021, alerted about how the ESG outperformance (outlined in chapter 3) evokes dot com Bubble, arguing that "the stock market was right that technology companies were going to do well in the future, but the valuation went a little high". From then, the main ETF fund, the ISHARES Global Clean Energy ETF lose more than 35% in a few months, after gaining more than 300% since 23/03/2020.

In our analysis we show how despite value outperform Growth stock since the start of 2021, this could not be fully explained by the rotation of institutional investors, that do not sell Growth stock as fast they buy during a pandemic. In our analysis the asset allocation dedicated to large growth stocks soared constantly overall period, classifying it as a trend. The positive sentiment about growth stock

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[105] "The Wilshire 5000 Total Market Index closed just shy of $46.69 trillion on Wednesday, as the S&P 500 g to bland Nasdaq indexes ended the day at record highs. Meanwhile, the latest estimate for second-quarter GDP is $22.72 trillion, putting the Buffett indicator at 205%. That reading is well above the 187% it reached in the second quarter of 2020, when the pandemic was in full swing and GDP was about 15% lower."
https://markets.businessinsider.com/news/stocks/warren-buffett-indicator-gauge-stocks-gdp-market-crash-expensive-valuation-2021-8

[106] https://www.currentmarketvaluation.com/models/buffett-indicator.php

[107] Aggregate US Market Value: $54.9T
Annualized GDP: $22.9T

[108] "A special purpose acquisition company (SPAC) is a company with no commercial operations that is formed strictly to raise capital through an initial public offering (IPO) for the purpose of acquiring an existing company". See https://www.investopedia.com/terms/s/spac.asp

[109] For example Airbnb, Palantir, Snowflake or Robinhood.

[110] https://www.nasdaq.com/articles/esg-outperformance-evokes-memories-of-the-dot-com-bubble-2021-02-25

soared constantly since the start of the pandemic, and neither the vaccine news nor the positive data about the real economy taken investors to readapt again their asset allocation, and balance it as it was before the pandemic; investors seem more concerning about invest in a large profitable growth company, that in stock that could benefit from the sector rotation, during the change in the economic cycle and the rise of interest rate, but with low growth rate and uncertain about their competitive advantage. This statement supports the hypothesis that this period was different compared to Dot Com Bubble, where Institutional investors drastically first Buy and then Sell massively Growth stocks (Griffin, JEFFREY, TAO, & SELIM, 2011) without strong fundamental growth.

Looking at Figure 25, the S&P 500 Growth index skyrocket since the end of March, when the day White House passes the $2 Trillion stimuli, with a movement similar to that of 1998, when the Fed announced a future cut on the interest rate. But on that occasion were the two relative indexes (P/E and P/B) to soar. This was not a good signal for stocks; despite the price continue to soar until the melt-up of the Bubble, the fundamental of the stocks (Earnings and Book Value) didn't grow at the same level. Even if the Bubble melt-up in 2000, this strange phenomena of high valuation with poor fundamentals persist until 2005, although only a few growth companies survived, such as Amazon and Apple. Since then, the index needed more than 10 years to surpass the Dot Com valuation, but maintaining fair valuation, with P/E and P/B in the historical band. This sustainable growth trend persists until the start of the pandemic. Since the minimum touched on February 23(2020), Large growth stock soared 80%, but this time also the fundamental sored, despite not at the same level. P/B soared reaching a historical high, but P/E did not. This singling that, since the pandemic started, growth stock effectively saw an exponential growth of earning that justify a soar in valuation, considering the estimated growth rate, but this growth didn't rise the Book of these companies, probably because of the loss of the previous year. The graph showed, that although between the two periods there were a lot of similarities, the fundamental context and the economic context was very different. This observation supports the observation that the wide overperformance of Growth Vs Value was indeed caused by the opportunistic reallocation of Institutional investors, but in contrast to Dot Com Bubble didn't transform in speculation, and there is no signal, either in the market and in the analysis that investor wants to exit by their investment in Growth stocks.

In more detail, according to Bloomberg Estimates, Figure 26 shows how, while the profitability of value stocks in the next two years is set to return to pre-pandemic level, the profitability of Growth, in terms of ROA and ROE, is set to double the pre-pandemic level, continuing the positive trend started in 2017. The sustainable soared in profitability will be reflected in terms of relative valuation. Observing Figure 27, according to Bloomberg estimates, the relative valuation of both Value and Growth stock that spiked during the pandemic, due to reduction of the denominators, is set to return

to stable and sustainable valuation. While Values valuation is set not only to decrease, give the soar in Earning and Book due to reopening of the economy, but also to reach valuation discounted comparing with pre-pandemic valuation, indicating the low level of confidence of investor on the future growth of value stock. On the other hand, Growth relative valuation is set to decrease, reaching a sustainable level, but with a premium in comparison to pre-pandemic valuation. This shows how investors not only make a huge bet during the pandemic but also expect that the growth rate will be greater than the historical value. Applying Sustainable Growth Rate (SGR)[111] formula to calculate expected Growth rate[112], considering in 2022 a growth rate of 30% [113] for a Growth stock, while 8%[114] for Value. Considering the positive trend of ROE, the wide difference of profitability by two categories is expected to grow. The last observation is about the soar not only in terms of valuation but also in terms of influence on the financial market; observing Figure 28 the bull trend started from the end of financial crises coincide with the constant growth of incidence of SGX on SPX, that since the start of the pandemic surpass historical high reached during Dot Com Bubble; but while in 2000 the soared was uncorrelated with the soar in fundamental, this time fundamental of growth company are never been so strong.

To sum up, our analysis shows how since the start of the pandemic the overperformance of growth investing could be justified by the shift in style investing and asset allocation strategy of major Institutional investors. Even if this phenomenon has several similitudes with the period that took to the melt-up of the "Dot Com Bubble", this time the underlying Growth companies are different. Further observations show how this time the shift in investment style, from Value/Blend toward Growth Investing, was followed by real growth of fundamental of those companies, and this trend is expected to move forward. Despite the importance of Value Company, which will represent an important slice in equity asset allocation, our analysis shows how pandemic smashed Value investing, taking the Growth company to become the driver of the sored in the economy, both in the short and long term. But before asses of Growth strategy will outperform Value stock at this rate without generating a bubble, further researches are needed, always taking in mind Sir John Templeton words, "The four most dangerous words in investing are: 'this time it's different' ".

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[111] "The sustainable growth rate (SGR) is the maximum rate of growth that a company or social enterprise can sustain without having to finance growth with additional equity or debt. The SGR involves maximizing sales and revenue growth without increasing financial leverage. Achieving the SGR can help a company prevent being over-leveraged and avoid financial distress." See https://www.investopedia.com/terms/s/sustainablegrowthrate.asp

[112] G = ROE x (1- Div.Payout)

[113] 44,5% x (1 − 0,33%) =29,68%

[114] 15,75% x (1-0,50 %) = 7,88%

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