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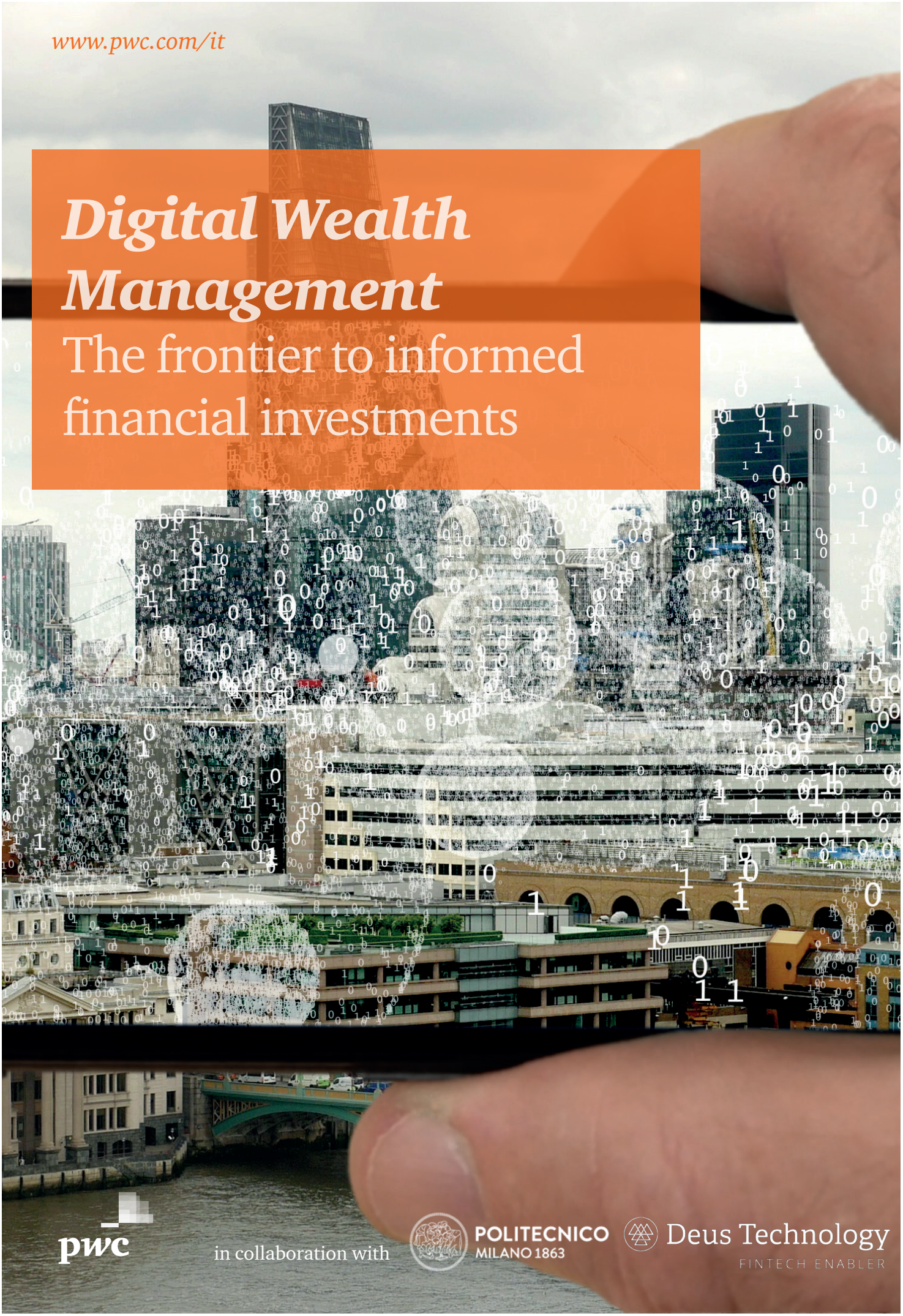
Digital Wealth Management

The frontier to informed financial investments



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Index

Financial literacy in Italy

Over the last years, financial literacy has become a key topic in the agenda of many countries. The recent financial crisis has highlighted that, although people have access to an enormous amount of information, the majority is unable to use it effectively to support financial decisions. As a consequence, people are inclined to manage their finances ineffectively, with resulting side effects on national wealth.

Finance is an integral part of everyone's daily life: ensuring a sufficient income after retirement, planning personal or family's financial needs or taking-out a mortgage to buy a house are only some of the financial responsibilities each citizen has to assume. Moreover, individuals have to properly evaluate risks and opportunities in order to make informed financial decisions.

Globally, one out of three adults is not able to answer questions that require a relatively low level of financial knowledge[1], thus struggling to make complex financial decisions. Furthermore, the spread of multichannel offering strategies and the concrete possibility to acquire financial products through any digital device are increasing the relevance of all topics related to financial literacy. Multiple surveys have been conducted on a large panel of countries to investigate the level of financial literacy of their citizens. Results have proved to be disappointing in many countries including Italy, where the financial literacy score recorded has been of 37%[2], significantly lower than what the majority of the other advanced economies have achieved. In the last decade, these somewhat discouraging results have prompted many countries (e.g. Canada and United Kingdom) to establish institutions and organizations aimed at designing and launching national financial education strategies to financially educate ad-hoc targets of the population and monitor the results to tackle potential improving areas.

Similarly, Italy has recently launched a national strategy to promote financial literacy. Even if it is premature to evaluate the concrete results of the different national initiatives, effectiveness may be partially assessed if compared to similar actions carried out in the past by comparable Governments.

The increasing urgency of planning pensions properly (given the aging population) and the wide breadth of financial instruments' supply are only part of the reasons that make financial literacy key in any national agenda. The ultimate aim of any national strategy is to provide the population with all the necessary instruments to manage its wealth in line with short and medium-long term goals.

1.1 The Italian and Global context

Financial Literacy is defined as "a combination of awareness, knowledge, skills, attitude and behaviour needed to take the right financial decisions and, ultimately, achieve personal financial well-being". (*High level Principles on National Strategies for Financial Education, 2012*). The degree of financial education is generally measured as the ability to answer correctly basic financial questions, usually structured along four main topics:

1. Risk diversification;
2. Inflation;
3. Interests calculation;
4. Interests capitalisation.

The Italian financial literacy level (37%), only higher to the Portuguese one (26%) within the Eurozone, is even more concerning when compared to what has been recorded in G20 countries, such as Canada (68%) or Germany (66%). Italy anomalously ranks second to last also among the G20 countries, presenting level of financial education in line with developing, rather than developed countries. These results are more relevant given the proven correlation between a country's financial literacy level and its economic development.

Investigating the causes of the poor score of Italians on financial matters, it is interesting to highlight how most of the so-called *millennials*[3] do not know the concept of inflation and, if compared to previous generations, they generally show a lower level of financial competences. This divergence could be partly explained by the natural distance from relevant financial choices (e.g. house purchases, retirement planning, etc.) that characterise *millennials* but, at the same time, the main cause may be referred to the lack of support from the education system as a whole. This gap is even more evident if we analyse the low correlation between the young Italians' education level in mathematics and reading

1 Batsaikhan, Demertzis, Uuriintuya. 2018. "Financial literacy and inclusive growth in the European Union".

2 Financial Literacy around the World, 2015.

3 People born between 1981 and 1999.

and their financial literacy. In fact, as PISA 2015 results show, only 42% of students[4] have obtained performances aligned with, or superior than, what was expected based on their mathematical and reading skills.

In Italy, "*do it yourself*" solutions are often the preferred ones when personal investing comes into play. This attitude is the result of several factors, including a generalised overestimation of financial capabilities (especially in men and graduated people) and a shared mistrust of financial institutions, which makes Italians reluctant to rely on industry experts' advices (only a quarter of the population wants to invest after having received a professional advice), preferring those coming from friends and relatives.

The following messages are the clear synthesis of the combination between the low financial education levels of the country and some of its endogenous cultural factors:

1. **Italy needs a proper financial literacy strategy**
   The common lack of basic skills hinders people in making informed financial choices in their daily lives, causing potential negative effects on household wealth;
2. **Young people have access to all means, but need contents and an approach**
   An "early" education can significantly reduce the gap between young Italians and their peers in the most financially educated countries. However, young people must be targeted adequately considering their preferences and needs (e.g. digital communication channels, etc.);
3. **Financial literacy is directly connected with the adoption of financial advisory services**
   An improvement in the general level of financial education might have positive impacts not only on households' finances but also on the Asset and Wealth Management industry.

1.2 The benefits of a national strategy and the Italian plan

Over the past decade, both at global and European level, several efforts have been made to transmit the need of a joint action between national institutions and private organisations in order to increase individuals' financial literacy. This need for financial education is driven by six main areas of interest[5], some of which are covered in details in the following chapters:

1. **Greater likelihood to prepare for retirement and to do so with a greater accumulation**
   With the increase in life expectancy and the decline in birth rates, social security systems are struggling to sustain the performance levels guaranteed in the past. Thus, pension-funding responsibility is generally moving from Governments and enterprises towards individual workers, who are often missing the necessary tools to make informed decisions. In general, more advanced financial skills determine a greater diversification of the retirement portfolio, with higher expected returns and lower costs.
2. **Diversification of the investment portfolio**
   It is important that personal financial portfolios are aligned to the individual's peculiar life cycle needs, by considering various investment options. Although the decreased incidence of real assets, the Italians' portfolios still have a low level of diversification and are characterized by large quotas of cash. This portfolio composition is partially due to the generalised decrease of Italian bond (Italians favorite financial assets) yield and has only been partially counterbalanced by an increase in wealth allocated to managed investments. Italians continue to keep a small amount of their wealth invested in financial assets, although it has been proven that a complete absence of financial investments results in a potential loss of welfare.
3. **Higher awareness in loans request process**
   People with low levels of financial literacy tend to accept higher transaction costs, facing "*out of business*" fees and generally subscribing to loans at higher rates. Considering that the household debt level in Italy is around 40% of GDP, lower than the European average, an informed evaluation of financing options represents a significant lever to optimise resources.

4 Refers to a panel of 15 years old students.

5 Financial literacy and inclusive growth in the European Union, 2018.

4. **Better resources allocation**
   Short-term decisions have impacts on long term earning opportunities. A good financial literacy level can help people in better understanding risks and returns for different types of investments and, therefore, allows an efficient allocation of resources and ensures optimised financial security levels to individuals over the course of their lives.
5. **Increased planning and savings for social groups at greater risk**
   It is possible to implement low-cost financial education programs addressed to high-risk social categories (e.g. low-income individuals, etc.) over a short period of time, producing almost immediate financial benefits (e.g. higher resources invested in additional savings accounts, etc.).
6. **Greater savings and behaviors planning for children and young adults**
   Structuring adequate educational programs for young people is fundamental to foster an informed future generation, able to handle the uncertainty of the investment and retirement landscape.

In line with the OECD and European Union directives aiming at improving the level of financial education, the Italian Government has launched a national strategy with a three-year plan to reach "a country in which financial knowledge and expertise are available to everyone, where everyone may build a safe and peaceful future" (*Quello che conta*, 2017). The main targets of the national strategy are:

1. **The whole population**
   It has been launched an ad-hoc online portal, named "*Quello che conta*", which covers the main topics about finance, insurance and pension schemes. The website offers advice using understood language to provide support for everyday financial decisions. In the future, specific learning tools (e.g. video tutorials, etc.) and practical tools will be uploaded on "*Quello che conta*". Furthermore, following the steps of what has been done in other countries (e.g. Canada, etc.), a financial literacy month will be established.
2. **Young adults**
   There are already many ongoing and planned activities aimed at optimising the financial expertise among young adults. Most initiatives directly involve the Ministry of Education and will then be conveyed via ad-hoc school curricula, with the objective of stimulating students but also raising awareness among teachers.
3. **Adults**
   The strategy clearly sets out several initiatives to be carried out directly at workplaces, aimed at supporting workers in managing their resources in the short and medium-long term financial planning. Both teaching and practical tools (e.g. games, simulations, etc.) will be provided within workplaces.
4. **More vulnerable groups (e.g. older people, migrants, etc.)**
   For the most vulnerable categories, messages and ad-hoc information will be conveyed through existing communication channels, giving them the needed tools to make more informed decisions.
5. **Small entrepreneurs**
   The strategy includes a direct cooperation with industry associations (e.g. Unioncamere, etc.) aiming at increasing financial literacy among both Italian entrepreneurs and those groups of people which are more exposed to financial risks and employment responsibilities.

To summarise, the aim of the national strategy is to provide a service to both people and the whole Country, thus starting a virtuous circle between institutions and individuals. The challenge is undoubtedly ambitious, but has been supported by authorities and may leverage an environment, already weaned from existing initiatives.

Within the complex landscape of existing and potential initiatives, one should not underestimate the important role represented by the new digital communication channels. These technologies need to be carefully considered as a key instrument of financial inclusion, rather than a mere way to implement a multichannel strategy to spread and improve financial literacy. In fact, these means represent a powerful way to target the widest possible and youngest audience access to a variety of financial products and services, ranging from standard banking products to specialised consultancy on financial investments.

1.3 Key elements for an effective national strategy

With a national strategy still in the early stage, it is difficult to evaluate the effects of the activities launched so far. However, Italy lags behind other countries in terms of strategy adoption and can take advantage of the results obtained by other countries with their past initiatives.
The national goal should be to propose a program able to improve individuals' awareness on financial issues by leveraging on initiatives that have historically proved to be the most effective in those countries with a baseline comparable to the Italian case.
Recent studies show how techniques combining behavioral and/or psychological elements, delivered within a defined timeframe, represent the most effective approach to deliver continuing effects on the individuals' financial behaviors.

Over the last years, countries such as the United Kingdom have adopted just in time educational initiatives - courses designed to provide financial theory elements just prior than single choices and/or actions to be taken by individuals.

Just in time initiatives have proven to be effective in influencing financial behaviors of involved individuals. Moreover, this approach has revealed how practical skills, if not applied promptly, tend to influence behaviors with an inverse relation to the application timing. In addition, it has been proved that the length of each single initiative has a direct impact on its effectiveness: longer programs have greater impact on participants than initiatives with a lower overall duration. A just in time learning system does not conflict with the adoption of initiatives during school. On the contrary, a structured educational path with the combination of financial training sessions during school years and initiatives throughout adulthood, allows to strengthen the basic skills while providing concrete and specific financial competences. Furthermore, the voluntary or compulsory nature of financial education initiatives does not have a direct influence on the participants ability to learn. This evidence provides additional support in favor of the introduction of finance as a subject in the Italian national education system.

The combined approach should be coupled with techniques aiming at positively influencing consumers' behaviors. For example, introducing psychological and sociological tools, as well as elements derived from behavioral economy and finance, can ease the implementation of the wide array of theoretical concepts. The ultimate aim should be to set the conditions according to which concepts are not only learned but also applied, in line with the needs and, at the same time, the best learning approaches for the different target of the population.

With this in mind, the first step should be to consider, as a reference point, those countries which have reached higher level of financial education and, at the same time, have launched long-standing national strategies. In this respect, one of the most virtuous countries has been the UK, whose 5-year program (2006-2011) has multiple similarities with the 3-year initiative launched in Italy[6].

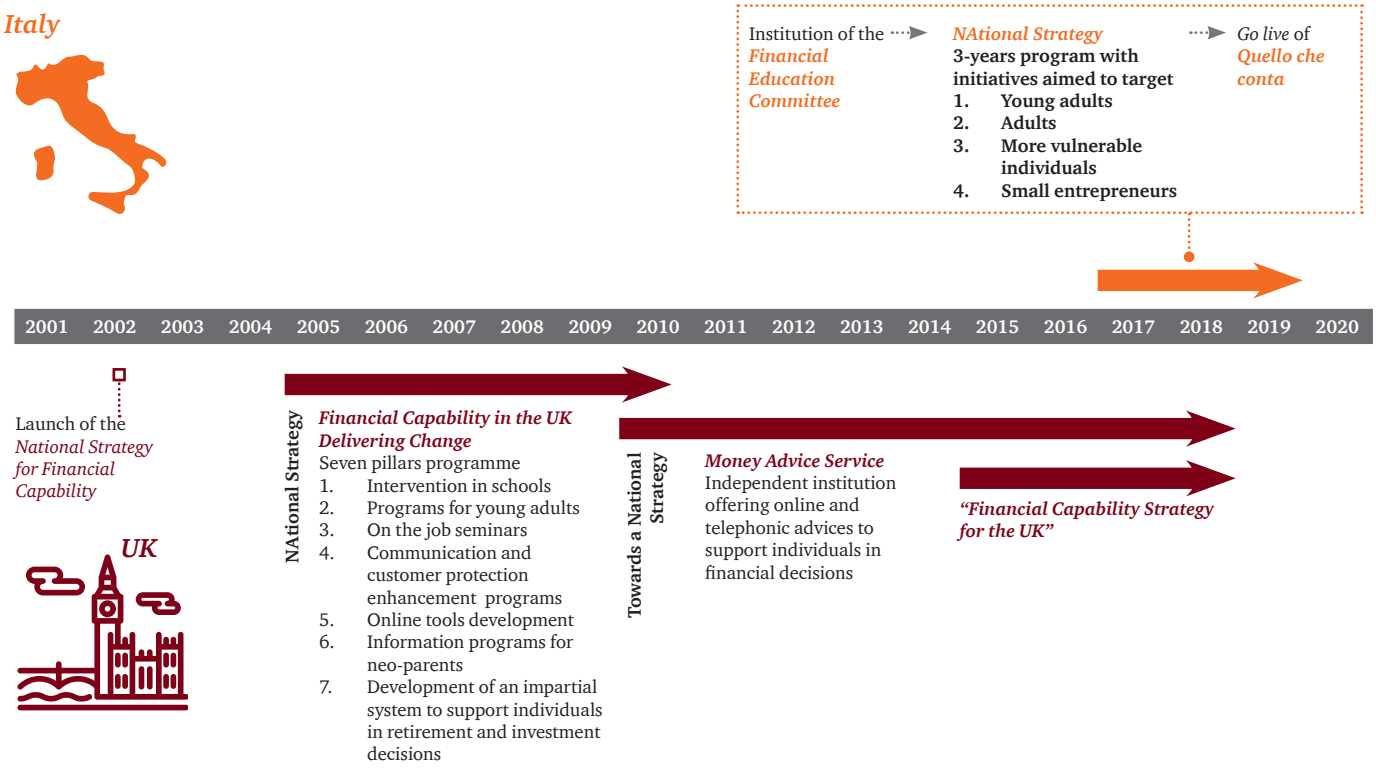
The first British national strategy had to deal with the side effects of the recent financial crisis and the consequent reorganisation of the public entities under which the strategy was initially launched, making it hard to compare the different initiatives and results. However, the effects on the British population have been significant, demonstrating how properly administered initiatives are able to influence citizens' daily financial choices (e.g. statistical improvement of people savings).

In conclusion, a well-defined and implemented national strategy is undoubtedly a key step and has good prospects in terms of effectiveness whenever most of the resources are destined to initiatives tailored to specific targets of the population. Furthermore, a proper strategy should be engineered with initiatives characterized by adequate length and timing, designed with interactive dynamics and/or tools to practically apply learned concepts, fulfilling people needs throughout their life cycle.

6 The UK national strategy included seven pillars: (1) intervention in schools, (2) programs for young adults, (3) on the job seminars, (4) communication and consumer protection enhancement programs, (5) online tools development, (6) information program for neo-parents, (7) development of an impartial system to support individuals in retirement and investment decisions.

Figure 1

Main institutional initiatives



Source: OECD, *Quello che conta,* Money Advice Service

The "*Leonardo*" project

2.1 Introduction

In the first half of 2018, PwC launched the "*Leonardo*" project in collaboration with an institutional (ASSOSIM) and an industrial (Deus Technology) partner in order to pursue three main objectives:

- analysing the dynamics linked to Italians' investment choices;
- providing easy and immediate guidelines to highlight the benefits of Digital Wealth Management solutions;
- investigating Italians' level of financial education and attitude towards innovative investment solutions.

Within the project, PwC has launched an interactive online portal to fulfil the three stated goals. The key scope of the portal is to activate a financial educational path that could be accessible and understandable to all potential investors of the Italian market.

Indeed, once accessed the online portal, users are first guided in the selection of their investment profile by identifying both their objectives and risk/return preferences. Upon completion of the investment profile, the platform simulates the performance of a portfolio model that matches the selected profile on a five years' time horizon, comparing the different performances that the same portfolio allocation would have if managed with or without an automated investment solution. Returns are simulated based on real historical data that, once aligned to the risk profile selected, are projected throughout a 5-year investment horizon, giving a concrete and effective picture of the possibilities given by the modern technological solutions. The result clearly emerging is a potential advantage of the most advanced technological solutions in terms of total return, efficiency, risk and maximum perspective loss.

Furthermore, the portal has an educational section entirely dedicated to highlight the concepts leveraged to assess the quality of investment targets by giving users the chance to learn critical financial topics like portfolio risk and/or performance indicators.

Finally, the users' interactive path through the portal ends with a survey, aimed at understanding the level of financial awareness and the personal attitude towards innovative financial solutions, with particular reference to Digital Wealth Management solutions.

2.2 Main findings of the Survey

Thanks to an effective advertising of the "*Leonardo*" project through a variety of communication channels (including corporate web sites, social networks, industry forums, e-newspapers, etc.), over 1.000 surveys were completed in only two months. Moreover, the panel was characterized by an even distribution across different generations (from under 18 to over 65) and educational levels (form primary school to PhD).

The answers collected were then analysed by mapping the different inputs received to four main dimensions: financial literacy, level of digitalisation, attitude to change and propensity to subscribe to automated investment solutions, such as Robo Advisory.

Financial literacy

The level of financial education was measured through a qualitative self-evaluation of respondents, who were asked to rank their financial knowledge into four categories (i.e. basic, low, medium, and high). The results highlight how only one person out of five claimed to have a high knowledge, whereas one out of three claimed to have a basic or low knowledge. Moreover, the data obtained assumes a different perspective if evaluated across the different age groups of the panel. Indeed, while just over 30% of respondents between 46 and 55 declared to be financially educated, this percentage falls below the 20% if the age groups at the opposite ends of the sample are considered, with respectively 19% (for under 26) and 16% (for over 65). If the results highlighted for the older range of the sample may be explained by a generalised lower level of education, the data is more alarming for the younger generations. Focusing on respondents under 26, though their education is far higher than the one of

the other demographic groups, this condition is not directly associated with a higher level of financial literacy. These results may be interpreted in light of a combination of multiple factors: the absence of an adequate financial education program in the Italian education system (see Chapter 1) and the timing distance for the younger generations between financial learning process and application (i.e. . financial portfolio management, choice of the pension scheme, signing a mortgage to buy a house, etc.).

Inclination for digitalisation

Over the last few decades, the web has become the main instrument of communication and information for citizens of the majority of developed countries. The survey clearly showed how the network represents today an irreplaceable source of information for Italians with reference to investment-related decisions. Indeed, in general, one out of four Italians relies on the web as the main source of information for investment decisions.

Of the respondents, 18% gets informed by using specialised newspapers and only 4% saw financial advisors as the primary source of information for investments. The latter data is even more significant if considered based on age groups: on the one hand of the sample, more than 30% of the over 65 gathers information for their investments by talking to a financial operator, on the other hand this percentage falls to 3% if considering people under 45 years of age. This result clearly demonstrates how there are heterogeneous preferences and, due to the evolution of market dynamics, financial operators must move forward to develop both the business model and the offering taking into account the changing preferences of current and potential customers. To conclude, it is important to underline how the second source of information is represented by "acquaintances more expert on the subject", to evidence how, in line with what reported in Chapter 1, Italians seem to favor advice coming from relatives and/or close people rather than from industry professionals.

Willingness to change

Although, as explained in the former paragraph, there is no evidence of a linear correlation between the level of education and the one of financial literacy, the first seems to have a major impact on the propensity of individuals to adopt innovative and technologically advanced investment solutions. Two out of three respondents with a university degree or a PhD are favorable to subscribe to Digital Wealth Management services, while about 30% of people with elementary or secondary degree answered the same. Overall, the results of the survey are encouraging for industry operators inclined to develop innovative financial solutions: slightly less than 50% of the sample would indeed subscribe to these services while only one in five people would be certain not to adopt any of them.

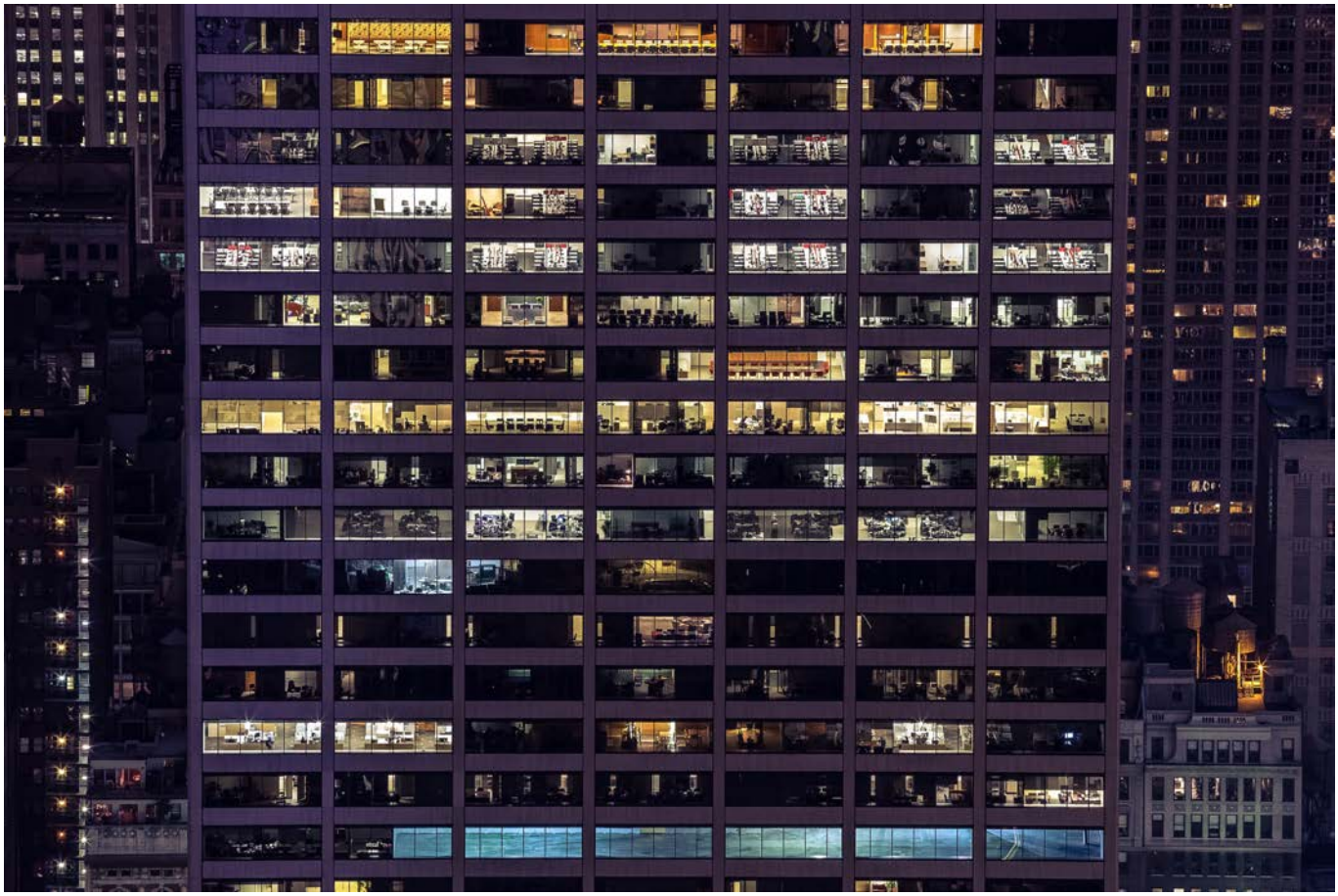
Therefore, players should concentrate on the 35% of the sample, with particular focus on the less educated clusters, who consider themselves not able to assess the possibility to adopt these services. Leveraging on the discussion of the previous chapter, a national strategy able to effectively foster financial literacy might result in a considerable rise in the demand of Digital Wealth Management services from the least educated clusters, benefiting the top line of farsighted industry operators.

Propensity to Robo Advisory solutions

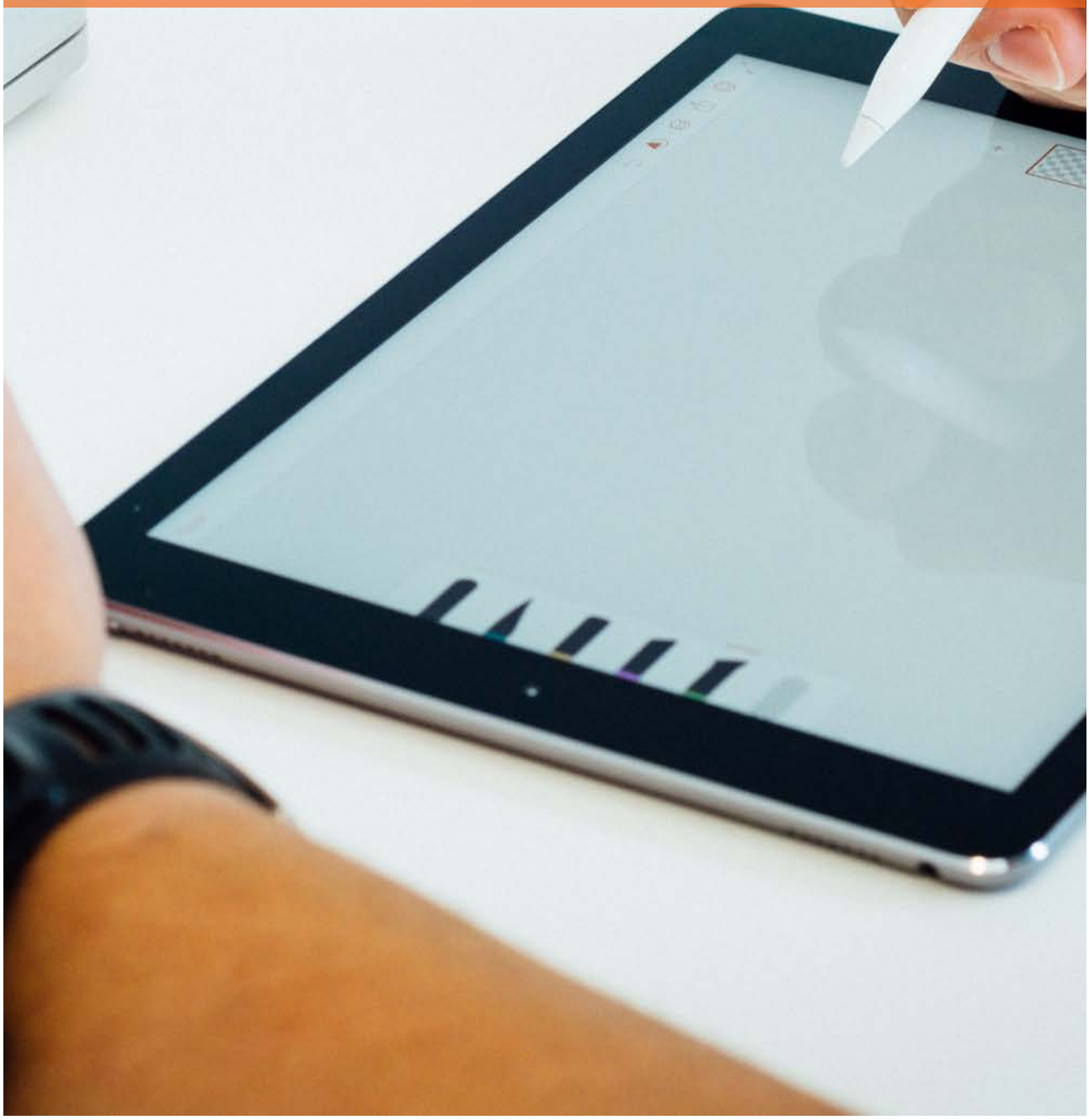
The last dimension analysed aims to measure the respondents' attitude towards the adoption of a particular Digital Wealth Management solution — Robo Advisory, without distinction between direct B2C solutions and B2B services that support professional operators. Considering all the respondents, about half of them turn out to be attracted by these innovative investment solutions and considered themselves ready to test them in real investment situations, given a service offered by their bank or financial operator.

Filtering respondents along the initial investment profile declared, a clear correlation emerges between the willingness to adopt Robo Advisory solutions and the risk and/or performance profile. Indeed, two thirds of respondents who are looking to constantly beat the benchmark in their investments (aggressive profile), demonstrated a positive attitude towards Robo Advisory solutions if compared to the 24% of respondents with a conservative or moderate profile.

These results seem to indicate that investors generally consider Robo solutions as riskier than traditional investment opportunities, despite their differentiated offering for each investment profile. This perception may be counterintuitive, in light of what presented in Chapter 4, in which simulated Robo performance in US reveal the competitive nature of these solutions if compared to traditionally managed portfolios.



Italians' investment perspectives



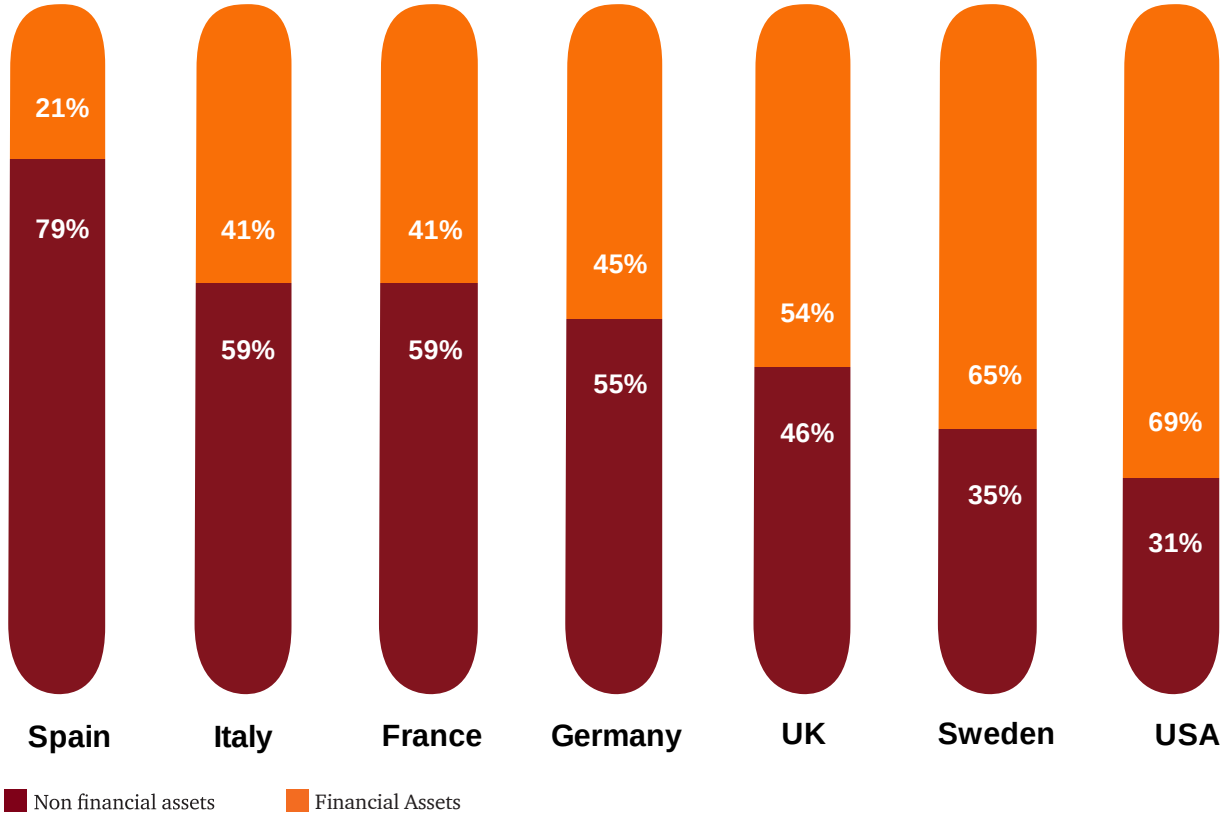
3.1 Italians' investment choices

As discussed in Chapter 1, the level of financial literacy in Italy is below the G20 countries average. Focusing on a subset of G20 benchmark countries, shortlisted because of their high level of financial education (far superior than the G20 average of >57%), clear differences emerge in terms of gross household's wealth[7] distribution

By looking at Figure 2, it is clear how the Italian households' environment presents a strong imbalance of gross wealth distribution towards non-financial activities, which are mainly composed by rural (35%) and real (25%) assets. Although Spain, France and Germany also show a preference for real assets, the rest of the panel presents a clear preference towards financial assets, with US households leading the group having a share of 69% invested in financial assets.

Figure 2

Households' wealth composition (2016)

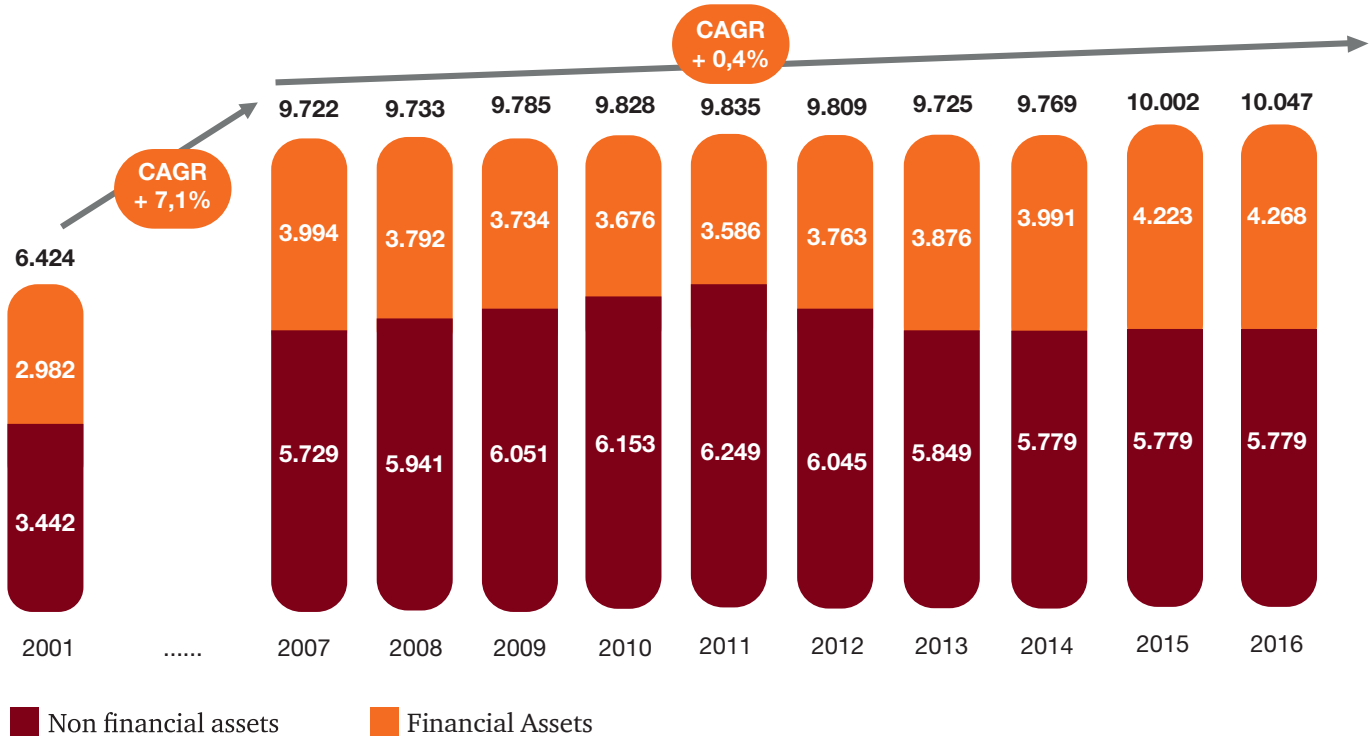


Source: OECD.Stats, BCE, Banco de España

7 Gross household wealth includes financial and non-financial wealth of households, family managed micro-enterprises and not-for-profit organizations supporting households.

Figure 3

Italian households' wealth growth (€ bn)

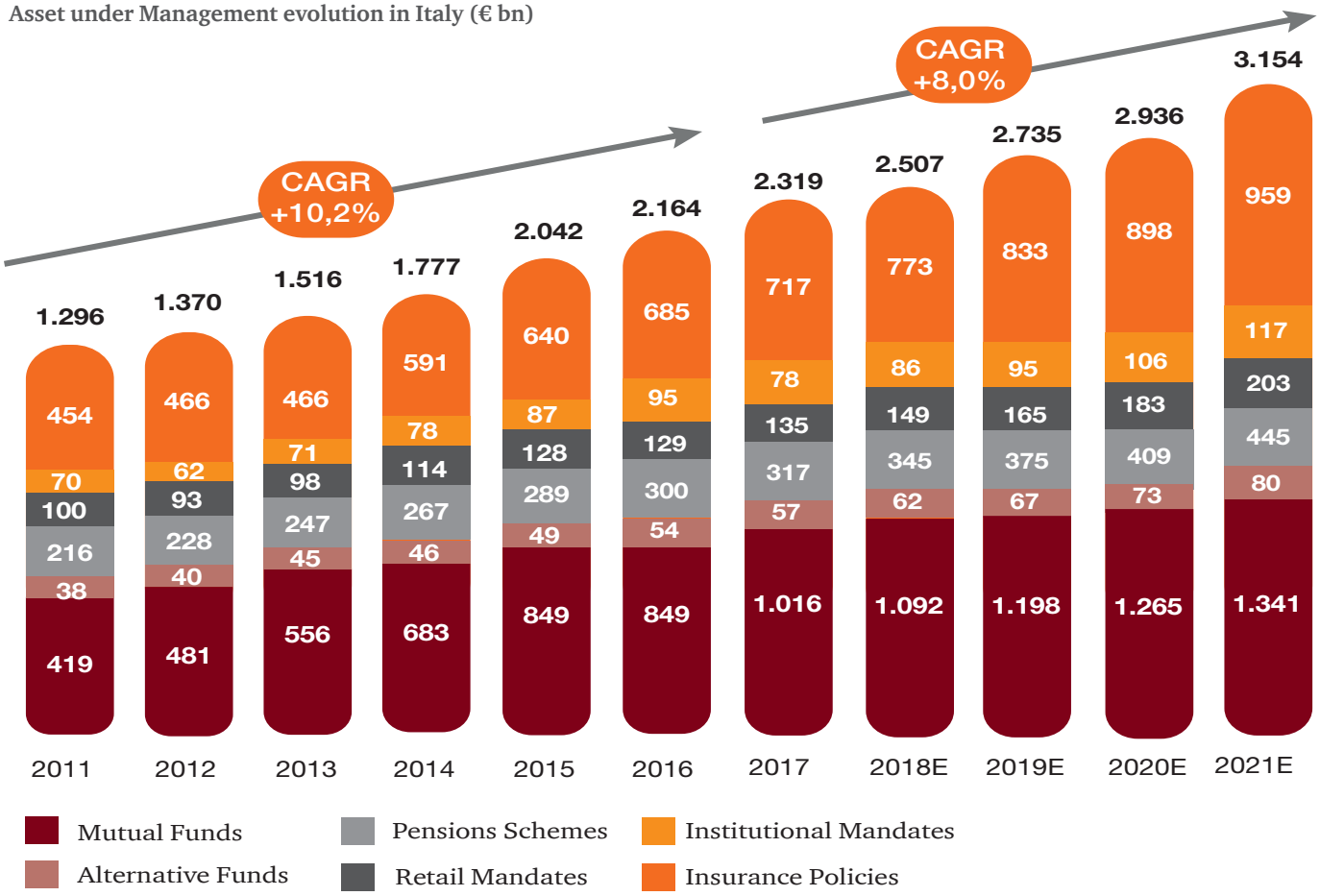


Source: Banca d'Italia Annual report

The gross wealth distribution imbalance towards real assets is a structural feature of our country, as demonstrated by the historical evolution of data (Figure 3). In fact, in the sixteen-year period from 2001 to 2016, the overall gross wealth has unevenly grown by 56%, with non-financial wealth increased by 67%, in contrast with a 22% increase in financial assets. The main driver of financial wealth growth has been the increased value of Assets under Management, as shown in Figure 4. Considering the historical (2011-2017) and projected (2017- 2021) rise of AuM in the Italian market, managed wealth is expected to grow by 24% during the period 2017-2021, with a stake held in mutual and hedge funds destined to reach 45% of total AuM, against the 35% registered in 2011. These projections witness a growing attitude towards managed assets by Italian households and, combined with an increase in total financial assets far superior than the overall gross wealth, reveal a renewed confidence of investors towards capital markets.

Figure 4

Asset under Management evolution in Italy (€ bn)



Source: Assogestioni, MEFOP

However, the growing quota of Asset under Management has not undermined households gross wealth invested in non-financial assets. In fact, the marked preference towards non-financial activities is the result of a complex combination of elements, including the generalised low levels of financial education of Italian families.

Despite Italians give priority to real estate and/or rural investments, the expected growth for Italian managed wealth (Figure 4), coupled with the potential results of the national strategy supporting financial education, (see Chapter 1) could be key drivers for the rise of the demand in the management services in the near future. However, Wealth Management operators need to have the necessary instruments to deal with the perspective rise in demand, leveraging a renewed service offer (see Chapter 4) ideally conveyed through a multi-channel strategy designed to satisfy the different targeted customers.

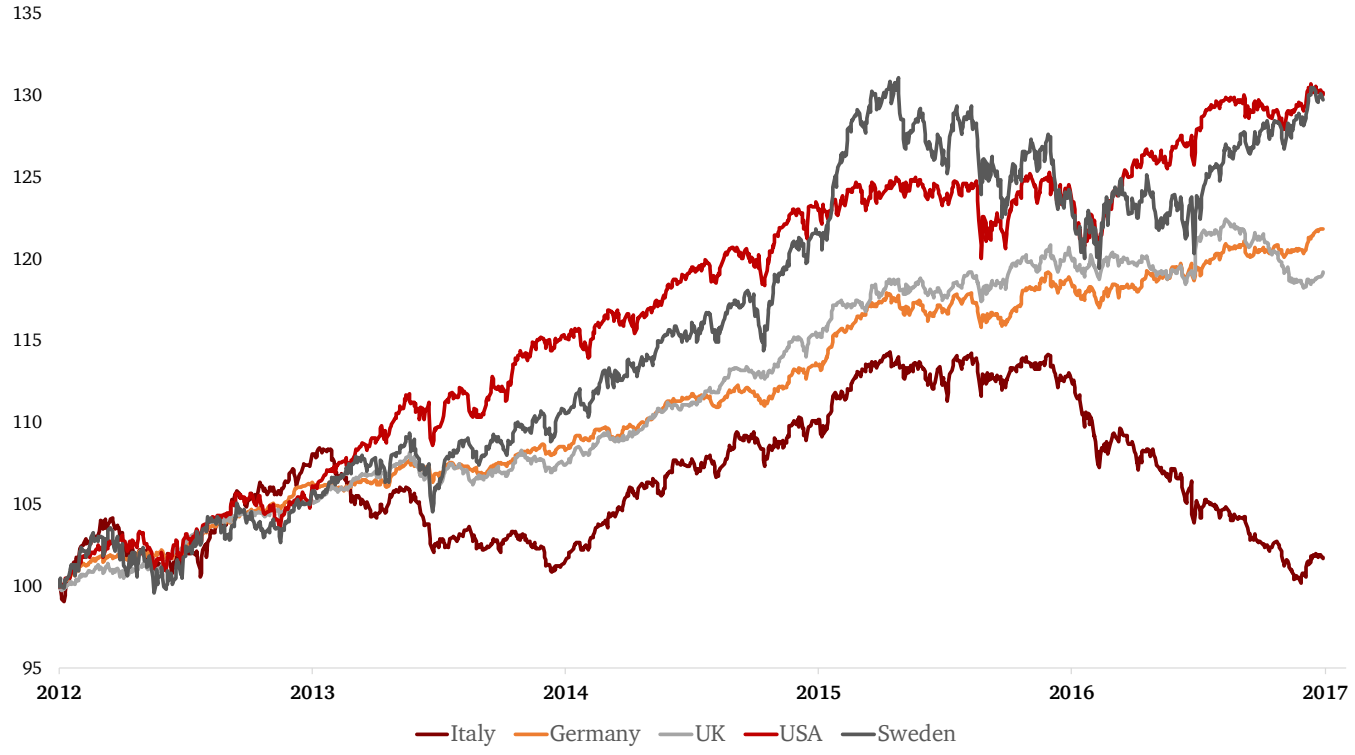
3.2 *Italians' wealth in a risk - return perspective*

In order to properly assess Italian household wealth in a risk/return perspective, analyzing the distribution between financial and non-financial assets is not enough. Indeed, a simple breakdown of the allocation can indicate a preference towards specific categories of assets but does not provide an adequate representation of the performance across a given investment horizon. In order to evaluate households' return performance, it is first necessary to map the wealth's components to the standardised groups identified by the OECD.

Thereafter, it is essential to define a benchmark index representing a proxy of the return[8] for each identified wealth component. Once all benchmark indexes are selected, following a portfolio investment approach, it is possible to compute the weighted[9] average of returns combining each wealth component over the selected investment horizon. The following picture (Figure 5) represents the realised return of a 100,000 euro investment that reflects the country's household wealth allocation starting from January 1, 2012 and annually rebalanced until December 31, 2017.

Figure 5

Households' historical returns estimate



Source: Investing.com, Statista

8 Aggregate wealth (benchmark): liquidity and deposits (inflation); bonds (futures on 10-year government bond); shares and equity (equity markets); mutual funds, life insurance and annuities, pension funds (investment fund proxy built for each country); houses (House Price Index); land (Eurostat, Land Price Summary).

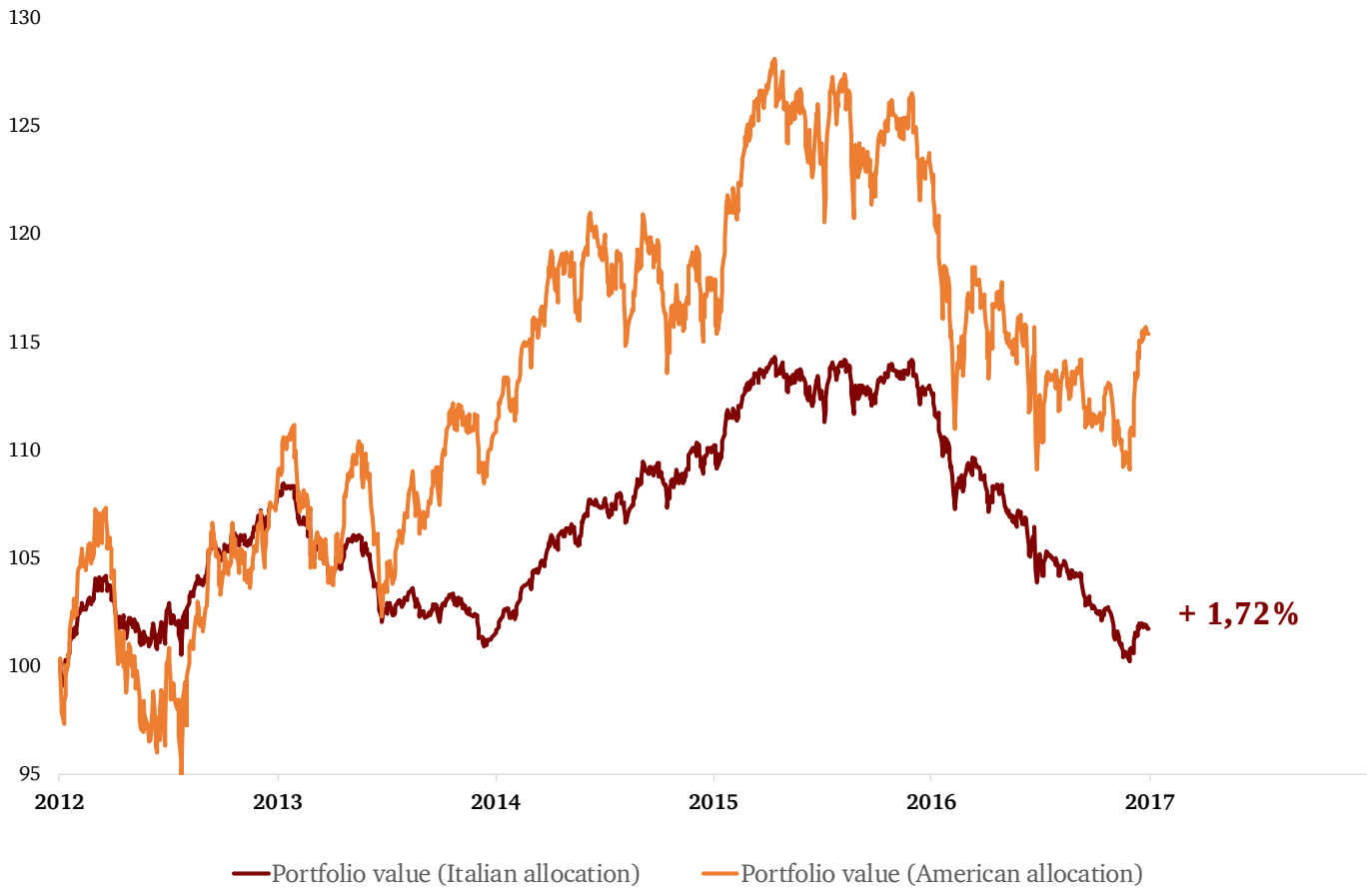
9 Weights for the returns calculation were obtained by considering the shares of each investment class on total assets.

This simulation shows how the absolute wealth of Italian households has registered the worst performance among the panel of analysed countries, presenting an almost null return along the selected investment horizon. On the contrary, American and Swedish families have registered the highest returns with 30% and 29.7% respectively. Results obtained by the latter countries have resulted from an unbalanced distribution of wealth in favor of financial assets, if compared to the Italian case. However, this over-performance should not erroneously lead to the conclusion that financial assets are by definition the optimal choice to obtain higher yields. In Germany, for example, even though the wealth distribution was similar to the Italian one, with non-financial assets representing the main portion of households' wealth (Figure 2), families have registered an extra 20% return over the reference period. The reason of such gap lies in the different returns of land and dwellings between the two countries: in Italy, these investments have produced a loss greater than 10%, while in Germany they have generated a return higher than 20%. This case demonstrates how the mere prevalence of financial assets in households' portfolios does not ensure higher returns. The Investment strategy should be defined according to the country-specific market conditions. Thus, the performance is a direct result of households' capability to take informed investment decisions that are reasonably influenced by the degree of financial education.

To provide additional supporting elements to this assumption, Italian households' yield was simulated by using a different asset allocation. In particular, given the consistency between US and Italian individual wealth components, the analysis shows how Italian households could have benefited of a total return of more than 15% with a strategic asset allocation, aligned with American households (American allocation) compared with the effective return obtained of almost 2% (Italian allocation) (Figure 6). Data seem to support the hypothesis that there is a correlation between the level of financial literacy and households' return. In particular, the simulation shows how a greater financial education generally implies more informed investment decisions and, as a result, superior performances of the investment portfolio.

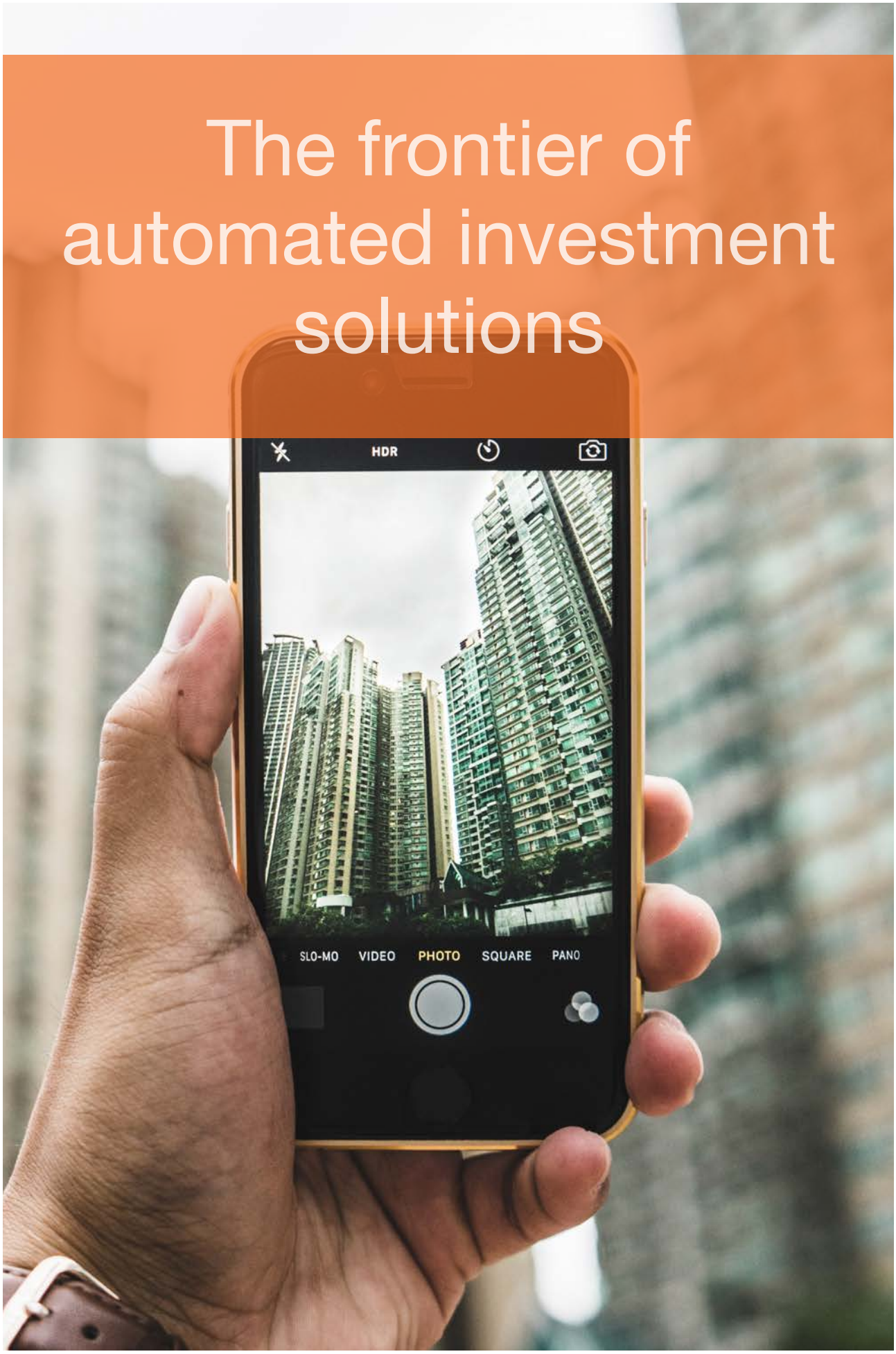
Figure 6

Italian households' historical returns estimate



Source: Investing.com, Statista

The frontier of automated investment solutions



4.1 *The evolving customer needs in the Wealth Management industry*

The Wealth Management market is going through a profound evolution process, driven by a twofold demand change in terms of new customer requirements and a potential renewal of the services offered by the industry operators, aiming to target affluent[10] and mass affluents[11] client needs.

Operators need to redesign their business models, exploiting new distribution channels and Digital Wealth Management-based solutions, in order to keep an offer tailored to market preferences. Indeed, the advent of Digital Wealth Management solutions has profoundly changed the traditional value chain based on a customer-manager relationship and fostered a progressive disintermediation process, similar to what happened in the banking industry.

This new market set-up has opened up to new potential operators able to enter the market dynamically and efficiently building their business models on technologically advanced services and increasing the competition and the pressure on profit margins of traditional operators. However, *incumbents*[12] continue to have the opportunity to develop a range of solutions targeting new customer segments, thus potentially broadening their business horizons.

The recent financial crisis has played a key role in redefining the Wealth Management market, with an initial reduction both in the number of mandates and in the volume of AuM (respectively by 28% and 21% from 2007 to 2008), which returned to pre-crisis levels only in 2013. Therefore, the systemic impact of the crisis has induced market operators to restore trust among clients that, contemporarily, have become increasingly independent, demanding and interested in more direct and transparent management services.

Thus, in this new scenario, it is possible to indicate four key market priorities on which the operators should design their new offers:

1. Personalisation and investors engagement
   Market players have to redesign their offer by segmenting clients based on their current needs and by developing services differentiated for each target category.

2. Convenience and accessibility
   Digital Wealth Management solutions respond to a dual market requirement. On the one hand, they allow companies to reduce operating costs, increasing profit margins, and on the other hand, they provide a service that generally fulfil new market requirements.
   Besides being convenient and affordable, Digital Wealth Management solutions allow clients to access their investments remotely and without time constraints, through digital applications and interactive tools such as Chabot and intuitive user interfaces.

3. Digitalisation and relevance of networks
   A growing number of potential customers uses social networks as a primary channel of information for financial investments.
   A relevant example of this trend are social investing platforms, in which users can share their investment strategies and achieve positive returns based on how many other investors decide to adopt their strategies. Given the ongoing transformation, industry players cannot afford to ignore these digital channels to reach their clients, especially when it comes to young generations (18-21) and small investors.

4. Simplicity and transparency
   Regulations have an increasing weight on the business of financial institutions and determined several transformations as, for example, the rise in capitalisation and liquidity requirements. New regulatory requirements have also involved, in recent years, the Wealth Management sector, with a focus on the transparency on applied management fees and the reduction of inducements[13] and conflicts of interest. New regulations push operators to offer simple services, easily understandable by non-professional clients and with a detailed level of reporting on transactions with the ultimate aim to ensure transparency and improve client trust in the whole system.

10 Wealth included between 20.000 € and 100.000 €.
11 Wealth included between 100.000 € and 250.000 €.
12 Consolidated market players.
13 "Any form of money, goods and services (other than fees and skills normally billed for the service) that an investment firm or its employees receive from a third party in connection to the service provided to the client "(CESR).

4.2 FinTech & Robo Advisory: Italian and Global market overview

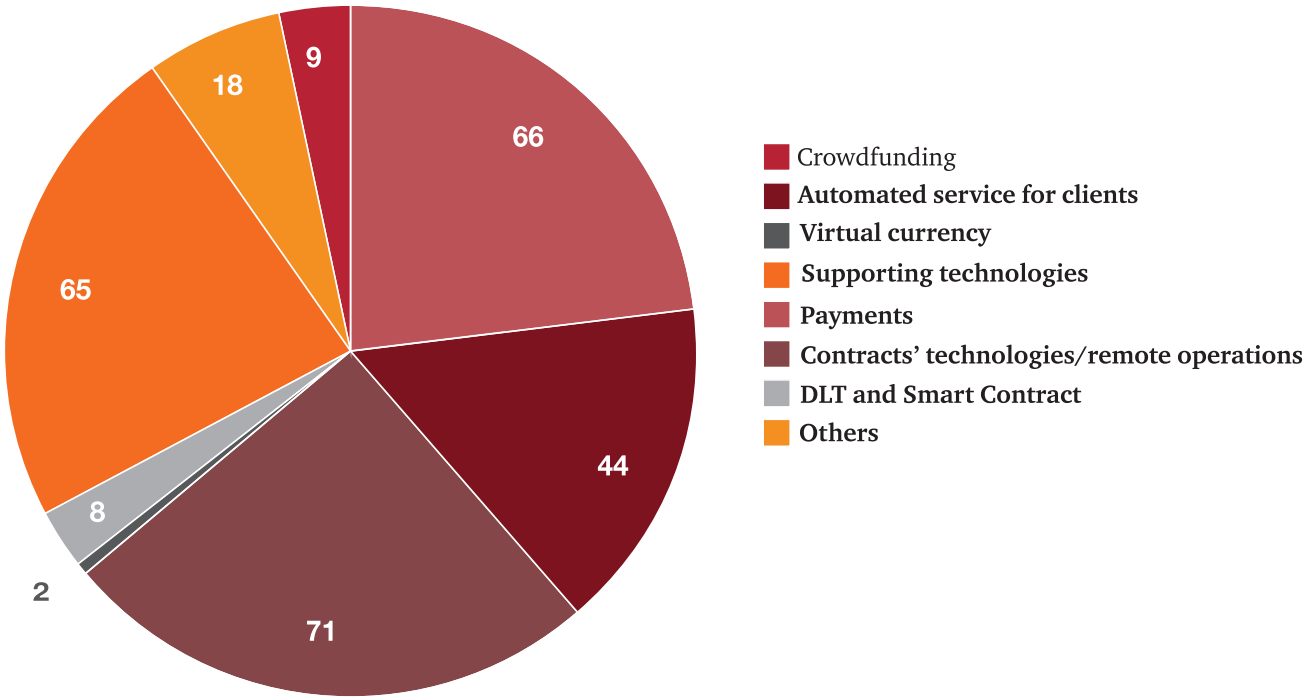
The term FinTech, abbreviation of Financial Technology, indicates the "financial innovation allowed by technological innovation, which can be translated in new business models, processes or products, influencing significantly the financial markets, the institutions, or the provision of services" (Carney, 2017).

The size of global FinTech market is constantly growing and global investments in this sector have reached 25 billion euro in 2016. The majority of these operations results from the so-called "fintegration", the process of acquisition, partnership or direct investment in FinTech companies by large banking groups and Venture Capital funds.

The majority of FinTech investments in 2016 were concentrated in America and Asia, with respectively 55% and 36% of the total. Europe represents the remaining 9%, driven by the United Kingdom; while in Italy, investments in FinTech accounted for only 33.6 million euro (2016), 1.5% of total Europe and 23 times less than values registered in the United Kingdom. However, many financial operators are interested in investing or partnering with FinTech companies in Italy to develop technologies for contracts and remote operations, supporting technologies (such as big data and artificial intelligence), payment services and automated customer services, including automated financial advice (i.e. Robo Advisory). Among the major banking groups operating in Italy, 96% have already started or are planning to adopt similar measures in the short/medium term, resulting in important growth and development opportunities in this sector. However, only 16% of these initiatives are, or will be, destined to automated customer services such as Robo Advisory.

Figure 7

FinTech investments projects by category (units)

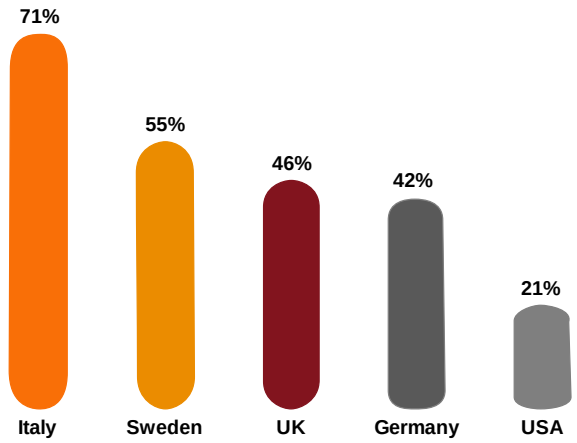


Source: Banca d'Italia

Yet, it is interesting to analyse the Italian Robo Advisory market in order to determine its intrinsic characteristics and to compare it with other developed economies, identifying the areas with the greatest growth potential in the near future. On a global level, the Assets under Management managed by Robo Advisors are expected to grow by more than 350% in the next four years, moving from the actual 371 billion dollars to nearly 1,350 billion dollars by 2022. Today, the American Robo Advisory market is the most developed one, accounting for 72% of the above-mentioned AuM, while the European market only represents 3% of it.

Figure 8

Compound annual growth rate of AuM managed by Robo Advisors (2018-2022)



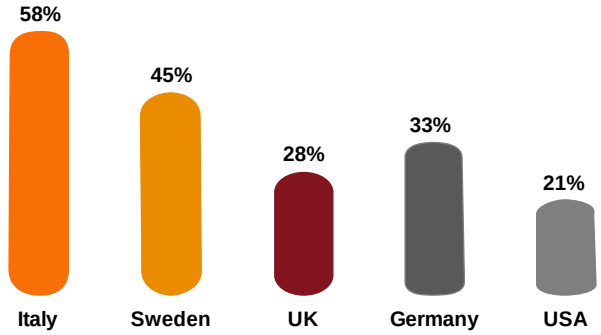
Source: Statista

However, focusing on growth potentials, the perspective US compound annual growth rate (CAGR) is expected to be significantly lower if compared to other countries', due to the higher level of market consolidation. Besides the US, all other countries of the selected sample show growth rates higher than 40%, with Italy leading the group with a projected CAGR of 70.5%, which would boost the AuM from the actual 191 million to 1,620 million dollars in 2022. Thanks to this growth, the absolute value of Italian AuM will overcome the Swedish one, which currently is 1.35 times higher (Figure 8).

In terms of clients, Asia prevails with 17.9 million users, actively adopting Robo Advisory solutions followed by North America, where 97% of clients are concentrated in the United States, and lastly by Europe which has less than one million of current customers.

Figure 9

Compound annual growth rate of Digital Wealth Management clients (2018-2022)



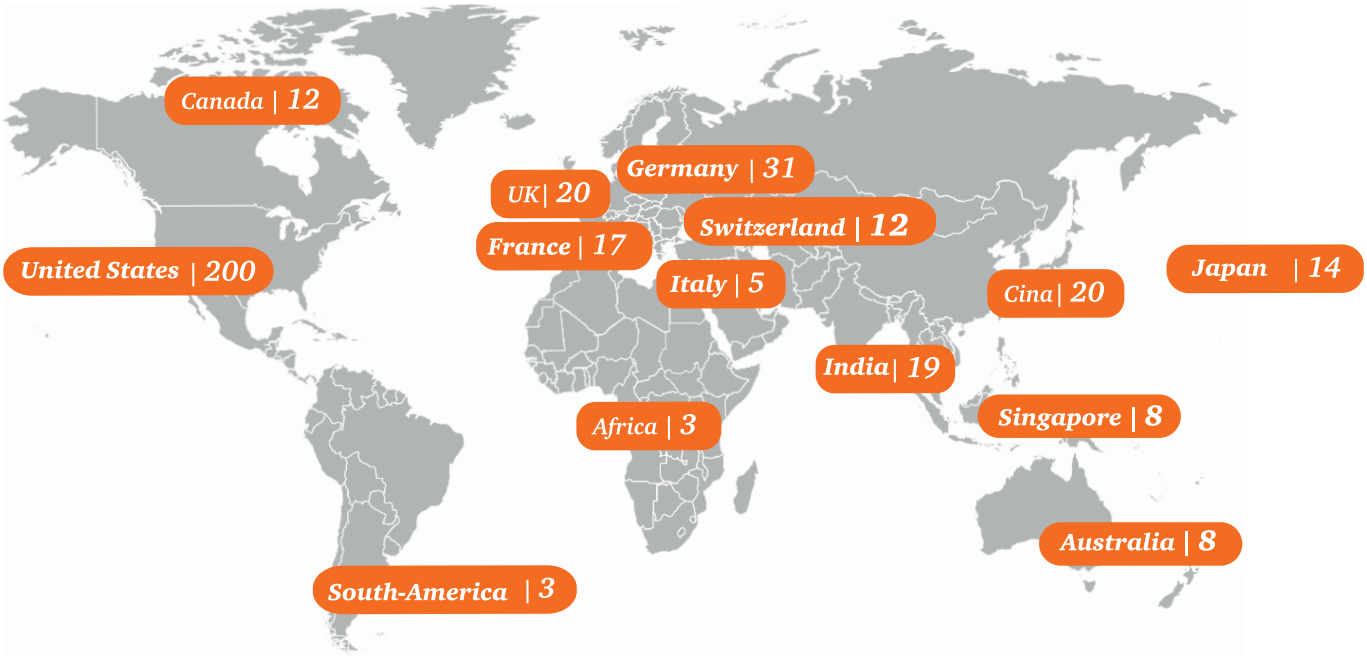
Source: Statista

The compound annual growth rate of Robo Advisory clients for the next four years is also very encouraging for financial industry players: the US will experience a CAGR of 18%, while this rate will exceed 28% in all other areas. Once again, Italy seems to have the higher growth potential, with a compound annual growth rate of nearly 60%, almost double than that of Germany or UK (Figure 9).

Nevertheless, Italy currently continues to be far behind other developed countries when it comes to the number of players offering Robo Advisory solutions. In particular, Italy only has five operators active in this industry, six times less than Germany and four times less than the United Kingdom (Figure 10).

Figure 10

Number of players offering Robo Advisory solutions



Source: Burnmark Digital Wealth

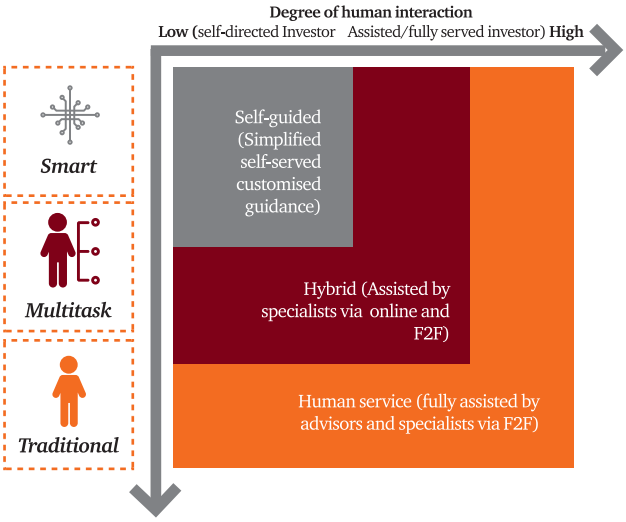
Based on the three mentioned parameters (i.e. AuM, number of clients and number of active Robo Advisors), the Italian market of Digital Wealth Management solutions is still at its early stage, despite being characterised by substantial growth potentials. This makes Italy one of the six most appealing countries for players willing to redefine their business models and offer innovative solutions to keep up with the digitalisation wave that characterises the financial industry.

However, differences among the countries cannot be reduced to the degree of development and growth potentials, but are essentially driven by the diverse range of investors' needs and preferences. In this regard, three different client profiles can be identified:

1. Traditional customers
   Traditional customers' primary investments objective is capital conservation. They are risk adverse and look for secure and transparent services characterised by direct interaction with human financial advisors, thus traditional business models usually meet their needs. They do not seek autonomous investing opportunities and they are generally not interested in Digital Wealth Management solutions.
2. Multitask customers
   Multitask customers are not fully satisfied by the traditional financial services offer. The main financial objective is to increase wealth over the long term horizon, with a medium-low risk investment strategy. They value multi-channel approaches, with particular reference to remote services constantly accessible via user-friendly digital interfaces. They look for solutions that allow them to have direct control of their investments without giving up the expert advice, which still acts as a point of reference for informed investment solutions.
3. Smart customers
   Smart customers are not satisfied by the traditional financial offer. They are confident of making autonomous investment decisions, thus they are likely to invest without any external advice. They look for simple, accessible and digital services, therefore innovative management solutions, such Robo Advisors, seem to meet their needs.

Figure 11

The Robo Advisory market



Source: PwC Analysis

In order to meet clients' needs across all segments; players have developed different Robo Advisory solutions characterised by a diverse degree of automation and clients' target. These solutions can be grouped into three models:

1. B2B
   Automated capital management solutions offered to traditional players, who need to implement new digital services for their customers. The automated solution is addressed to financial managers, who will use it to optimise their consulting activities and effectiveness.
2. B2C
   Robo Advisory services, addressed directly to retail investors, able to manage portfolios in a completely autonomous way, without any human intervention. This solution represents the frontier for a purely automated financial advice service, completely free from a human component.
3. B2B2C (*Hybrid Advisory*)
   Hybrid solutions that include both an automated service to support the banker and a user-friendly interface to allow clients with an independent access to his/her portfolio, controlling the performance and customising the periodic reports available.

Moving from these categories, the two main Robo Advisory markets, US and Europe, have been analysed in terms of offerings and client segments and then compared with the Italian case.

- **USA**: the market is populated both by new FinTech companies (e.g. WealthFront, Betterment) and by Asset Management incumbents who entered the Robo Advisory business (e.g. Charles Schwab, Vanguard), introducing technological solutions mainly targeted to retail customers (B2C). The solutions offered present low or minimum initial investment requirements and low management fees and they usually rely on standard financial products, mainly Exchange Traded Fuds (ETF). Smart customers are the main target, in fact, having a strong attitude to adopt digital solutions, they allow market operators to minimise the intervention of human advisors and therefore offer competitive pricing solutions. In addition to solutions aimed at directly serving final customers, American players (especially incumbents who have introduced an automated system within the banking services already offered by their network) also offer B2B and hybrid solutions, potentially appealing for Traditional and Multitasks customers.
- **Europe**: the market is highly fragmented and offers both B2B and B2C services. The spectrum of financial products on which Robo Advisory solutions rely is broader (including mutual funds, shares/holdings and bonds as well as ETFs) in order to meet the needs of a more diversified customer base, ranging from young generations, very inclined towards technological solutions, to Traditional customers. A peculiar feature of the European market is the relevance of online financial communities: blogs and digital platforms play a fundamental role in creating a system that ties social networking and Wealth Management. Most of European customers can be classified as Traditional and/or Multitasks and they prefer diversified and multi-channel solutions that are not fully automated but preserve a human component.
- **Italy**: the market is still highly characterised by the features typical of the traditional Wealth Management system in terms of both the offering (varied range, but strong relevance of mutual funds) and the approach to

customers. In the Italian market, tailored services are offered to wealthier clients, while standardised solutions are used to target retail customers. The majority of Italian customers are aged between 40 and 50 years and embody a traditional investment profile. As explained earlier in this chapter, these investors do not seek to manage their portfolio autonomously through digital platforms; instead, they still prefer forms of advice strongly based on the human touch. Thus, low-cost B2C solutions, which dominate the US market and target Smart customers, would not be currently appropriate for the Italian reality. The European market is more inclined towards hybrid models, which allow customers to remotely access their investments on digital devices as well as to rely on human managers for advices. These solutions seem to be appropriate to target Italian millennials, who can be classified in the Multitask clients' segment, as well as Italian current clients. As a result of the transfer of resources across different generations, Millennials will, in the near future, have capitals to invest. In fact, according to the European Central Bank, today about half of the European wealth is held by people over 55 and in the next twenty years, this wealth will be transferred to younger generations.

4.3 *Automated investment: analysis of Robo Advisor performance*

The traditional Wealth Management model is evolving in order to adapt to a new competitive environment and to be able to face the increasing demand that characterises this industry. Thus, it is interesting to analyse and compare the performance of traditionally versus digitally managed (i.e. Robo Advisors) investment portfolios. In fact, when considering financial literate clients, portfolio return is the main driver influencing their financial preferences and decisions.

Historical data show that only few traditionally actively managed funds have been able to outperform their benchmarks[14]. and that the percentage of managers underperforming their respective benchmarks increases as the investments horizon gets longer. Given these evidences, Italian managers perform better than their European and American colleagues. Italy is in a virtuous position, having a percentage of actively managed funds beaten by the benchmark twice lower than the United States, with reference to all three time-horizons considered (Figure 12). The US reality is quite concerning with 84% of the actively managed funds underperforming their benchmark over a 5-year[15] investment period. Moreover, less than 0.87% of US funds are able to outperform their benchmarks systematically[16], highlighting the difficulty of traditional players to maintain results above the standards year after year.

Although historical performance may not be a good representation of future results, traditional systems do not seem to guarantee regular satisfactory returns coupled with their general inability to meet the emerging needs of younger generation[17].

14 An objective parameter to assess the performance made up of a virtual portfolio composed by financial assets of different nature, but of similar composition to the portfolio with which needs to be compared.

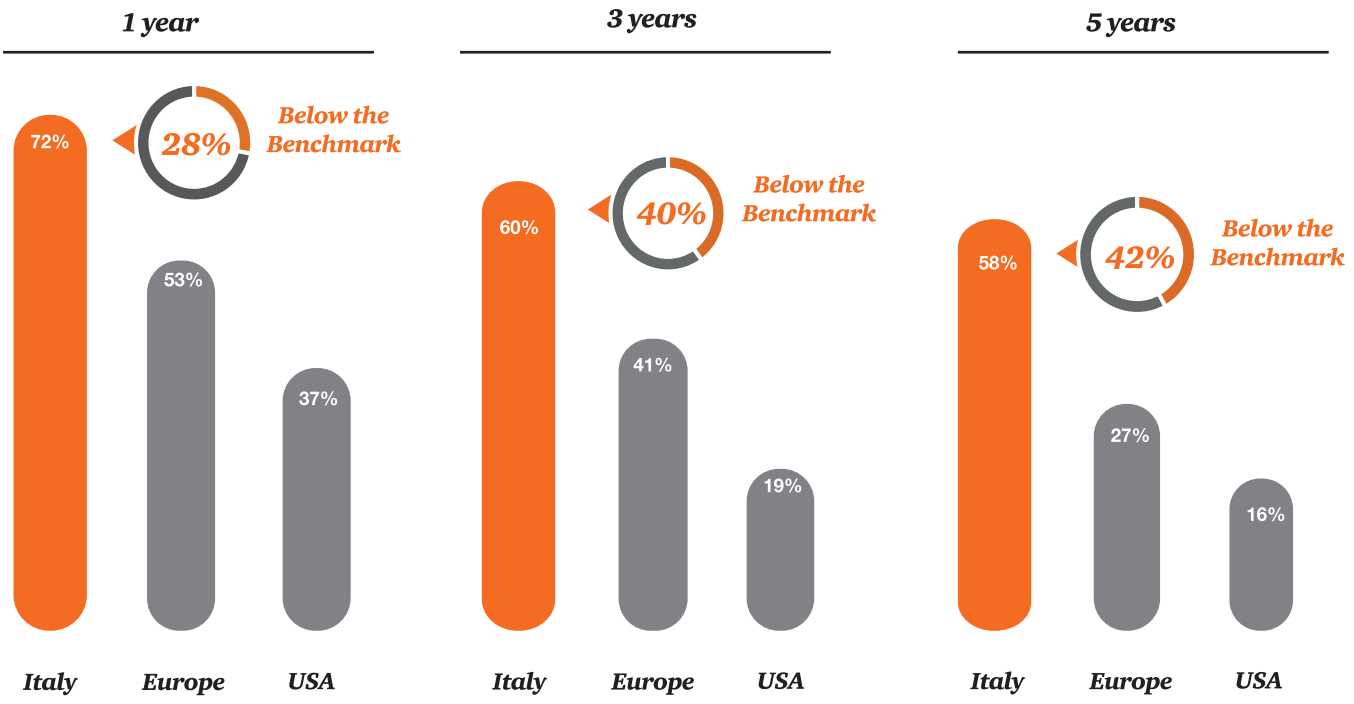
15 *S&P Dow Jones Indices*.

16 The 0.87% represents the quota of funds kept in the first quartile from 2013 to 2017 regarding returns. Thus, it appears to be the most optimistic estimate to indicate those funds continuously beating their benchmark over the considered period.

17 Chapter 4.1: The evolving customer needs in the Wealth Management industry.

Figure 12

Actively managed funds above their benchmark index over 3 time horizon [%]



Source: SPIVA Report

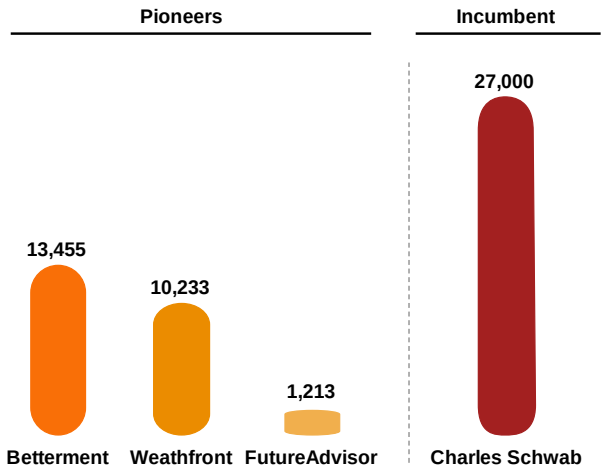
As said above, the traditional American Wealth Management market seems to be the worst performer but, at the same time, the US is the world's leading Robo Advisory services' market. These apparently contrasting evidences may be explained, at least partially, if Robo Advisors were able to obtain, on average, higher returns than traditional managers. In order to prove this thesis, the performance of the top four American Robo Advisors, in terms of Asset under Management, were analysed (i.e. Betterment, WealthFront, Charles Schwab and FutureAdvisor).

It is essential to highlight that the four players present substantial differences in the services offered as well as in the business model adopted. In fact, while Betterment and WealthFront are pioneers of the B2C service, Charles Schwab introduced an automated B2B solution within its existing banking offer becoming one of the first institutional player to develop an effective Robo Advisory solution internally. By leveraging its customer base, Charles Schwab quickly became the leading player in terms of automated AuM. Finally, FutureAdvisor, started as a FinTech pioneer, was recently acquired by BlackRock.

The strategy adopted by BlackRock is an example of one of the possible strategies ("buy" strategy) that traditional players can pursue in order to introduce innovative solutions in their portfolio of services.

Figure 13

AuM managed by Robo Advisors ($ mln)



Source: The Robo Report

As a whole, the four providers manage a total of 51.9 billion dollars, apply management fees that range between 0% and 0.5% and require a minimum investment that varies from 1 to 10,000 dollars. These pricing conditions meet the needs of affluent and mass-affluent customers: a low-cost, yet valid, asset management solution. In fact, traditional asset managers require much higher minimum investment and apply management fees that are inversely proportional to the amount invested.

However, traditional commission fees profiles are always higher than those applied by digital operators, even doubling, in certain cases, the maximum amount charged by Robo Advisory solutions. In fact, even considering an investment of over 30 million dollars, management fees applied by traditional managers would remain on average higher than the fees charged by the four American Robo Advisors analysed on an investment of only 10,000 dollars (Figure 14).

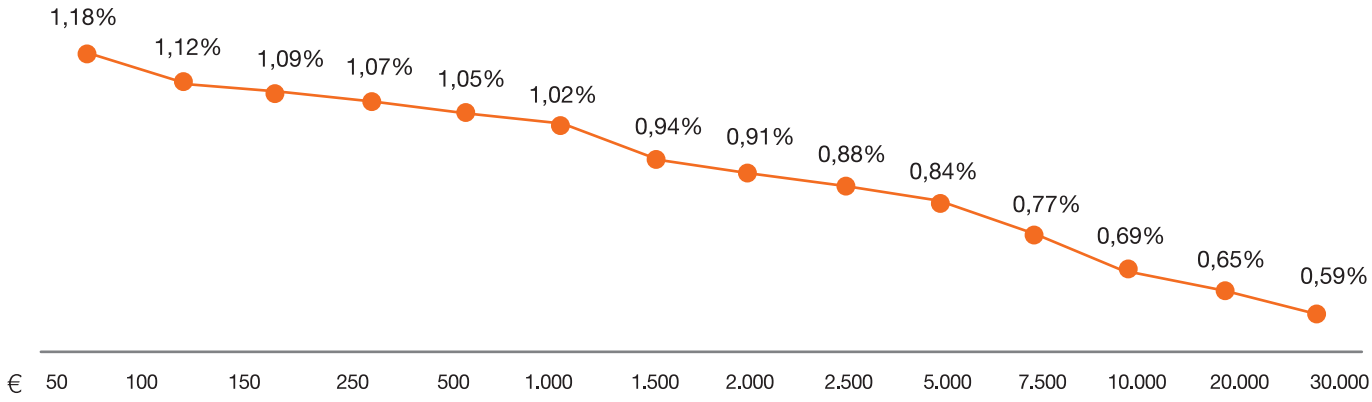
These data, though revealing how Robo Advisors represent a competitive option from a pricing perspective, do not give any information on their competitiveness based on a risk-return approach.

Prior to examine this aspect, the different portfolio models, asset allocation and portfolio rebalancing strategies, were analysed. Each Robo Advisory platform has a proprietary algorithm, according to which it distributes and manages the invested capital leveraging on the economic principles of portfolio optimisation, given a specific risk profile.
In general, the actions encoded by the proprietary algorithms can be represented as a four-step process:

1. Select the investment categories
   In this phase, the risk profile and the investor's objectives (customer profiling) are examined and the target areas to consider are selected, based on clients' risk profile, expected return and the correlation between the different activities and the fiscal profile.
2. Select the investment vehicle
   The goal of this phase is to select the best tool for each investment class. The four players mentioned adopt only funds and ETFs to make their investments. At this stage, the algorithm identifies the most appropriate ETF for each investment category.

Figure 14

Fees per amount invested | Traditional Model



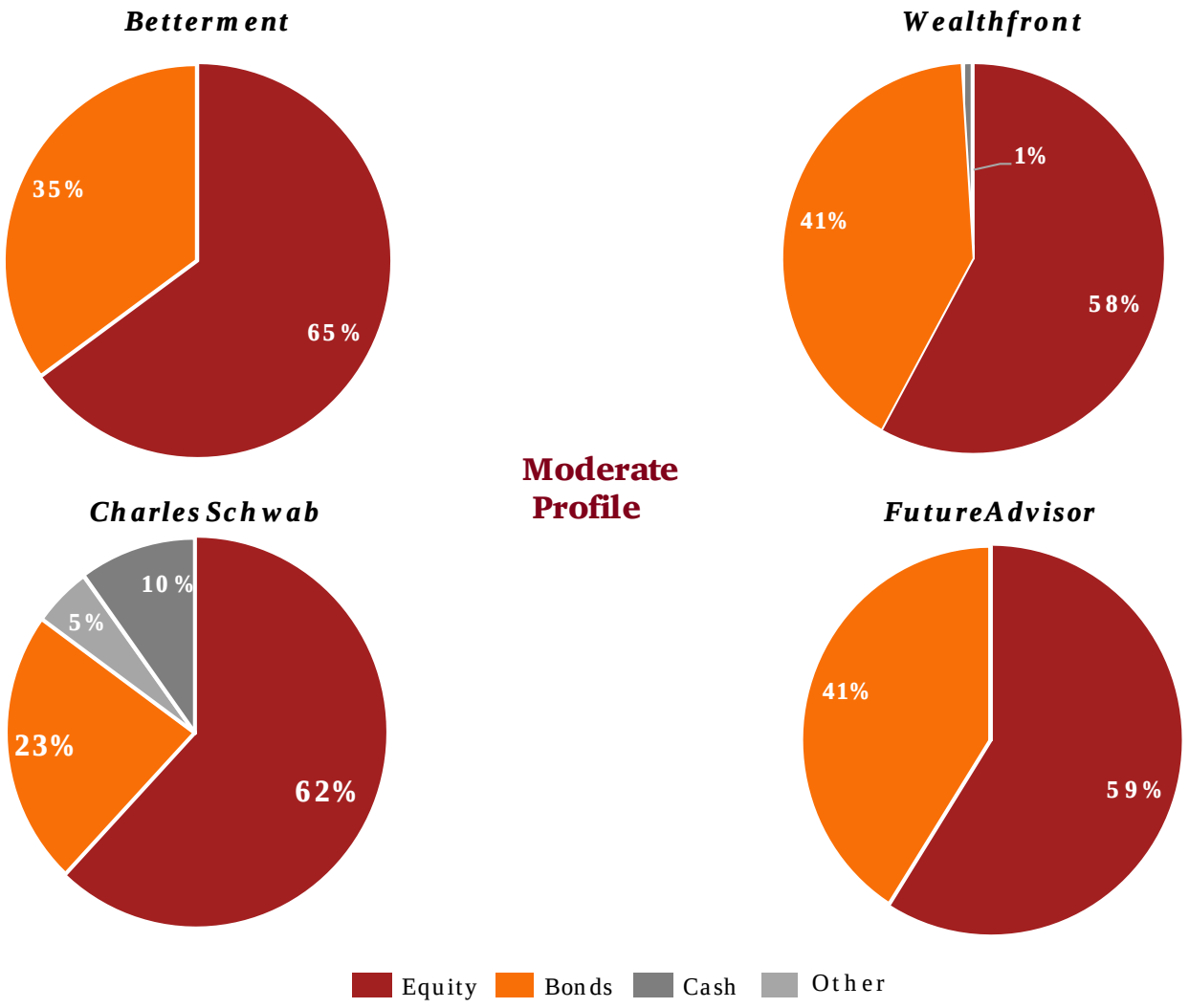
Source: Advisoryhq

3. Set-up of the optimal portfolio
   During this phase, the efficient investment frontier[18] is identified and the algorithm defines how to maximize returns, consistently with the client's risk profile.
4. Portfolio management
   This phase includes all the activities related to monitoring, rebalancing, reporting and *tax-loss harvesting*[19] for the defined portfolio model.

Given a moderate risk profile, the analyzed Robo Advisors show comparable asset allocations, with the exception of Charles Schwab, that includes a significant cash component (Figure 15) in its automated portfolios. This peculiar feature can be explained with the inherited banking model of Charles Schwab and the resulting benefits to have extra liquidity in support of its business.

Figure 15

Moderate profile portfolio composition



Source: The Robo Report, Barron's 2018

18 Set of investment baskets that do not present alternatives with the same risk and greater return or with the same return and lower risk.

19 Sale of securities at a loss in such a way as to offset short-term gains from other investments, and therefore minimize the tax impact on the return.

Starting from these asset allocations, the returns of the four Robo Advisors were simulated along the investment horizon between 2011 and 2016. Moreover, returns simulated were compared to the performance of three different benchmarks, each resembling the performance of actively managed funds for three different risk profiles (i.e. Aggressive, Moderate and Conservative).

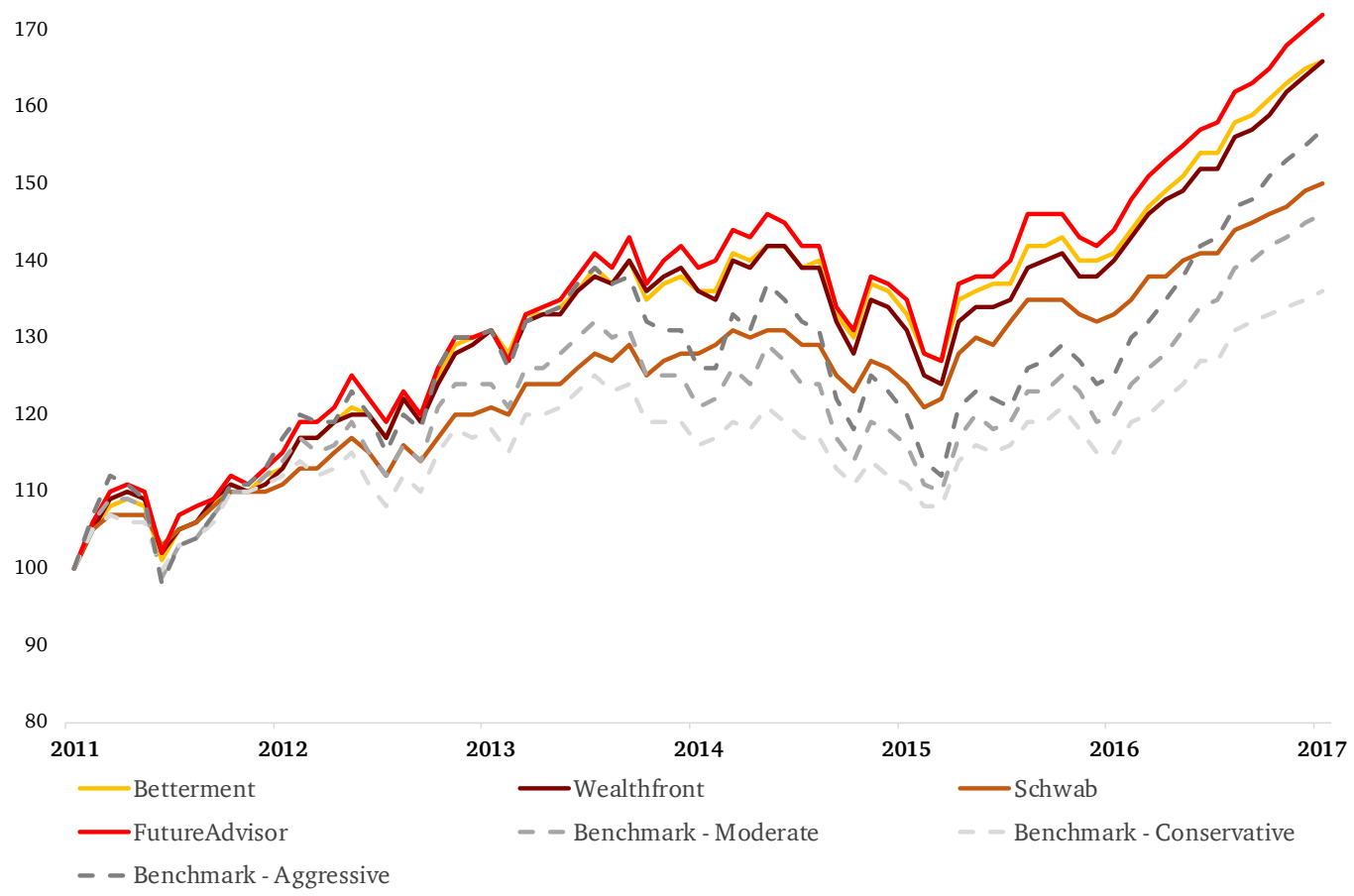
In particular, benchmarks have been set-up with the following allocations, weighting different indexes for each asset class:

- *Aggressive benchmark (90% shares, 10% bonds)*
- *Moderate benchmark (70% shares, 30% bonds)*
- *Conservative benchmark (50% shares, 50% bonds)*

Lastly, the macro-categories of the above-mentioned assets were broken-down into more specific investment categories[20] and, for each of them, specific ETFs were selected to simulate the return.

Figure 16

Automated managed historical portfolio yields | Moderate profile



Source: The Robo Report, Spiva Report

20 Subdivision following the classification proposed by Morningstar.

The results, displayed in Figure 16, show that the four main US Robo Advisors have generally obtained better returns than the relative benchmarks: 75% of Robo Advisory solutions outperformed all benchmarks, even the aggressive one, along the investment horizon considered (2012-2017). Charles Schwab recorded the poorer performance, as a result of the higher weight assigned to the cash component of its portfolio. However, Charles Schwab outperformed two out of three benchmarks, obtaining a positive return of about 50% over the considered timeframe. Starting from 2015, all platforms have performed systematically better than the moderate benchmark. This result is even more meaningful if compared to the performance of actively managed US funds. Indeed, only 6.39%[21] of traditionally managed investment funds have regularly obtained higher returns over the same reference period.

In conclusion, the analysis suggests that Robo Advisors are a valuable alternative to traditional investment solutions in terms of both cost and return. Given these results, the diffusion of these automated solutions, if widely applied, could increase market efficiency for players and customers within the financial service industry. In Italy, although managers have proved to be generally able to obtain better returns than those of their colleagues in other countries, Digital Wealth Management solutions represent a key opportunity for the industry. In particular, hybrid solutions (B2B2C) would be able to fulfil the growing demand for asset management expected in the future[22], guaranteeing comparable performances and a valid and timely support for managers. The B2B2C solutions are the most suitable for the Italian market, characterised by an investor base which is not yet ready to give up the intermediation of a human advisor. Furthermore, these solutions may lead to a greater involvement of users in the investment management process and, if adopted as a standard by key market operators, may be leveraged to convey *just in time*[23] learning sessions, improving the level of financial education and hence, supporting the creation of a client base fully aware of its investment choices.

21 6.39% represents the portion of funds that are maintained in the first quartile from 2015 to 2017, regarding returns. It is therefore the most optimistic estimate to indicate the funds that continuously beat their benchmark during the period considered.

22 Chapter 4.3: Innovative positioning of Italy vs market in / extra EU in terms of innovation.

23 Chapter 1.3: First results of the National Strategy adopted and follow-up.


100% responders
5$ each
8.4% conversation rate
costs : $42,000
= 7,843 / buyer
89%
Upcoming Campaign
Rev
Profit
cost
Audience Size 10,000
Response Rate → 10%
Conversion Rate
average buyer

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