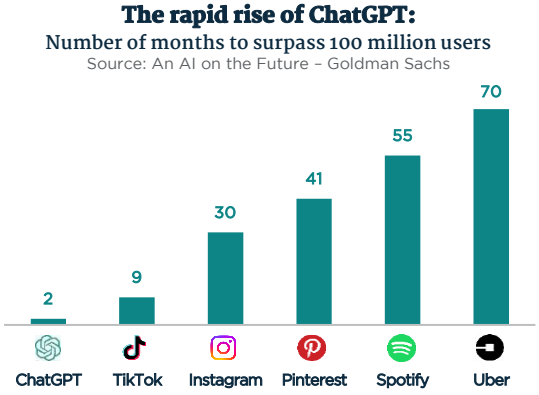
The importance of artificial intelligence and how to invest in the thesis through public and private markets

The year 2023 will go down in history as the first time the mass public came into contact with artificial intelligence (AI) through the launch of OpenAI's app: ChatGPT. The company was the quickest to reach 100 million users in its user base, a significant milestone for any B2C (business-to-consumer) technology company, requiring only 2 months to achieve this feat. Instagram, for example, Meta's popular social network, took 30 months, i.e. 15 times longer to achieve the same milestone.



The reason behind why so many people were attracted to it was an AI model called the Large Language Model (LLM). Its use has unlocked the potentially huge productivity gains that can be achieved by using AI-based technologies.

But what is an LLM?

A Large Language Model is an advanced type of artificial intelligence that can understand a question and generate answers in a sophisticated way. They are trained with large amounts of text to learn language patterns and structures, allowing them to perform tasks such as answering questions, writing texts and even carrying out translations. These models have the ability to understand complex contexts and produce contextualized responses, simulating in a certain way a conversation with a real person.

To give you an idea, the paragraph you have just read was generated 100% by ChatGPT 3.5 (the model is now in its 4th generation) using as a parameter: "Explain to me in a simple paragraph what a Large Language Model is".

The evolution of ChatGPT began by predicting what the next word in a sentence would be. As more training was carried out, based on data feeds, the model became more sophisticated. For example, it managed to outperform 90% of humans on the SAT[1] (an American university entrance exam). This was a truly remarkable achievement for a computer program. As a result, it quickly began to be used by its user base for everyday queries (e.g. putting together a travel itinerary, making a recipe with items from the fridge) and making simple productivity gains at work (e.g. summarizing or translating a large block of text).

It is important here to point out that the AI model we are referring to and which is the focus of all the market euphoria is a generative model which can be both image and text-based, such as DALL-E and ChatGPT, both of which belong to OpenAI.

Despite OpenAI's admirable achievement, what is the real use of the LLM in the corporate world and how important is it?

To give a good practical example, consider GitHub, a Microsoft company for code developers, which launched GitHub Copilot in 2022. Through an LLM, GitHub Copilot helps programmers to write code more productively at a price of just $10/month. This feature is responsible for US$100 million in revenues[2], which still represents only 1% of the user base and 10% of the total revenue[3]. This demonstrates the significant growth potential as technology adoption continues to expand. It is also worth watching Adobe's Firefly video[4] which illustrates the impact of artificial intelligence on the creative world (in this case the app is applied specifically to the world of design).

Now that we have briefly discussed the promising signs of artificial intelligence in generating value through increased productivity, it's time to address the extensive value chain that involves i) software/applications, ii) infrastructure, and iii) semiconductors. It's worth noting that companies can be present in more than one point of the chain, as is the case with Amazon, Google, and Microsoft, which are leaders in cloud computing with a combined market share exceeding 60%[5].

Perhaps the best way to discuss AI is from the end user's point of view. A person may have demands for various software such as Adobe, Apple, Google, Instagram, Microsoft Excel, Oracle, Salesforce, SAP, Tesla and Uber. An AI model can be built within these companies (e.g. Google Bard) or they can choose to rent an external model, such as that provided by OpenAI. In this option, it is also possible to train the model with internal data, so that it addresses the company's needs in a tailor-made way, while also offsetting the risks of compliance and data sharing by keeping the model within the company's security system and maintaining the information private.

Listed companies in the AI chain

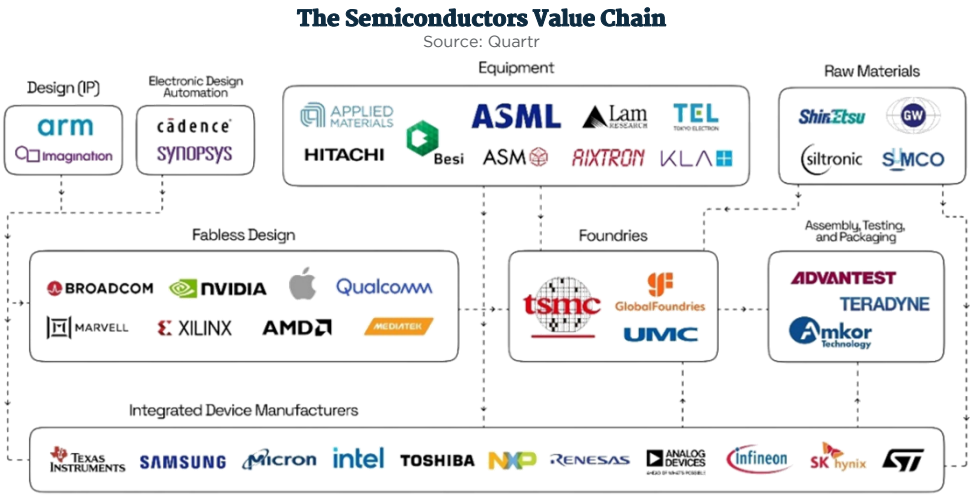
1 https://www.cnbc.com/2023/03/14/openai-announces-gpt-4-says-beats-90percent-of-humans-on-sat.html
2 https://www.theinformation.com/briefings/microsoft-github-copilot-revenue-100-million-ARR-ai
3 https://techcrunch.com/2022/10/25/microsoft-says-github-now-has-a-1b-arr-90m-active-users/
4 https://www.youtube.com/watch?v=NPJNPrshhTo
5 https://www.idc.com/getdoc.jsp?containerId=prUS51009523

In software, we can identify which listed companies in the sector have the advantage of being first movers for two main reasons: i) speed and ease of distribution and ii) access to volumes of data. In the first case, the best illustration is Microsoft which is the absolute leader in productivity applications (e.g. Excel, Teams, Outlook). Its alliance with OpenAI was important in consolidating its position on the issue. The move was strategic from a defensive point of view (incremental innovation is essential to create barriers to new entrants) and from the point of view of increasing revenues (the client has to pay for an upgrade to use it), while OpenAI gains speed in distributing its model. Databases, on the other hand, represent both an opportunity and a threat since they are increasingly interchangeable or even public, giving companies the chance to take on the incumbents with more efficient AI tools. The first challenge is already underway, with Microsoft's Bing using ChatGPT to make Internet searches more assertive and in doing so challenge Google search.

Moving along the chain, we arrive at infrastructure and the story of the emergence of AWS (Amazon Web Services). This was the first cloud computing company whose business model was based on renting servers to others at a cost as competitive as owning a server. While the origin of cloud computing dates back to a common outsourcing process, it has developed and become increasingly more specialized. Furthermore, in the AI era, financial sums involved have become superlative.

A high-tech server, like the one used by OpenAI to train the model, can cost US$4 billion[6], an amount that will be paid out by Amazon, Google and Microsoft, among other cloud computing companies. These will, in turn, rent the processing capacity to various companies. In OpenAI's case, it will rent these servers for both training and inferences (each ChatGPT query represents an inference). Although this variable cost is low, around US$0.02[7] per query, it becomes representative in scale. In one month, OpenAI could have spent US$40 million on inferences. This is clearly an advantage and a market that is still in its infancy for these three Big Techs.

One more step along the chain takes us to semiconductors which are the main content of these high-tech servers. Their complex ecosystem can be considered a separate value chain. The chart below shows how some of the main companies are organized.



Nvidia is perhaps the most talked about company at the moment as it was the first semiconductor company to exceed a market value of US$ 1 trillion[8]. The reasons why it has achieved such a feat may be both its absolute leadership with over 90% market share[9] in supercomputer chips and the fact that these chips account for over 70% of the cost of a server[10].

The chips that Nvidia produces are called GPU (Graphic Processing Unit). The reason why this chip has managed to outperform the CPU (Central Processing Unit) in training LLMs is its ability to perform simultaneous calculations, known as parallelism. In this process, parts of the model are trained at the same time to speed up the calculation process and thereby reduce the time needed to train the entire model, improving computational efficiency and the final cost.

Despite its current hegemonic position, Nvidia is already facing challengers on the market. Some are older, like AMD, and others are relatively new, like Amazon and Google. It is no coincidence that the latter are using greater verticalization in an attempt to gain more differentiation and profitability in cloud computing.

Another feature of the sector is the outsourcing of chip manufacturing. Nvidia only designs the chips, but the final manufacturing is the hands of other companies such as TSMC (Taiwan Semiconductor Manufacturing Company). TSMC is the leader in vertical manufacturing with more than 50% market share[11] – another natural beneficiary of the AI movement.

Chip manufacturing is highly capital-intensive and extremely complex. An advanced chip factory requires around US$10 billion just to be built. The complexity, in turn, can be illustrated by the involvement of the fourth state of the matter, plasma, in the manufacture of semiconductors. The result is the meticulousness required to achieve high production yields and specialized machines that cost tens or hundreds of millions of dollars, as is the case with Applied Materials, ASML, KLA, Lam Research or Tokyo Electron. Given the complexity of the topic, we won't delve too deeply here, but I believe it's clear that there is a

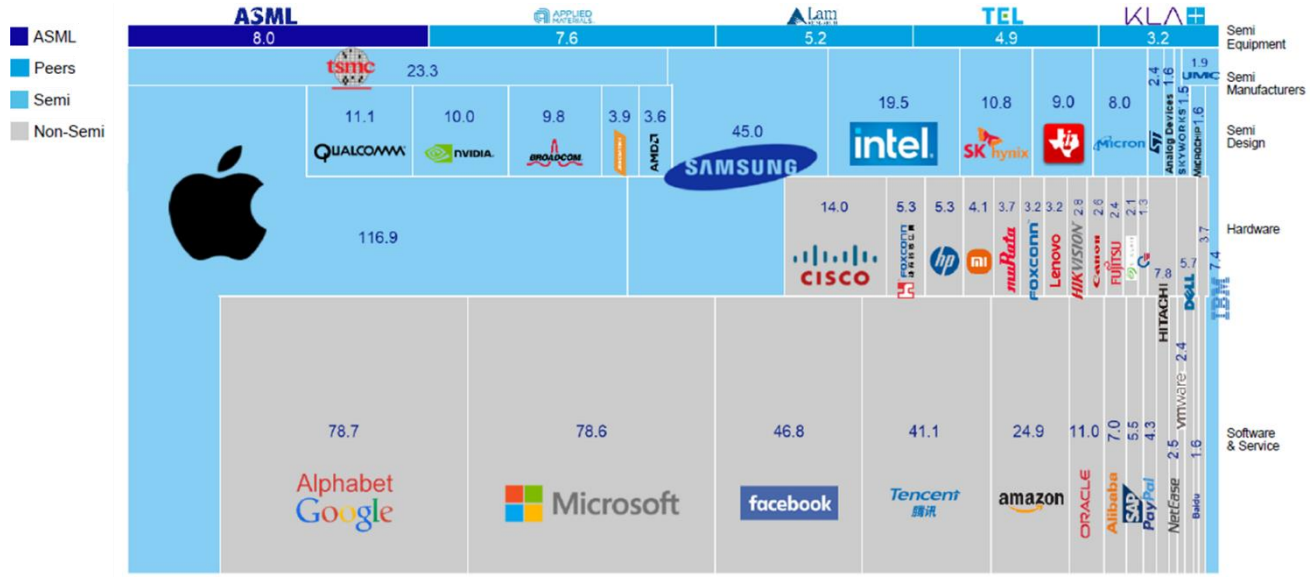
6 https://www.cnbc.com/2023/02/23/nvidias-a100-is-the-10000-chip-powering-the-race-for-ai-.html
7 https://www.semianalysis.com/p/the-inference-cost-of-search-disruption
8 https://finance.yahoo.com/news/nvidia-touches-1-trillion-market-cap-as-chipmaker-rides-ai-wave-133530381.html
9 https://www.networkworld.com/article/3684174/nvidia-still-crushing-the-data-center-market.html
10 https://www.semianalysis.com/p/ai-server-cost-analysis-memory-is
11 https://www.counterpointresearch.com/insights/global-semiconductor-foundry-market-share/

significant barrier to entry for new players in this segment of the chain, highlighting the importance that current players hold in it.

The table below presents an interesting overview of the universe of public companies linked to AI through operating profit (EBIT - Earnings Before Interest and Taxes) in which the 50 largest reached US$ 688 billion in 2021.

The universe of public companies linked to Artificial Intelligence and their operating profits

Source: ASML Small Talk 2022 - Megatrends, wafer demand and capacity plans to support future growth – Peter Wennink



Private companies in the AI chain

That said, we cannot fail to mention the impact of AI on the private market since most of the innovations are native to Venture Capital market deals.

Top Venture Capital and Private Equity backed Artificial Intelligence and Machine Learning companies

By capital raised in US$ millions to June 2023

Source: Pitchbook Q2 2023 Artificial Intelligence & Machine Learning Report

Company	Capital Raised (US$ MM)	Segment	Category	IPO probability	M&A probability	"No exit" probability
OpenAI	$ 11,010.10	AI Core	Foundation models	19%	79%	2%
Stripe	$ 9,105.00	Financial services	Payments	96%	2%	2%
Waymo	$ 3,000.00	Autonomous vehicles	Autonomous vehicles design	63%	35%	2%
Databricks	$ 3,497.40	AI automation platforms	Database management	89%	9%	2%
Anduril	$ 2,315.10	Intelligent robots	Drones	97%	1%	2%
Nuro	$ 1,032.00	Intelligent robots	Industrial robots	92%	6%	2%
JD Digits	$ 2.127.90	Financial services	Intelligent banking	-	-	-
Horizon Robotics	$ 700.00	Processor design	Inference	-	-	-
Inflection	$ 1,565.00	AI Core	Foundation models	2%	96%	2%
SambaNova Systems	$ 1,136.60	Processor design	Training/Inference	60%	38%	2%

OpenAI itself is still a private company that raised $10 billion in January of this year in a round led by Microsoft for its expansion into the LLM universe, as mentioned.

On the Enterprise Software side, as we are talking a lot about efficiency and productivity gains, Databricks is one of the leaders in the sector. It has raised $3.5 billion over its 10 years of existence with well-known Venture Capital managers such as Andreessen Horowitz, Coatue and NEA. Databricks provides a unified cloud-based platform for processing large blocks of data, with the aim of making data processing and analysis simpler and more efficient. This company's IPO which is expected to take place soon (probably in 2024) will be an important milestone for Venture Capital managers and the AI segment.

As for the semiconductor segment, which as we said is an essential "raw material" for processing AI models, we should mention ARM, whose IPO was eagerly awaited by the technology market this year. The IPO price in September valued the company at USD 54 billion. The company operates in the same value chain as Nvdia and was invested in by Softbank, another major player in the Venture Growth market.

Although AI investing is booming today, the Venture Capital market has been allocating capital to the segment for many years. In 2018 (long before the launch of ChatGPT 4.0) more than USD 50 billion was allocated to companies whose business models are directly linked to AI. The figure in 2022 was USD 73 billion and by the middle of this year we are at USD 40 billion invested in almost 3,000 deals.

Key Artificial Intelligence and Machine Learning late-stage Venture Capital deals

By deal value in US$ millions to June 2023

Source: Pitchbook Q2 2023 Artificial Intelligence & Machine Learning Report

Company	Date of closure	Subsegment	Value of the deal (US$ MM)	Pre-money Valuation (US$ MM)	Lead Investors
CoreWeave	14/Apr	AI automation platforms	$421.00	$2,100.00	Magnetar Capital
Cohere	08/Jun	Natural language technology	$270.00	$1,750.00	Inovia Capital
Builder	23/May	AI automation platforms	$250.00	-	Qatar Investment Authority
Lightmatter	31/May	Chips	$153.30	$566.70	Aliya Capital Partners, SIP Global Partners
Runway	29/Jun	Consumer AI	$141.00	$1,359.00	Felicis
Altruist	12/Apr	AI in financial services	$111.60	$850.00	Insight Partners
Pinecone	27/Apr	AI Core	$100.00	$650.00	Andreessen Horowitz
AMP Robotics	09/May	Intelligent robotics	$99.00	-	Congruent Ventures, Wellington Management
Replit	20/Apr	AI in IT	$97.40	$1,062.60	Andreessen Horowitz
Synthesia	12/Jun	Consumer AI	$90.00	$910.00	Accel

Other areas where we see many applications and technological innovations emerging using AI are in the Health and Biotech sectors. Among the solutions, we see companies addressing issues such as disease prevention, using the history of large groups of individuals to identify pre-dispositions, and companies addressing the acceleration of diagnoses, increasing treatment agility and efficiency.

One example of the former is Freenome, a company that is revolutionizing early cancer detection by using its proprietary AI model to analyze blood test results. Freenome's ultimate goal is to discover early warning signs and develop affordable tests to detect cancer in its most treatable stages.

A second example is a company in Brazil called Neuralmed that performs an automated analysis of a patient's imaging tests (e.g. X-ray, EKG) using AI and organizes the list of patients in a day by clinical priority rather than by order of arrival..

The benefits that AI will bring to our daily lives are still difficult to quantify, but with the emerging technologies, we are already beginning to grasp the magnitude of the revolution that lies ahead. The advance of artificial intelligence, exemplified by the success of ChatGPT and its rapid adoption by millions of users, is a clear demonstration of the transformative impact this technology is having on our lives. The ability of Large Language Models (LLMs) to understand and generate sophisticated responses is unlocking immense productivity potential in many areas, from software programming to the creative content creation.

In both the public and private sectors, investment in AI has grown significantly, with private companies raising billions of dollars and venture capital investors showing confidence in AI-based innovations. The value creation in this secular thesis is clear and substantial, transcending any specific sector or stage. It is up to us to evaluate investment opportunities, whether through equity funds, a portfolio of companies, specific indexes, and/or illiquid funds. That being said, many of our managers operating in both the public and private markets, given the relevance of the topic, are already positioned and, like us, excited about what is to come.

Who are the Institutional Investors?

Institutional investors are entities that manage substantial volumes of capital and invest in a wide range of financial and real assets. This includes social foundations, endowments, pension funds, sovereign wealth funds, insurance companies, investment banks and asset managers, among others. Operating with a high degree of professionalism and adhering to strict regulations, they have the ability to exert significant influence on asset prices and market trends. Additionally, they have fiduciary duties, obligated to act in the best interests of their beneficiaries or clients in the investment decisions they make. Our goal with this letter is to explore the characteristics of some types of institutional investors and analyze, based on our experience in wealth management, the similarities and differences between managing assets for institutions and families.

Social foundations and Endowments:
Social foundations and endowments are kinds of institutional investors that manage assets with the aim of supporting philanthropic and social causes.

Social foundations are established to support social or cultural causes. They manage a pool of assets, the returns of which are used to fund their philanthropic goals, encompassing a variety of initiatives ranging from supporting non-profit organizations to implementing community development programs. They may receive donations from individuals, companies or other foundations and often conduct fundraising campaigns to increase their capital. Social foundations have governance structures in place to ensure that assets are managed responsibly and that the foundation's activities are aligned with its mission.

Endowments are financial vehicles established to manage capital for institutions, usually educational, cultural, or health-related, such as universities, museums or hospitals. The returns generated by their assets are used to support the institution's operations or for specific purposes, such as scholarships, research, or maintenance of facilities. Endowments are managed to provide a sustainable flow of income while preserving or increasing the value of the principal capital over time. They can invest in a variety of assets, including stocks, bonds, real estate, and alternative investments. Similar to social foundations, endowments have strict governance structures to ensure prudent asset management and adherence to the institution's mission.

Pension Funds/EFPCs:
Pension Funds, also known as Closed Private Pension Entities in Brazil (local acronym EFPC), play an important role in the long-term financial security of workers. EFPCs are created by companies, associations, or groups of companies to benefit their employees or associates in order to complement the benefits provided by the public social security system, offering additional income at the time of retirement and providing a financial protection in cases of disability or death. The accumulated funds in these entities are managed professionally, often by specialized investment managers to guarantee an adequate return. EFPCs are regulated and supervised by the National Superintendence of Complementary Pension Provision agency (local acronym PREVIC) and its regulations cover everything from the rules for setting up and running EFPCs to the regulations for managing resources and paying out benefits. They are required to adopt corporate governance practices and provide transparent information to participants on the management of the plans and investment performance. The plans' resources are invested in a variety of assets according to established investment policies, with the aim of ensuring the long-term sustainability of the funds and the payment of benefits to participants. The types of plans are:

- Defined Benefit (DB) Plans: In this plan, the value of the retirement benefit is established at the time of plan enrollment. Contributions are adjusted to ensure that the defined benefit is achieved at the time of retirement.
- Defined Contribution (DC) Plans: In this plan, contributions are predetermined but the final benefit will depend on the accumulated amount and the return on investments over time.
- Variable Contribution Plans (VC): This plan is a combination of the two others and is known as a mixed plan that combines aspects of both plans. Normally, VC plans follow the DC model during the accumulation phase of reserves (when the participant is active) and the DB model during the utilization phase of reserves (when the participant is retired).

Sovereign Funds:
Sovereign Wealth Funds are state-owned investment entities that manage a portion of a country's official reserves with the aim of achieving long-term financial returns, preserving, and increasing national wealth for the benefit of future generations. They serve as an important source of diversification of an economy's resources, helping to shield it from external shocks. The funds' assets can be composed of: i) revenues from commodity exports (for example, in an oil-producing country); ii) budget surpluses generated by the government; iii) profits from state-owned companies or revenues from any privatizations of these companies; and iv) foreign direct investments.

The management of these funds must be absolutely transparent and subject to adequate controls to ensure integrity. Many sovereign wealth funds adhere to international standards of governance and transparency, such as the Santiago Principles (developed in 2008 by the IMF) which provide a framework for how they operate.

Notable sovereign funds include Norway's Norges (US$1.5 trillion), Saudi Arabia's Public Investment Fund (US$600 billion), as well as GIC (US$770 billion) and Temasek (US$287 billion), both from Singapore. Due to their size and long-term investment strategies, sovereign wealth funds are important players in the global financial markets.

What are the similarities in the investment management of pension funds, foundations and sovereign funds and family wealth management?

The strategies adopted in the investment management of institutions often mirror those employed in family wealth management particularly in terms of asset allocation, risk management and long-term planning. Although they operate on different scales and in different contexts, they converge in several respects in the pursuit of growth and capital preservation over time.

One key similarity is the shared fundamental objective of preserving capital over time, pursuing constant and sustainable growth. Managers in both realms aim to generate lasting benefits, demanding a high level of professionalism, technical knowledge, and competence to ensure efficient asset management. When seeking to preserve capital, diversification plays a critical role in both approaches, as distributing investments across various asset classes and markets is a common strategy. In this context, having an 100% independent manager is a differential, allowing investment decisions to be fully aligned with the interests and objectives of clients, prioritizing their needs.

Experience in different markets and strategies, both in Brazil and abroad, and access to the top local and international managers, result in greater investment opportunities for the portfolios of institutions or families. At recent events held at our offices for Turim's clients, Scott Malpass, former Chief Investment Officer of the University of Notre Dame endowment in the US and one of the leading global authorities on the subject, shared the reason for successful long-term returns above the benchmark: access to the best managers in the world and maintaining a close relationship with them. For example, most of his relationships with the managers he invested in lasted more than 10 years, some reaching 20 or 30 years. This highlights the importance of having a solid managers selection process and due diligence, as well as maintaining close, transparent, and trustworthy relationships. And that is not an easy task, Malpass emphasized, especially in alternative markets where top managers may be closed to new investments. [1]

David F. Swensen, known for his "Yale Model" of endowment management, highlighted in his book "Pioneering Portfolio Management: An Unconventional Approach to Institutional Investment" the importance of investing in non-traditional assets such as Private Equity, Venture Capital and Real Estate. Capturing the low liquidity premium, these investments can provide higher returns in exchange for holding capital invested for longer. Swensen was a renowned American investment manager and academic, best known for his role as Chief Investment Officer of the Yale University endowment and his substantial contributions to asset management and endowment funds.

Diversifying investments across various asset classes can aid in risk mitigation and achieving a better risk-adjusted return. Risk analysis and management become crucial in the investment process, understanding and assessing the risks associated with different investments so that decision-making is better informed and well-founded. Personalization also plays a significant role. It is essential to comprehend the needs, goals, and risk tolerance of clients or beneficiaries, customizing investment strategies as necessary.

Another important issue is educating stakeholders about investment strategies and the risks involved. This facilitates transparency and the understanding of investment management decisions. In terms of families, financial education also plays an important role in training the younger generations so that they are prepared to manage the resources they will one day receive.

Despite the many similarities, there are also particularities that differentiate the wealth management of institutions from that of families. Perhaps the most obvious is regulation and compliance rules, where pension funds and EFPCs are subject to a set of regulations that may differ significantly from those governing family wealth management. For example, in Brazil, EFPCs follow the National Monetary Council (CMN) Resolution No. 4,994 of March 24, 2022 (formerly 4,661) and endowments are governed by Law No. 13,8000 of January 4, 2019. In the US, pension funds are subject to regulation by the Department of Labor and the Securities and Exchange Commission. Regulation among sovereign wealth funds can vary as it depends on the rules and laws of each country.

Transparency and governance can vary, with public and non-profit institutions possibly subject to higher compliance requirements. Institutions often have a formal governance structure, with boards of directors and investment committees that make investment decisions on behalf of beneficiaries. Additionally, the governance structure of sovereign wealth funds may vary but often involves a board of directors or a governmental body that defines investment policies. In family wealth management, on the other hand, flexibility is generally higher, and it can be governed directly by the family.

Control of liquidity also has its differences. Sovereign wealth funds and pension funds may face less pressure on liquidity compared to families. In family wealth management, the manager needs to administrate the liquidity of investments to meet immediate financial needs, such as day-to-day expenses, bills and unexpected expenses, ensuring that there is enough liquidity to meet the short, medium and long-term goals of different family members. On the other hand, liquidity control in sovereign wealth fund investments needs to take into account the fulfillment of their obligations, such as financing infrastructure projects or social programs. Pension funds, on the other hand, are responsible for paying benefits to retirees and pensioners which is why liquidity control is important to ensure that resources are available to make these payments on a regular and consistent basis. The 2008 crisis highlighted liquidity problems faced by various pension funds, endowments and other institutions, emphasizing the importance of asset and liability management (ALM) and the need to maintain sufficient liquidity reserves to handle financial crises.

Despite having similar investment horizons, investment objectives can vary, with social foundations and sovereign funds possibly having broader mandates or more specific socially responsible investment objectives. In many jurisdictions, institutional investors are subject to regulations requiring them to consider and disclose ESG (Environmental, Social, Governance) practices in their investments, encouraging them to incorporate ESG considerations into their investment decisions. Social foundations and sovereign wealth funds may put a greater emphasis on socially responsible or impact investments, investing in projects that aim

1 Read more in this interview with Scott Malpass for Neofeed.

to improve people's lives, protect the environment and promote social welfare. The Norwegian Sovereign Wealth Fund is a notable example of a sovereign wealth fund with socially responsible objectives, integrating ethical and sustainability guidelines into its investment decisions and with a clear focus on preserving wealth for Norway's future generations. Another example would be the Rockefeller Foundation which has a long history of involvement in projects with a social impact and programs dedicated to areas such as urbanization, global health and access to clean energy.

The scale of assets under management can vary significantly, with sovereign wealth funds and pension funds often operating on a much larger scale than family wealth management. Statistical data from ABRAPP – the Brazilian Association of Closed Supplementary Pension Entities and SINDAPP – the National Union of Closed Supplementary Entities, shows that the total assets of EFPCs in Brazil amounted to approximately R$1.2 trillion at the end of June this year, with 244 pension funds. In other words, an average of approximately R$4.6 billion per EFPC.

In short, the institutional investor environment is vast and multifaceted, embracing entities such as social foundations, endowments, pension funds and sovereign wealth funds, each with their own characteristics and goals. These entities operate under a cloak of professionalism and strict regulation, with a focus on preserving and increasing capital over time to meet the needs of their beneficiaries or philanthropic and socio-economic objectives. The management of their assets is a meticulous exercise and, in many ways, resembles the asset management of family wealth, converging in several points such as asset diversification, risk analysis and management, financial planning and governance. Both spheres aim, through education and transparency, to facilitate an understanding of investment strategies and the associated risks. However, they also differ, particularly in relation to regulation, liquidity, investment objectives, social responsibility and scale.

Managing investments in each of these situations requires a thorough understanding of the needs, regulations and expectations associated with different types of clients or funds. In addition, building strong relationships with stakeholders, adapting to changing market conditions, understanding regulatory changes, investment trends and the ability to offer customized solutions are crucial to successful management. The global financial landscape is complex and dynamic, and professional and experienced investment management is essential in navigating this landscape, ensuring sustainable growth and capital preservation over time.

At Turim, we provide a comprehensive service, from the creation of exclusive funds to portfolio management and reporting to the Foundation Committee, including guidance on the market outlook. The implementation of strong governance structures is vital to ensure that stakeholders' interests are met and that fund management is carried out in an ethical and responsible way.