

Endowment Management Report

2017-2018

Corporate



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The IESE Endowment

The IESE Endowment is an investment fund that seeks to support research activities and scholarship programs as well as the overall general institutional development of IESE.

The IESE's mission is to develop leaders who can make a positive, deep and lasting impact on people, companies and society through their professionalism, integrity and spirit of service.

To carry out its mission, IESE offers programs and other educational activities, which are self-supporting from an economic standpoint, because they are financed through academic tuition fees. To ensure that resources are not an obstacle to completing a program at IESE, the school also offers scholarships and financial aid to students with outstanding academic credentials and limited financial means.

Research is an essential part of IESE's academic activities; it is indispensable for making a deep, global impact in the academic world, as well as in society as a whole. Research is financed by IESE and, as in other academic institutions, only partially through public funds available to research groups. In many cases, public funding is not sufficient

IESE is the business school of the University of Navarra. It is a non-profit institution that, since its establishment in 1958, has relied on the generous support of people, in many cases alumni, as well as Sponsoring Companies and Institutions. This has allowed the school to strengthen its teaching and research activities and offer more financial aid to students and doctoral candidates.

In order to provide continuity over time and avoid the negative effects of volatility in the economy on the stability of scholarship programs and research projects, IESE receives donations that are secured and invested in financial products, thus maintaining the purchasing power of the initial capital and funding initiatives with the returns on the investment, always in accordance with the wishes of the donors.

The Endowment allows IESE to undertake future projects, in many cases of an innovative and long-term nature, by providing a stable source of income that can be devoted to strategic projects.

The Endowment grows mainly through new donations, some of which may be restricted as to their designation. Therefore, the Endowment consists of various sub-funds with different purposes: general research grants, support for a particular Chair or Research Center, a scholarship fund for a specific program, etc.

The Endowment is managed so that future generations will have at least the same capacity for action as the present generation (intergenerational equity).

To this end, part of the profit (interest, dividends, capital gains, etc.) is reinvested in the fund itself, so that purchasing power is not lost due to the effects of inflation. Therefore the impact of a donation is permanent, allowing IESE to undertake more ambitious and long-term projects.



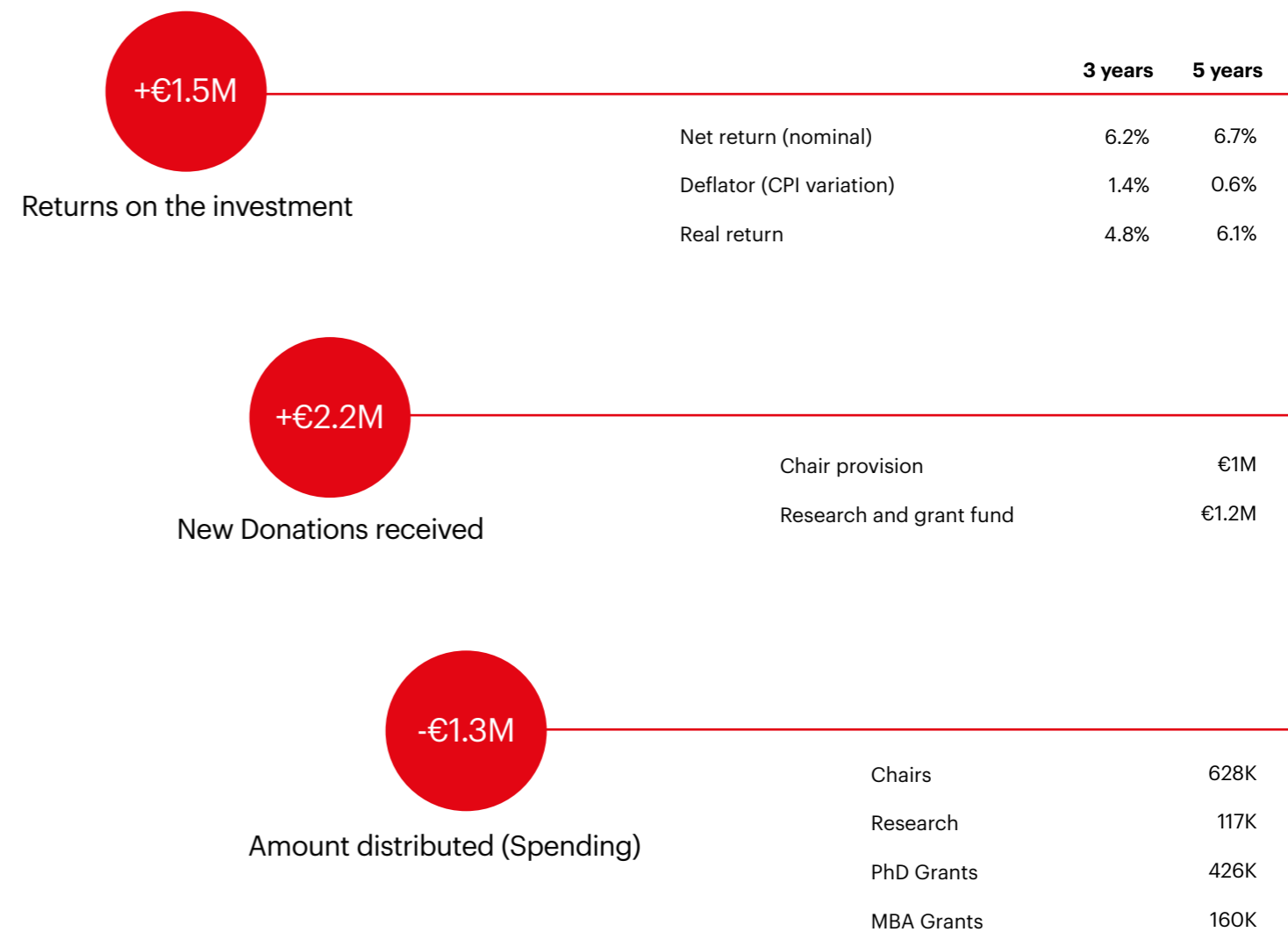


The Endowment is managed so that future generations will have at least the same capacity for action as the present generation (intergenerational equity).

Evolution of the Endowment

At the close of the fiscal year that ended on the 31st of August 2018, the value of the Endowment was €37.8M, representing an increase of 7% with respect to the value at the start of the year. The 3-year average annual return was 6.2%, and 6.7% for the last 5 years.

The 2017/18 increase, which in net value grew by €2.4M, includes the net profitability of the financial investments (4.4%) and is the combined effect of these returns and two other Endowment flows (new donations received and amount distributed), as detailed in the following graphic.

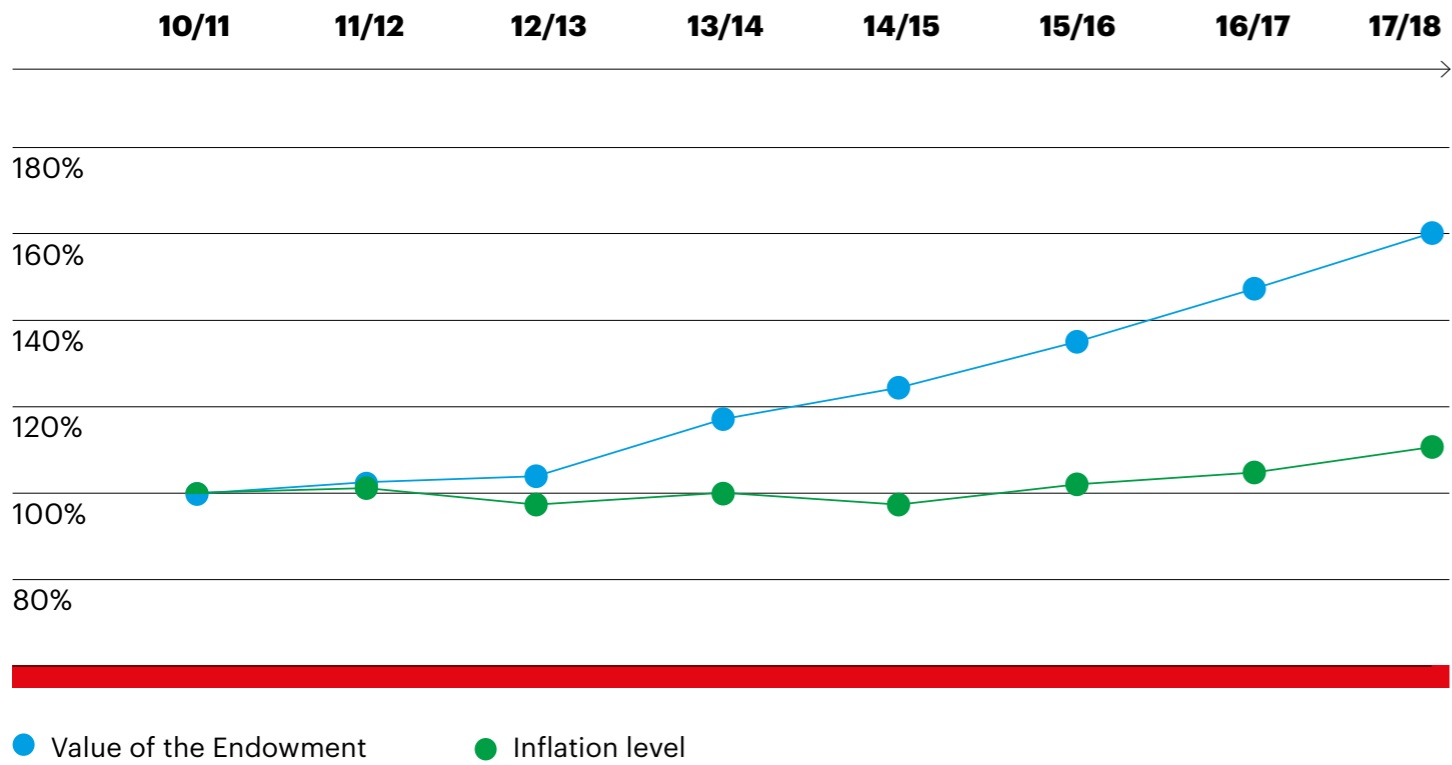


Value of the Endowment against inflation

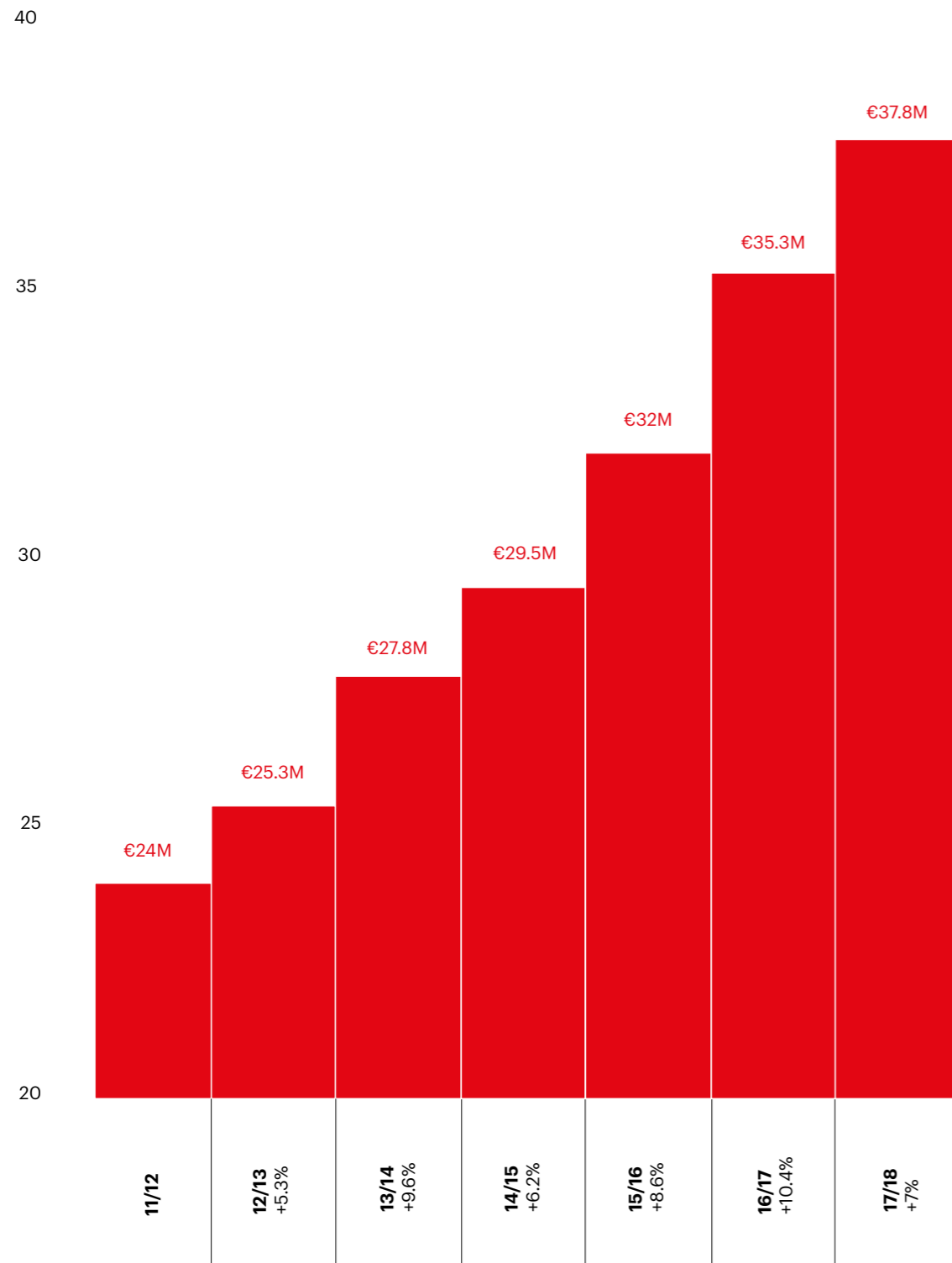
The data confirms that the Endowment is on course to achieve intergenerational equity in terms of medium (4.8%) and long-term (6.1%) real return (that is, after discounting inflation), with these being greater than the percentage of the fund that is distributed annually, which is presently at 4.3%.

The following graph compares the effective development of the value of the Endowment since its establishment (100% on 01/09/21011), with the development it would have followed in the event of having grown each year by what was distributed plus inflation variations, and reflects the minimum growth required so as not to lose purchasing power.

Value of the Endowment vs. Inflation



Evolution of the value of the Endowment



€37.8M
Value of the Endowment
on 31 August 2018

€1.3M
Quantity destined for
Student Scholarships
and research
2017/2018

6.7%
Average annual return
over the last 5 years

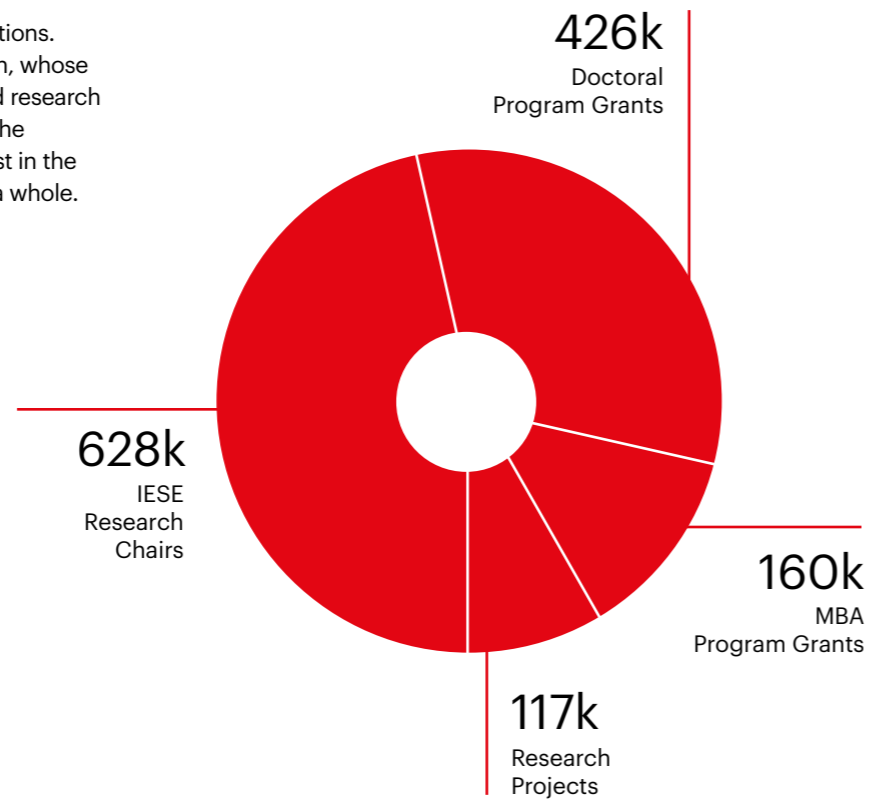
Activities supported by the Endowment

In 2017/18 the Endowment distributed an amount of €1.3M, representing an increase of 10% on the amount distributed the previous year. Over the last five years the Endowment has provided more than €6M to finance grants and research projects.

The Endowment makes investments while taking a very long-term perspective, determining the profitability and risk parameters to meet desired goals. It aims to balance the needs of current and future beneficiaries in order to obtain a steady and sustainable flow of funds to finance grants and long-term projects, while increasing its capital in line with inflation. The goal is to distribute annually (for financing activities) 4.3% of the average value of the Endowment during the previous three financial years.

The Endowment continues to grow through new donations. Many are received by the IESE International Foundation, whose mission is to support the development of teaching and research activities, and which collaborates with IESE. A part of the Endowment is entered in IESE's accounts, while the rest in the Foundation's. This report presents the Endowment as a whole.

In some cases, the donor specifies where investment returns should be placed. Thus, the Endowment comprises diverse funds, a part of which have specific aims (52% restricted), while the rest goes toward activities and projects considered relevant at the time (48% unrestricted), always within the established objectives.



Investment policy and governance

The management of the fund is based on financial portfolio investment theory. Through analysis that takes the objective of the investment into account, a very long-term investment horizon and the capacity of the fund to withstand losses at particular times, a portfolio that optimizes returns is designed, always within an acceptable risk range.

IESE's Executive Committee and the Board of the IESE International Foundation are ultimately responsible for the management of the Endowment. These bodies, in order to receive guidance on issues related to financial investments, created the Investment Advisory Committee. This group carries out its functions following the general directives approved in the **IESE Endowment Investment Policy**.

The **IESE Endowment Investment Policy** establishes three investment objectives:

- Maintain the purchasing power of the fund
- Reliably finance activities each year with a percentage of the fund
- Maximize the total long term returns of the Endowment

The Investment Policy establishes three benchmarks for the Endowment as a whole, which are used for measuring results obtained in the medium and long term:

- Theoretical portfolio of Strategic Asset Allocation with benchmarks established for each class;
- Totally passive portfolio with global investments of 60% in equities and 40% in fixed income;
- Average of U.S. Endowments of similar size (\$50-100M) according to the annual report published by NACUBO-Commonfund.

The IESE Endowment is committed to the principles of socially responsible investment and makes efforts to invest in funds and initiatives that promote environmental care, social responsibility and corporate governance good practice (ESG).

Since it hardly makes any direct investments in companies, but rather through collective investment vehicles, IESE does not have a list of companies in which it does not invest (negative screening). Nevertheless, when it comes to conducting due diligence on the products it considers suitable for investment, an important point to consider are the ESG criteria that its own managers follow.

Similarly, the IESE Endowment has an eminently social character in that all the returns on the investments are destined for research projects and scholarships, and thus in favor of academic and social development, and to ensure that a lack of resources is not an impediment for students with good academic records accessing quality education.

IESE is a non-profit organization, a member of the United Nations Global Compact and a signatory of the Principles for Responsible Management Education. In the making of temporary investments it takes the provisions of the current Code of Conduct for non-profit organizations into account and avoids operations that correspond to a purely speculative use of financial resources.

Strategic Asset Allocation

Asset class	S.A.A.	Range	Benchmark
Equities	53%	(±1.000 bp)	MSCI Index (50% ACWI + 50% Eu)
Fixed Income	15%	(±1.000 bp)	Barclays Ag. Bond Ind. (50% Gl. + 50% Eu)
Cash & Equivalents	5%	(±500 bp)	12-month Euribor + 1%
Alternative Strategies	27%		
Absolute Return	13%	(±500 bp)	HRFX Absolute Return Index
Real Estate	6%	(±200 bp)	12-month Euribor + 4%
Commodities	6%	(±200 bp)	DB Liquid Commodity Balanced Index
Private Equity	2%	(±200 bp)	MSCI All Country World Index

The Strategic Asset Allocation, defined for the long-term in the Investment Policy, sets a tolerance range for each asset class, leaving room for management by the Investment Advisory Committee. Within these margins, the Committee determines the percentages for each asset class and rebalances the investments on a quarterly basis. Furthermore, for each class, a benchmark has been established for measuring the effectiveness of investments activity.

The need to generate sufficient returns to finance Endowment expenses and, at the same time maintain purchasing value, justifies a bias in Strategic Asset Allocation in the area of equities or classes with similar returns. The desire to protect in part the portfolio from sharp declines explains the presence of fixed income and some of the alternative strategies, due to the low correlation between equities to these two asset classes. Finally, the need for annual liquidity justifies maintaining a percentage in cash & equivalents.

Investments are made with the external managers through collective financial vehicles (funds), thereby keeping the internal management team to a minimum. Passive products such as ETF (Exchange Traded Funds) are used as default, unless the Investment Advisory Committee believes that there is an active management product, with a trusted management team, that can exceed the benchmark.

Return, asset allocation and diversification are determined from a strategic perspective. Investments are diversified and managed with high standards of accountability and in compliance with all applicable laws and regulations. Management of the fund is based on annual income generation, the increase in the value of assets and donations obtained. Thus, income and donation stability are key for the management of illiquidity risk to comply with the annual distribution policy.



Investment committee



Jaime Alonso Stuyck

Committee President
Director of the IESE
International Foundation



Francisco García Paramés - MBA'89

President of Cobas AM



León Bartolomé - MBA'84

Managing Director
of Alcarama



Pablo González - MBA'90

Managing Director
of Abaco Capital



Bosco Bofill

Secretary of the IESE
International Foundation



Christopher Ivey - MBA'01

Head of European Private Client
Practice, Cambridge Associates



Eusebio Díaz-Morera -MBA'69

President of EDM



Josep Tàpies

Professor of Strategic
Management, IESE



Pablo Fernández

Professor of Financial
Management, IESE



Juan José Toribio

Emeritus Professor of Economics, IESE

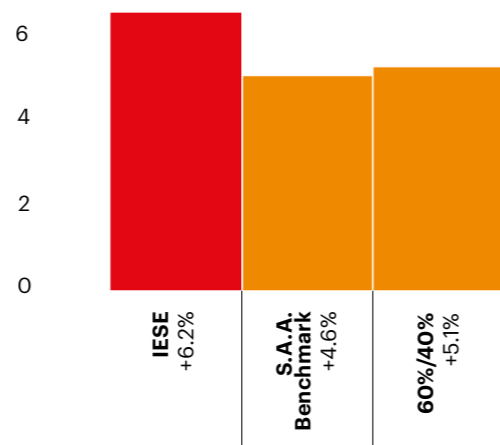
2017/18 Investment results

The net return from 1 September 2017 to 31 August 2018 was 4.4%. With this result, the average compounded return on the last three years was 6.2%.

In this same three-year period, the annual return of the benchmarks established in the Investment Policy (pending the publication of the data on the American investments of similar size) was:

- 4.6% for the Strategic Asset Allocation portfolio
- 5.1% for the passive portfolio 60% Equities + 40% Fixed Income

3-year annual return vs Benchmarks



The absolute and relative distribution of the Endowment among the four major classes

Asset Allocation	Sit. on 31 August 2018	Target
Equities	20,239 54%	53%
Fixed Income	5,077 13%	15%
Alternative Strategies	9,295 25%	27%
Cash & Equivalents	3,141 8%	5%

(Thousands of Euros)

The Alternative Strategies in detail are as follows

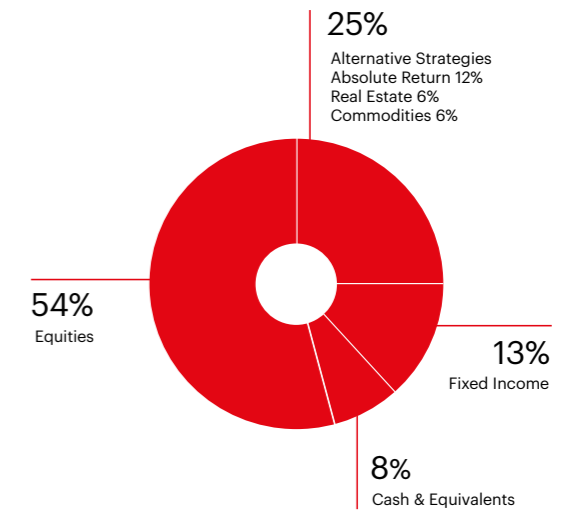
Alternative Strategy	Sit. on 31 August 2018	Target
Absolute return	4,344 12%	13%
Real Estate	2,394 6%	6%
Commodities	2,446 6%	6%
Private Equity	111 0%	2%

(Thousands of Euros)

Asset Allocation Situation on 31 August 2018

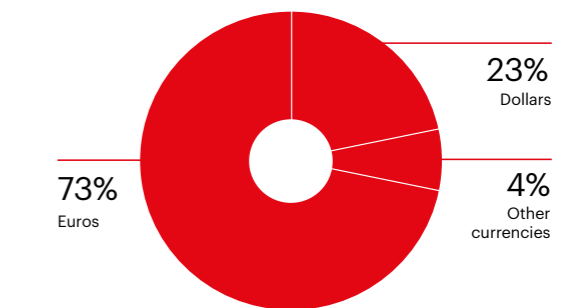
This distribution of assets by class from August 31, 2018 was reached after a careful analysis that considered the scenario of very low interest rates and even negative returns in both sovereign and corporate bonds, which suggested searching for opportunities in equities and alternative strategies to achieve the desired returns.

The uncertain market situation, along with the belief that this is the final part of the cycle, has made it advisable to increase liquid assets so as to provide the Endowment with greater financial flexibility.



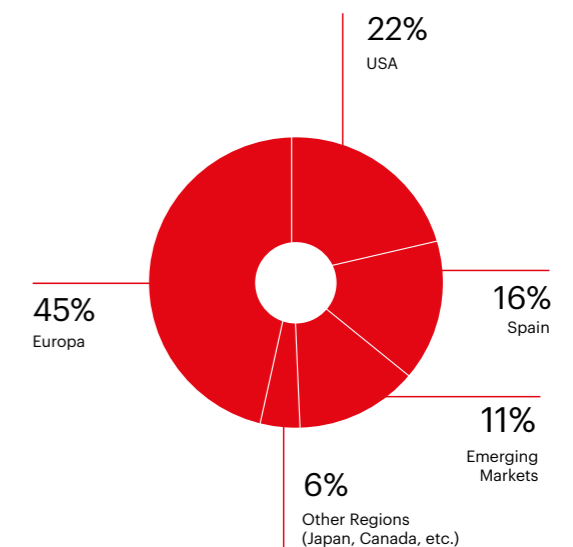
Investment distribution by currency

The spending of the Endowment is done in Euros, so a major part of the investment (73%) is kept in this currency. The second currency is the dollar with 23%.



Geographical distribution of investments

From a geographic standpoint, the currency distribution and a greater knowledge of the region influences the fact that 45% is focused on Europe, to which must be added the investment in Spain (16%).



Management costs

Currently, a little over half of the Endowment is invested in active management products. The total cost of portfolio management, already discounted in the results presented in this report, and calculated by adding up the management fees for each fund, represents 0.67% of the value of the Endowment.

In terms of internal management costs, these can be considered practically non-existent since there are no discretionary mandates or external consultants. Neither are there staff exclusively dedicated to the management.

Results by Asset Class

Below are details on investments made in each asset class, including average annual returns obtained over the last three years and comparisons with the corresponding benchmarks.

Equities

This class provides revaluations in stock price and, in some cases, dividends. Traditionally, this type of asset has achieved greater returns in the long term than fixed income, at the cost of assuming higher levels of volatility.

In 2017/18, equity positions were reduced, reaching 54% of the portfolio, from 60% recorded on 1st September 2017. The conviction that a cycle change was approaching led the committee to “rebalance” the portfolio towards the Strategic Asset Allocation target various times during the year.

A portion of the investment in equities is made through passive investment. Another part, particularly on a European level, was made through ten active management funds, with a relative weight ranging from 1% to 6% of the total value of the Endowment.

The average return for all equity positions over the last three years was 7.8%, outperforming the benchmark for the class, which is calculated taking equal parts (50%) of the MSCI All Country World and the MSCI Europe Index, which registered an average annual increase of 7.6% over the same period.

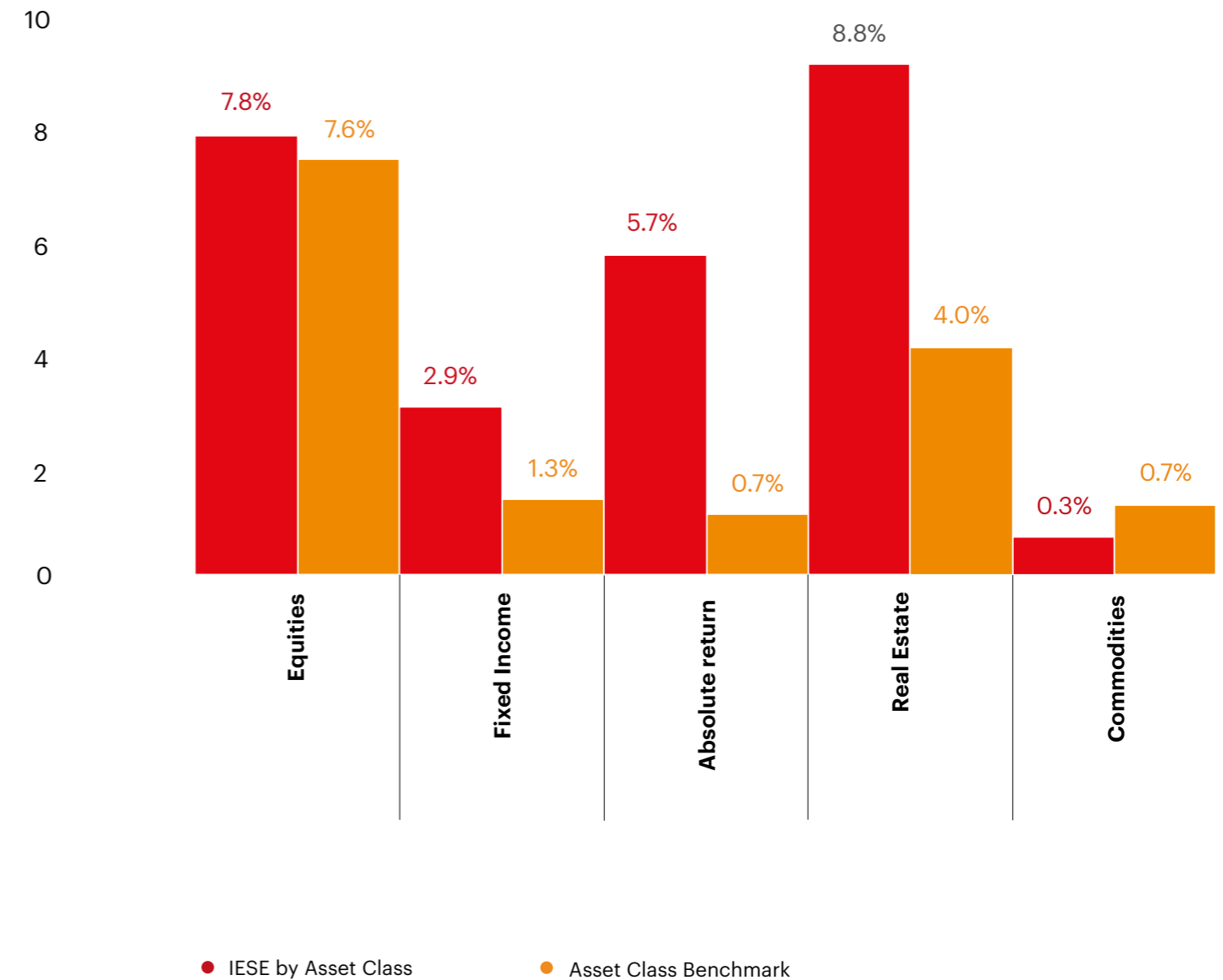
Fixed Income

Bonds and similar instruments generate interest up until the maturity of the securities. They can be kept until then or sold on the secondary market before maturity, if the price or other factors make that advisable. Investments in bonds theoretically have a low correlation with equities, and therefore serve to protect against sharp falls in the market in periods of deflation.

Extremely low interest rates, influenced by massive debt purchases by the central banks (QE), reduce the attractiveness of this asset class, so a small position in fixed income has been sought, which at year end was 13%, below the 15% Strategic Asset Allocation, awaiting the rises in interest rates, which have started and will probably continue in the coming months.

A part of the fixed income investment are made either through shares in fixed or mixed income funds, or through ETF's (predominantly in emerging markets), while on occasions direct investments are made mainly in corporate bonds. The average yield of fixed income positions during the last three years was 2.9%, contrasting with the performance of the benchmark, which is calculated taking equal parts (50%) of the Global and European versions of the Barclays Aggregate Bond Index, which has recorded 1.3% annual over the last three years.

Annual 3-year returns by asset class vs. Benchmark for each class



Alternative Strategies

The use of such investment strategies seeks to find opportunities with high returns adjusted to assumed risk, while trying to look for low correlation with equities. These can help improve the risk and performance characteristics of a portfolio. Within these strategies, it has been decided to use the following:

Absolute Return

Designed to look for low correlation with equity markets, Absolute Return Hedge Funds aim to generate attractive returns in the long term, taking advantage of market inefficiencies.

The Investment Committee has maintained a position of 12%, seeking to find those with neutral behavior with respect to the market. To channel this investment, after a detailed due-diligence, four funds were selected, which hold positions between 1% and 4% of the total Endowment.

The average annual result over the last three years has been 5.7%, compared to a result of 0.7% registered by the HRFX Absolute Return Index over the same period.

Real Estate

Real estate investments can be an attractive alternative to traditional strategies and can add value not only through the revaluation of assets, but also through the effect of the continuous flow rent incomes from rents. They also tend to have very low or negative correlation with other classes of investments.

In 2014, it was considered that the sector offered opportunities in Spain with income securities at record lows. A portfolio of two million Euros was thus established through REITs, which was subsequently increased with investments in other European countries.

The average annual result over the last three years has been 8.8%, above the 4.0% obtained by the benchmark for this class, which is calculated by adding 400 base points to the twelve-month Euribor.

Commodities

Commodities are non-made physical goods such as those produced in the mining sector (precious and industrial metals, etc.) or agriculture (agricultural goods, etc.), whose prices basically depend on supply and demand, and are affected by geo-political factors and the weather. Although subject to some price volatility, which can at times be high, investment in commodities may provide low, or even negative correlation with stock and debt markets, and protect against unexpected increases in inflation, which is considered as one of the clearest risks facing the Endowment.

For these reasons, a position in commodities of around two and a half million Euros (6% of the Endowment) was established some time ago through an ETF that invested in Energy (42%), Agriculture (26%), Industrial Metals (16%) and Precious Metals (16%). It was considered that the valuation of this asset class had been very low for several years and even though some volatility could be expected in the short and medium term, there is significant confidence that it will provide high returns in the long term.

The average annual return obtained over the last three years was 0.3%, in line with (when management costs are taken into account) the DB Liquid Commodity Balanced Index, which during this period experienced an annual return of 0.7%.





Impact of the Endowment

The returns on the IESE Endowment, in accordance with the distribution regulations approved in the Investment Policy, are wholly put towards financing study grants and research programs.

The scholarships enable Doctoral Program (Ph.D.) and MBA students to finance their post-graduate studies. They are awarded to students with excellent academic records and preferably with limited economic resources, or from countries eligible for development aid. There are also grant programs that foment diversity.

In many cases, Doctoral Program graduates begin their academic career as professors in business management schools around the world, so these grants have a strong multiplier effect, typical of trainer training programs. Scholarships for the MBA program also have a significant social impact thanks to the actions of managers with a high degree of professional training, aware of the social problems faced by the company and modern society.

Another part of the returns goes towards financing research projects directed by the IESE faculty, who, as part of their academic task, conduct rigorous research projects that are at the same time relevant to business reality.

A part of these projects is carried out under the wings of the Research Chair, working groups directed by an IESE professor, whose objective is to further research in a particular area of interest, publishing the results of this activity for the academic and business communities. The 31 Chairs currently endowed represent the materialization of the generous collaboration of Alumni, companies and foundations that are highly committed to the development of knowledge in the world of business management.

Presented in the next pages are some testimonies from students awarded grants in the 2017/18 academic year, as well as a selection of the many research projects that have been undertaken by the IESE Research Chairs, Investigation Centers and Academic Departments during the year.

Endowed Chairs

The current IESE Endowed Chairs are:

Abertis Chair of Regulation, Competition and Public Policy	Eurest Chair of Service Excellence
Alcatel-Lucent Chair of Technology Management	Fuel Freedom Chair for Energy and Social Development
Anselmo Rubiralta Chair of Strategy and Globalization	Indra Chair of Digital Strategy
Antonio Valero Chair of Governance and Business Management	Jaime Grego Chair of Healthcare Management
Banco Sabadell Chair of Emerging Markets	Joaquín Molins Figueras Chair of Strategic Alliances
Bertrán Foundation Chair of Entrepreneurship	José Felipe Bertrán Chair of Governance and Leadership in Public Administration
CaixaBank Chair of Corporate Social Responsibility and Corporate Governance	Juan Antonio Perez-Lopez Chair of Organization Management
Carl Schroeder Chair of Strategic Management	Nissan Chair of Corporate Strategy and International Competitiveness
Carmina Roca and Rafael Pich-Aguilera Chair of Women and Leadership	Novartis Chair on Operational Excellence in the Health Sector
CELSA Chair of Competitiveness in Manufacturing	PricewaterhouseCoopers Chair of Corporate Finance
IESE Foundation Chair of Corporate Governance	Puig Chair of Global Leadership Development
Crédit Andorrà Chair of Markets, Organizations and Humanism	Rafael Termes Chair of Finance and Society
Grupo Santander Chair of Financial Institutions and Corporate Governance	Schneider Electric Chair of Sustainability and Strategy
Chair of Business Ethics	SEAT Chair of Innovation
Chair of Family-Owned Business	SEAT Chair of Labor Relations
	Chair of Women in Business





“Thanks to the full scholarship and stipend to cover living-costs, I was able to carry out the program and focus fully on my studies”.

Student Scholarships

Donald Ngatta

Sassandra (Ivory Coast) Ph.D.

Donald Ngatta was born in the small coastal town of Sassandra, Ivory Coast, not far from the Liberian border. With six brothers and three sisters, he is the first person in his family to pursue an academic career.

After completing his master’s degree in economics at MDE, IESE’s Associated Business School in Abidjan, Donald chose to embark on a career as a professor.

“I got the idea of doing a Ph.D. while I was at MDE and that’s how I learned about IESE,” he explains. “I wanted to go deeper into what I was learning, and I was very interested in economics and policy. That was my first motivation.”

Now in his third year of IESE’s doctoral program, he is exploring the economic impact and trade-offs involved with regulations aimed at increasing transparency and corporate disclosure from an accounting perspective.

“Nowadays, in emerging regions, there is a focus on developing markets by improving transparency. But you need to know about the costs and consequences. There is a lot we can

learn that can be applied to the future of Africa, and the Ivory Coast in particular.”

Thanks to the full scholarship and stipend to cover living costs provided through the IESE International Foundation, Donald was able to carry out the program and focus fully on his studies. His overarching goal is to be an active researcher, while teaching executives in MBA and executive education programs. He also hopes to one day to return to Ivory Coast to further management development there.

The funding he has received from the IESE International Foundation has provided critical support as he lives the IESE experience, he says, which is helping him grow as a person. One thing stands out: “It’s not just about doing high-quality research, it’s about doing research that will have an impact on other people and society.”

Yuliya Snihur

Lviv (Ukraine) Ph.D.

Growing up in the city of Lviv, Ukraine, near the Polish border, Yuliya Snihur had always been drawn to the West. She ultimately moved there, working first in the U.S. as a financial analyst for Johnson & Johnson and then later at a start-up in Belgium.

These two experiences sparked her deep interest in how companies make decisions and innovate in large versus small organizations. So she decided to apply to IESE's Ph.D. program.

"I wanted to understand how business decision-making happens, why it happens and how it can be improved," she explains. The idea of transmitting useful knowledge to others was also compelling, she says.

At IESE, Yuliya received the intellectual tools needed to begin analyzing her research questions in more formalized terms, she says. In her dissertation, she compared how industry newcomers and existing incumbents introduce and manage new business models in order to succeed.

The fellowship she received from the IESE International Foundation was vital for reaching her career goals.

An academic career is a "long-term commitment," and carrying out a Ph.D. entails forgoing five years of salary that could have been earned in the business world. Financial assistance removes a significant burden, she notes.

By contributing to IESE's Endowment, "donors are helping generate fresh knowledge that can then be disseminated throughout the global business world", says Yuliya, who now holds a position at Toulouse Business School in France. While the impact of new research may not be visible for some time, "it's a drop of water in the waterfall of human knowledge," she says.

"Donors are helping generate fresh knowledge that can then be disseminated throughout the global business world".



“I was born in what you call the bottom of the pyramid, and I wanted to pursue an MBA outside India”.

Student Scholarships

Rupinder Singh

New Delhi (India) MBA

Rupinder Singh, recipient of the IESE Trust Scholarship funded by the IESE International Foundation, would not have been able to pursue IESE’s MBA program without financial assistance. “I was born in what you call the bottom of the pyramid,” says Rupinder, a native of New Delhi, India and a member of the Sikh community, a minority group in India.

Before joining the MBA program, he received his engineering degree from Netaji Subhas Institute of Technology at Delhi University in 2011. In 2010, he applied to IESE’s Young Talent Program (YTP) and was accepted.

He further burnished his credentials by participating in the Google Summer of Code program and interned at Broad Institute of MIT and Harvard.

After completing his undergraduate degree, he worked at Deloitte as a consultant in risk consulting; at PwC in management consulting; and goibibo.com, a travel e-commerce company, as a product manager.

“I realized that I want to lead an internet company in the future and an MBA would be essential for me to accelerate my transition to a management career. I was also clear that I wanted to pursue an MBA outside India, given the global nature of tech industry,” he notes.

In his view, IESE’s ability to offer financial assistance to MBA students from diverse countries is key to ensuring a global class that provides a rich learning experience for the entire student body.

“The more diverse a class is, the more skills it can leverage, the more ideas it can generate, the more people it can think about, and in effect the more value it can generate. So encouraging diversity is extremely important.”

Yan Shipeng

Ningbo (China) Ph.D.

Yan Shipeng's parents – who lived through the Cultural Revolution in China – had always done all they could to support him in his career. But when he decided to pursue a Ph.D. at IESE, the fellowship he received gave him the additional help he needed

"A fellowship allows you to feel independent and financially secure," explains Shipeng, who grew up in the historic Chinese city of Ningbo, which has a population of approximately 4 million.

The fellowship funded by the IESE International Foundation covered not only his doctoral studies, but also allowed him to spend six months at the University of Chicago, exploring his area of research with academic peers.

His dissertation focused on socially responsible investment funds and the conditions in

which they are most likely to emerge. He was interested in what kinds of countries and societies are most receptive to these types of funds.

Grasping the world of finance has become urgent since it affects people's lives in so many ways, he argues. "We need a deeper understanding of the issues."

After two years at Tilberg University in the Netherlands, he is now set to take on a post at the City University of Hong Kong. Shipeng says his experience at IESE has given him a very different view as compared with other Chinese academics, most of whom study abroad in English-speaking countries.

"It helped me understand who I am as a Chinese and what kind of a role China might play in the future," he said.

"The fellowship allowed me to cover my Ph.D. and spend six months at the University of Chicago, exploring my area of research".

Outstanding projects

2017-2018 Academic year

By way of example, we present results from three research projects financed by the Endowment that have been published this academic year.



Digital Innovation and Institutional Entrepreneurship: Chief Digital Officer Perspectives of Their Emerging Role

Domino's Pizza has a Chief Digital Officer (CDO) and there is no shortage of work to do. The company affirms that its emphasis on digital innovation has helped it to turn over 5,600 million dollars in the digital sphere around the world. Leading the digital transformation is an increasingly important function, including – or perhaps above all – in sectors not traditionally associated with the technology.

It is not strange, therefore, that the CDO club keeps growing: 19% of the world's 2,500 largest listed companies have now hired a Chief Digital Officer according to PricewaterhouseCoopers. The majority (60%) have been taken on in the last two years.

Research by the IESE professor Sanja Tumbas, Nicholas Berente and Jan vom Brocke analyzes what exactly it is they do and what differentiates them from IT professionals.

From a series of interviews with Chief Digital Officers in distinct sectors, the authors explain how they generate new sources of income, experiment and establish a direct digital relationship with the client.

Additionally, their research suggests that the success of digital managers depends on their ability to circumvent corporate bureaucracy. In this context, they strive to harmonize disparate business and technological functions. Those that are successful become authentic chief transformers that articulate, develop and lead innovation through digital technologies.

As the new technologies had traditionally fallen under the remit of the IT director, the digital transformation has often caused internal tensions. That is, when the CDO joins a company, they can define their position, unlike the IT director, which can translate in principle into a struggle for power.

Companies see a change leader in the digital manager, and the research makes it clear that they consider that they must play a fundamental role when it comes to building bridges and creating consensus. The fact is that the digital transformation demands close collaboration between all the members of an organization.

Anticompetitive Effects of Common Ownership

Indexed funds are good for investors since they offer the opportunity to diversify while keeping of operational costs under control. They also have a dark side, however: they are the principal cause of the presence of common ownership of listed companies competing in the same area.

Thus, BlackRock, the world's largest fund manager, is also the main shareholder in one in every five listed American companies. If we add the next two largest, Vanguard and State Street, between them they lead the shareholding of at least 40% of these companies.

This reduces competition, which is a negative for consumers and the economy in general, as revealed by IESE professor José Azar, Martin C. Schmalz and Isabel Tecu in this research project published in The Journal of Finance. Specifically, they state that the presence of common ownership in the airline industry is closely related with the increase in ticket prices, even when passenger numbers decline.

The release of the first draft of the paper caught the attention of many economists, journalists and regulators, to the point that the United States Justice Department opened an investigation into the matter in 2016.

One year later, the journal The Atlantic echoed this in a column where it stated the following: "Azar, Schmalz and Tecu's paper went viral among academics, launching a whole new field of inquiry and many heated debates".

And since then, attention has not stopped growing. Articles have appeared in The New York Times, The Wall Street Journal, The Economist, Financial Times, New Yorker, Bloomberg BusinessWeek, and other media outlets, while prominent columnists, op-ed writers and regulators have called for action. The OECD held hearings, European antitrust authorities have taken note, and many academic conferences have dedicated special sessions to the topic.

After analyzing over 10 years of U.S. airline industry data - including the before-and-after results of a merger between investment companies with common ownership of certain companies - the authors conclude that the link between higher market concentration levels and higher ticket prices is statistically significantly.

Their research reveals that prices increase even when passenger air traffic reduces, indicating that the presence of common ownership translates to lower economic efficiency and "a net loss for the macro-economy". Also, the authors note that the unregulated advance in common ownership has had a greater effect on prices than the mergers that have been examined by antitrust authorities.

The research begs the question as to whether Governments should try to restrict the holdings of diversified mutual funds, a debate that remains open.

Real Effects of the Sovereign Debt Crisis in Europe: Evidence from Syndicated Loans

In Greece, Italy, Ireland, Portugal and Spain - together known as the GIIPS - the sovereign debt crisis of 2009-2011 resulted in a 37 percent rise in unemployment and a €190,000 million drop in investment. These effects had consequences well beyond their borders. So, how might a similar crisis be prevented?

In search of an answer, Viral V. Acharya, Tim Eisert, IESE professor Christian Eufinger, and Christian Hirsch have analyzed syndicated loans during the debt crisis, the subsequent credit crunch and its negative impact on the economy: both the destruction of jobs, and the collapse of investment and sales. Their conclusion is that an effective bank recapitalization could significantly boost economic recovery, both then and when the next crisis strikes.

To understand what caused the Eurozone credit crunch, the authors conducted an in-depth analysis of bank lending channels and identified two decisive factors:

- Impact on the balance and health of the Banks. In the beginning, when investors feared Greece and the other GIIPS would default, the debt crisis directly affected the bodies that held the government bonds of these countries. On average, the banks lost an average of 10.8 % of their equity while those in the rest of the Eurozone lost 6%. As a result, many banks were forced to deleverage and reduce the loans they granted.
- Abandonment of lending to business. At the same time, risky sovereign bonds became more appealing due to their greater yields due to the higher default risk. The weaker banks backed these higher-yield bonds to the detriment of corporate lending.

The result was less financing for the companies that worked with these Banks weakened by the debt crisis. Overall, the probability of accessing new syndicated loans fell by up to 53%, so European firms then reduced their investments and both fund flows and sales growth suffered, as well as employment opportunities.

The research calculates that the credit crunch is responsible for half or more of the economic damage suffered by European firms. In the case of the GIIPS, it explains 61% of the sales decline, 62% of the fall in investment and 66% of the decrease in employment.

The authors maintain that an effective bank recapitalization would be fundamental in boosting bank lending the next time it declines.

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