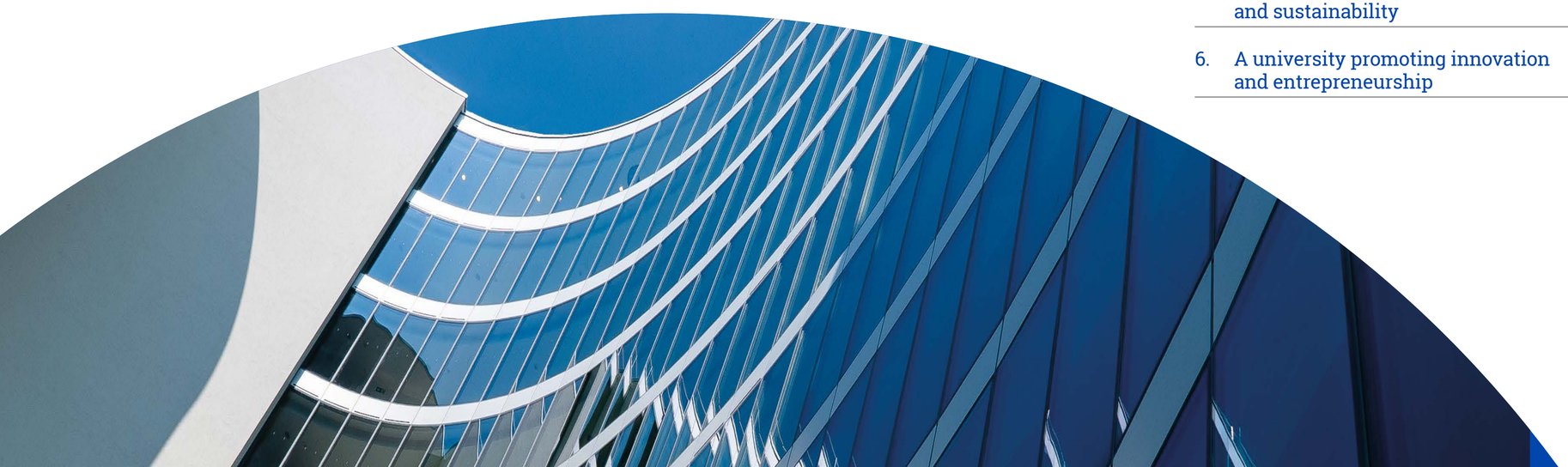
Bocconi

Vision 2030 & Strategic Plan 2025

November 2020

PART 1

PART 2



INTRODUCTION

technological innovation

During the last two decades the higher education industry has undergone a major transformation, mostly driven by two factors:

globalization

Technology

has had an impact both on supply and demand factors.
On the supply side, factors include the exponential increase of open online courses freely made available on the web by platforms such as EdX, Coursera and Udacity, the introduction of full fledged degrees (e.g. MBA) entirely offered online, and the emergence of new players, such as Singularity University, Kahn Academy and a number of consulting companies in the area of executive education.
Demand factors are affected by the increasing digitalization of the new generations of students.

The launch of entire **online programs** from some American and European institutions (such as Arizona State, Warwick, and others) and more recent developments of video on demand models from important competitors such as Harvard Business School, MIT and others have started **remodeling the landscape of higher education**. Both supply and demand factors had a clear impact on teaching and learning models. The fact that the courses offered by the best and most well known professors from prestigious universities are easily available for free on the web represented a challenge and, at the same time, had clear implications on the learning process. Indeed, **more active interaction between students and professors became a must**, together with the direct use of technologies in class. Similarly, the fact that new generations are used to easily finding contents and knowledge freely on the web had **clear implications for the value added expected by students from class activities and, more generally, university campus life**.

Technology also had an impact on the **digitization of academic research**.
Indeed, digitization has affected research in two ways. On one hand, it provided **increasing opportunities for data collection at the granular level across all markets, industries and countries**. As an example, today it is possible to produce micro data on consumption and savings and link them to specifc actions undertaken by corporations within industries and with macro shocks.
On the other hand, it has emphasized the relevance of interdisciplinary research in both data collection (the skills required to collect data are becoming deeper and wider, linking experts in computer science with experts in behavioral sciences) and data interpretation (with new models crossing specialized scientific fields to address relevant problems such as climate change).

Finally, the **exponential growth of social networks** made possible by technological evolution has had a significant impact on the new generations of students' attitudes and behavior, often presenting implications relevant to higher education institutions' teaching and research activities, and more generally for societal development, igniting new phenomena like technology addiction, fake news diffusion, and potential threats to democratic processes.

Remodeling the landscape of higher education

Globalization

has in turn been driven by the increasing international mobility of students, faculty and researchers and by the international expansion - through branches, joint ventures and off shore campuses - of universities and business schools.

The number of international students – i.e. students enrolled in a university outside of their country of origin - has significantly increased during the last twenty years (from 2 million in 1998 to over 5.3 million in 2017). International student exchanges, double degrees and **international partnerships in general among higher education** institutions have literally boomed during the last two decades, with Asian students playing a significant role in the growth of the international flow of students across the globe. Similarly, the number of faculty and researchers working abroad has grown significantly, together with international cooperation among researchers of different countries.

These two major trends are likely to be affected in opposite ways by the **emergency crisis generated by the pandemic** that spread across the entire world in 2020. While the use of **digital technologies for teaching and learning has experienced an exponential growth during the crisis** and the role of science and interdisciplinary research has become even more important in the interaction between science and politics during the Covid pandemic, **the globalization of the higher education industry has suffered a sudden dropoff**, mostly due to the constraints on international travel and mobility. Indeed, while digital platforms have experienced a boom and a large part of the developed world has moved from a traditional physical face to face educational model to an online one, the international flow of students has suffered a major drawback, with most foreign students returning to their home countries and international study abroad experiences being temporarily suspended due to the risk of cross border contagion.

over 5.3 million
INTERNATIONAL STUDENTS

While it is difficult to predict how the situation will evolve in the future, it is reasonable to assume that these two opposite effects will not merely last for a few months, but will rather affect the evolution of higher education in the next few years. Indeed, the sudden acceleration of online educational activities is likely to continue affecting universities and business schools worldwide. Similarly, the slowdown in the globalization of the industry is also likely to have some long lasting effects.

In addition to the above mentioned effects, the health crisis generated by the **Covid 19** pandemic is likely to lead to some additional important consequences, that will also affect the higher education industry:

A GLOBAL RECESSION THAT WILL REDUCE JOB OPPORTUNITIES IN THE MOST SEVERELY HIT INDUSTRIES, SUCH AS TOURISM, ENTERTAINMENT, HOSPITALITY, AUTOMOTIVE;

A REDUCTION IN THE INTERNATIONAL MOBILITY OF PEOPLE AND GOODS, WHICH WILL IMPACT GLOBAL TRADE AND THE GLOBAL MANUFACTURING PLATFORMS OF PRODUCTION;

A SIGNIFICANT INCREASE OF DEBT - BOTH IN THE PUBLIC AND PRIVATE SECTOR - AS A CONSEQUENCE OF THE ECONOMIC DOWNTURN, WITH LEVERAGE INCREASING IN ALL ECONOMIC SEGMENTS, I.E. HOUSEHOLDS, CORPORATES AND GOVERNMENTS;

A SIGNIFICANT INCREASE IN THE ROLE AND WEIGHT OF THE PUBLIC SECTOR IN MOST ADVANCED MARKET ECONOMIES, WHERE THE POSSIBILITY OF OVERCOMING THE FINANCIAL DIFFICULTIES SUFFERED BY HOUSEHOLDS AND PRIVATE FIRMS, ESPECIALLY SMES, HAS ONLY BEEN POSSIBLE THANKS TO GOVERNMENT INTERVENTION.

These phenomena have clear implications for the higher education industry, both in its teaching and research activities. They include, but are not limited to:

THE REDUCTION IN REVENUES (STUDENT INTAKE, FUNDRAISING, EXECUTIVE EDUCATION) AND INCREASE IN COSTS (HEALTH AND SAFETY, TECHNOLOGY);

THE DECREASE IN THE INTERNATIONAL MOBILITY OF TALENTED INTERNATIONAL STUDENTS AND PROFESSORS;

PROBLEMS RELATED TO THE SUPPLY OF INTERNSHIPS AND PLACEMENT OPPORTUNITIES FOR STUDENTS AND GRADUATES;

THE POTENTIAL REDUCTION IN STATE FUNDING GIVEN THE BUDGET CONSTRAINTS THAT WILL LIKELY BE FACED BY LOCAL AND NATIONAL GOVERNMENTS;

THE EMERGENCE OF NEW ISSUES AND CHALLENGES FOR THE WORLD ECONOMY TO BE ADDRESSED BY RIGOROUS RESEARCH;

PROBLEMS RELATED TO CLASS SIZE AND, MORE GENERALLY, THE TEACHING AND LEARNING MODEL GIVEN THE PHYSICAL DISTANCE CONSTRAINTS;

AN INCREASED NEED OF SCHOLARSHIPS AND FINANCIAL AID FOR STUDENTS WHOSE FAMILIES ARE FACING ECONOMIC AND FINANCIAL PROBLEMS.

Understanding the future challenges and opportunities for a European institution with global ambitions like Bocconi University requires us to carefully examine the above mentioned implications, together with the more general scenario that lies ahead. In the following sections we analyze: (i) the future economic and demographic scenario, (ii) the major trends, challenges and opportunities affecting the job market for graduates, and (iii) the main trends affecting the higher education industry. A more specific analysis of the main strengths and weaknesses of Bocconi, in light of the above mentioned trends and challenges, is then presented in section (iv). The main strategic goals that will drive the University's activities in the next decade (2021-2030) are presented in section (v). Finally, the five-year plan related to the period from 2021 to 2025 is presented, with a detailed analysis of the objectives to be achieved during this challenging period.

The analysis presented in this document has significantly benefited from **individual interviews to the members of the International Advisory Committee (IAC) of Bocconi University** and from discussions with the members of the **Board of Directors**. Also, the results of an **open survey to the entire faculty** has provided significant contributions, together with **individual colloquia with the school deans**, the department directors and key members of the **administrative staff**. Finally, important input has also been provided by the **Bocconi Alumni Community** and by the **students' representatives**. This wide ranging and deep consultation exercise enabled the consolidate and strengthening of the main results and conclusions of this analysis.

PART 1

Scenario analysis

1.

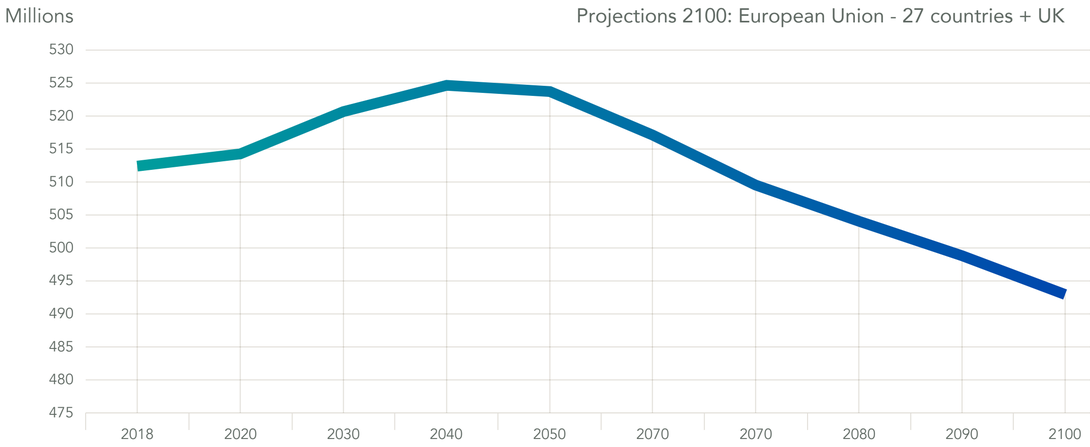
THE DEMOGRAPHIC AND ECONOMIC SCENARIO

In this section we briefly examine the demographic and economic scenario of the next decade. This is relevant not only to understand how the market for higher education will evolve globally, but also to better identify the major trends that will affect the demand for tertiary education in the different macro regions of the world. In doing so, a number of projections by Eurostat, the UN, the World Bank and other sources have been used. While most of these projections and estimates were formulated before the 2020 Covid 19 pandemic crisis, it is reasonable to assume that they still hold, especially as far as demographics in Europe, America and Asia are concerned.

Based on this analysis, a number of important evidences have been identified. First, despite the low fertility rate in a number of countries of the old continent, the **EU (27 countries + UK) population is expected to continue to grow in the next two decades**. The low fertility rate of some countries, including Italy, will negatively affect population dynamics only starting from 2040 (Figure 1).

Figure 1 | European Union population projection

PROJECTIONS 2100: EUROPEAN UNION - 27 COUNTRIES + UK

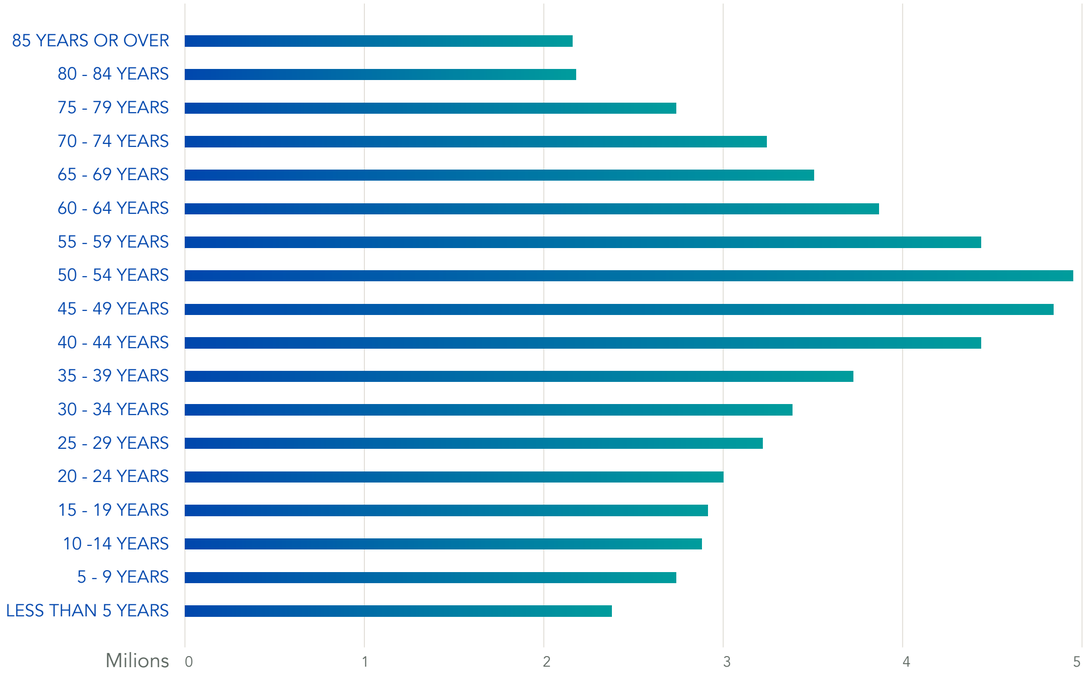


Source: Eurostat, 2019

Within the EU, there are significant cross country differences in the age distribution of the population and, as a consequence, of its future evolution. As an example, Italy, the third largest country by population after Germany and France, with a fertility rate of 1.29 per woman, has an age distribution of its population with a very low percentage of young people (Figure 2). As a comparison, the age distribution of the French population has a clearly different shape, with a much higher share of young people, partly derived by a much higher fertility rate, at 1.93. The Italian population, and especially the share of those in higher education, is therefore expected to decline during the next decade. Also, it is important to highlight that Italy has a low share of population attaining tertiary education (27% among 25-34 age group), second to last in the EU (OEC average 43% among 25-34 age group). This has clear implications for a university like Bocconi, where the majority of the students are of Italian nationality.

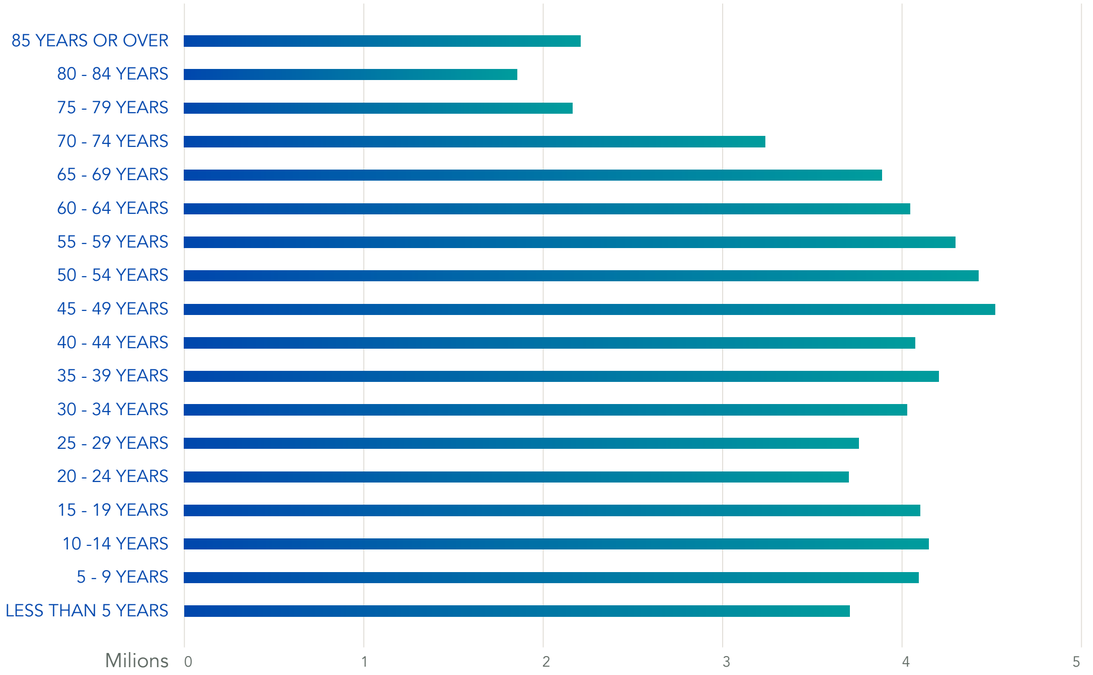
Figure 2 | Age distribution of the Italian and French population

ITALY 2019 - TOT. POPULATION 60 MLN



Source: Eurostat, 2019

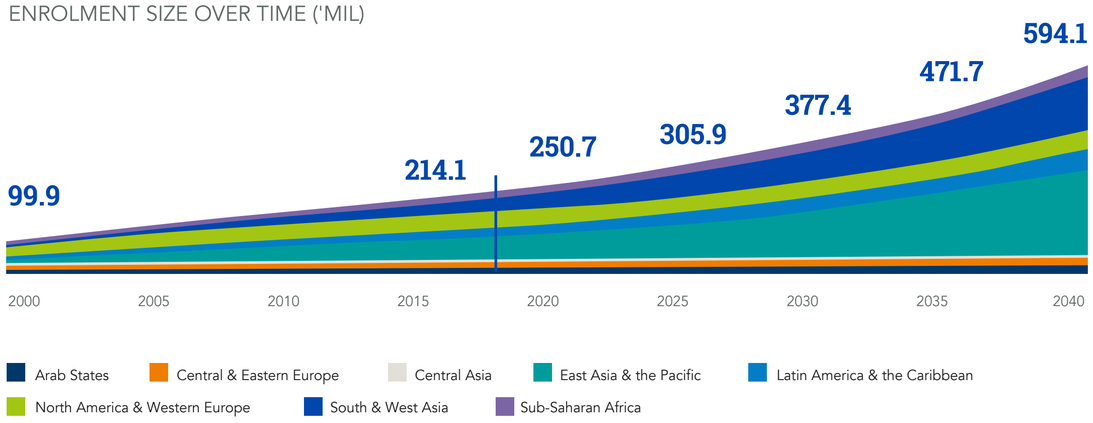
FRANCE 2019 - TOT. POPULATION 67 MLN



Source: Eurostat, 2019

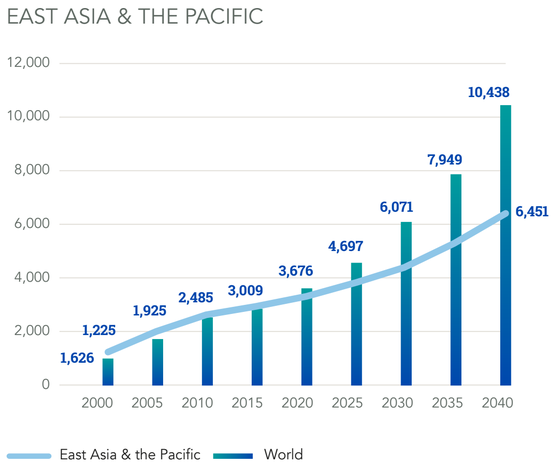
A second important trend is represented by the **gradual demographic shift towards Asia**, which is especially relevant as far as the university student population is concerned. Figure 3 reports estimates on the evolution of the total number of higher education students from 2000 to 2040 by macro region. It clearly shows the growing importance of the Asian students over the next two decades. Similarly, Figure 4 reports the evolution of the number of students per 100,000 inhabitants over the next two decades. America and Western Europe will have a larger number of students than the world average until 2030, while in the following years they will have lower than world average values. The opposite occurs for Asia. China, India and other Asian countries, which will therefore become increasingly significant in terms of their share of the university student population.

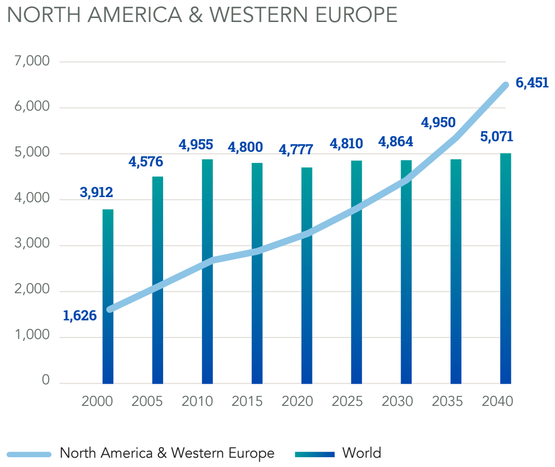
Figure 3 | Total number of higher education students per macro region (2000-2040)

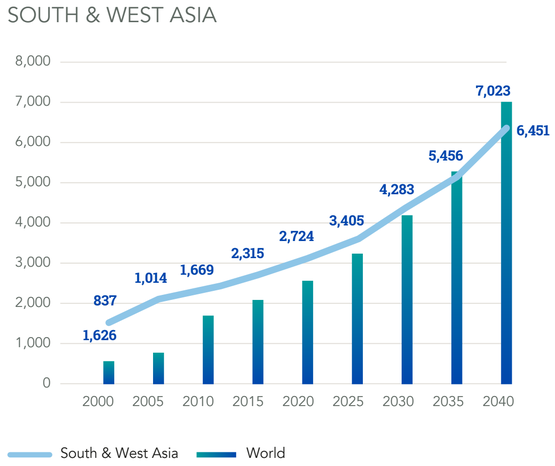


Source: Based on UNESCO statistics. Elaboration by Angel Calderon, RMIT University. [Massification of Higher Education, 2018]

Figure 4 | Number of students per 100,000 inhabitants per macro-region - 2000-2040



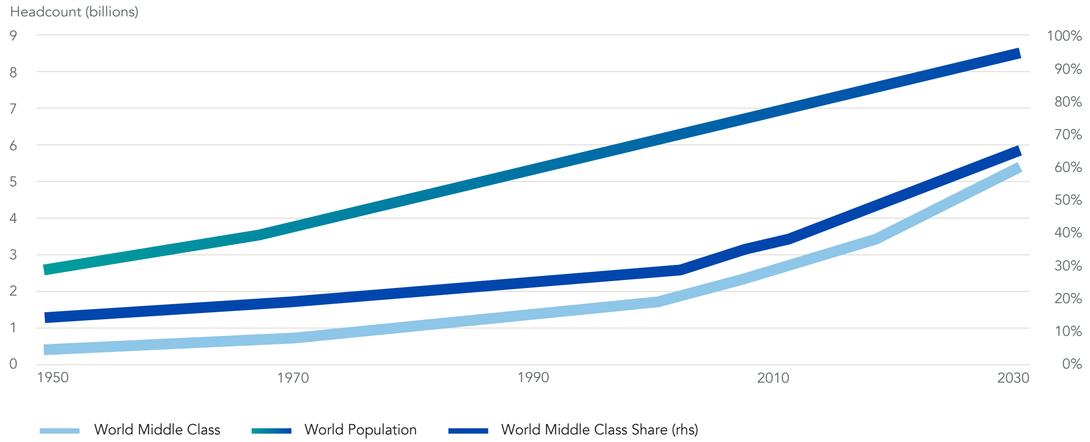




Source: Based on UNESCO statistics. Elaboration by Angel Calderon, RMIT University. [Massification of Higher Education, 2018]

Third, the share of the world population belonging to the middle class will continue to increase during the next decade (Figure 5). It is therefore reasonable to assume that the total number of higher education students will significantly expand during the next decade.

Figure 5 | Evolution of the size of the world middle class, 1950-2030 (billions)



Source: Author's calculations
Source: Brookings Institution, Working Paper on Global Economy and Development 2017

However, when looking at the distribution of the world middle class by macro regions, one can see that the share represented by Asia increases from 54% in 2020 to 65% in 2030 in terms of numbers, and from 43% in 2020 to 57% in 2030 in terms of spending. There is therefore a parallel shift towards Asia not only in terms of population dynamics, but also in terms of spending power (table 1). Similarly, the bottom panel of Table 1 shows the expected change in the world top countries in terms of middle class consumption. Note that Italy does not appear in the top 10 in 2020 and France will not appear in this group in 2030. China and India will represent together almost 40% of total middle class world consumption in 2030. While these forecasts were formulated before the 2020 pandemic crisis, it is reasonable to assume that these trends will not be significantly affected.

Defined as those households with per capita incomes between $10 and $100 per person per day (pppd) in 2005 PPP terms (Kharas, 2010; World Bank, 2007; Ernst & Young, 2013; Bank of America Merrill Lynch, 2016). This implies an annual income for a four-person middle-class household of $14,600 to $146,000

Table 1 | Middle class evolution by macro region

NUMBER AND SHARE OF GLOBAL MIDDLE CLASS BY REGION

	2015		2020		2025		2030	
	#	%	#	%	#	%	#	%
North America	335	11	344	9	350	8	354	7
Europe	724	24	736	20	738	16	733	14
Central and South America	285	9	303	8	321	7	335	6
Asia Pacific	1,380	46	2,023	54	2,784	60	3,492	65
Sub-Saharan Africa	114	4	132	4	166	4	212	4
Middle East and North Africa	192	6	228	6	258	6	285	5
World	3,030	100	3,766	100	4,617	100	5,412	100

Source: Author's calculations

SPENDING BY THE GLOBAL MIDDLE CLASS (PPP, COSTANT 2011 BN$ AND SHARE)

	2015		2020		2025		2030	
	#	%	#	%	#	%	#	%
North America	6,174	18	6,381	15	6,558	13	6,681	10
Europe	10,920	31	11,613	27	12,159	23	12,573	20
Central and South America	2,931	8	3,137	8	3,397	8	3,630	6
Asia Pacific	12,332	36	18,174	43	26,519	51	36,631	57
Sub-Saharan Africa	915	3	1,042	2	1,295	2	1,661	3
Middle East and North Africa	1,541	4	1,933	5	2,306	4	2,679	4
World	34,814	100	42,279	100	52,234	100	63,854	100

Source: Author's calculations

MIDDLE CLASS CONSUMPTION - TOP 10 2015, 2020, 2030
(PPP, CONSTANT 2011 TN$ AND GLOBAL SHARE

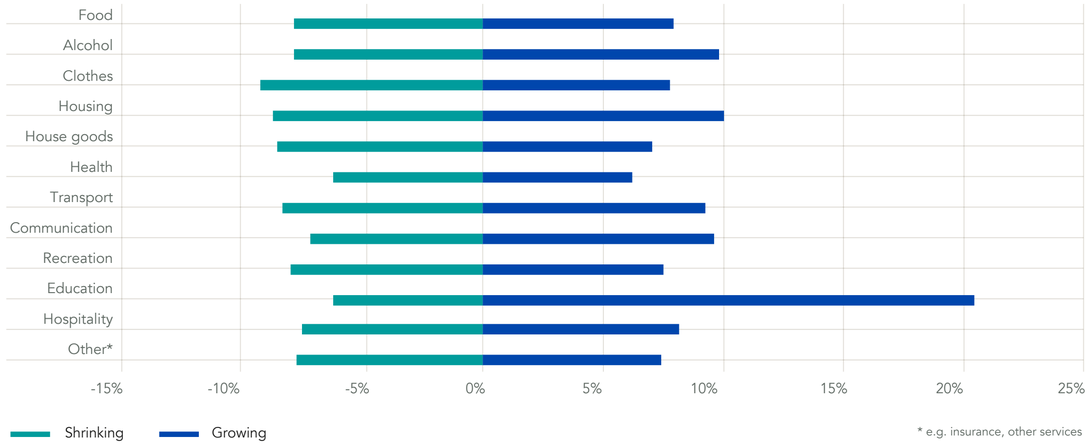
COUNTRY	2015	SHARE %	COUNTRY	2020	SHARE %	COUNTRY	2030	SHARE %
U.S.	4.7	13	China	6.8	16	China	14.3	22
China	4.2	12	U.S.	4.7	11	India	10.7	17
Japan	2.1	6	India	3.7	9	U.S.	4.7	7
India	1.9	5	Japan	2.1	5	Indonesia	2.4	4
Russia	1.5	4	Russia	1.6	4	Japan	2.1	3
Germany	1.5	4	Germany	1.5	4	Russia	1.6	3
Brazil	1.2	3	Indonesia	1.3	3	Germany	1.5	2
U.K.	1.1	3	Brazil	1.2	3	Mexico	1.3	2
France	1.1	3	U.K.	1.2	3	Brazil	1.3	2
Italy	0.9	3	France	1.1	3	U.K.	1.2	2

Source: Author's calculations

Source: Brookings Institution, Working Paper on Global Economy and Development 2017

Fourth, an analysis of the allocation of middle class spending shows that **education represents one of the items where spending is expected to increase the most (or decrease less) in the next decade**, especially in the growing global cities, i.e. the global cities that are expected to grow the most in the next decade (Figure 6).

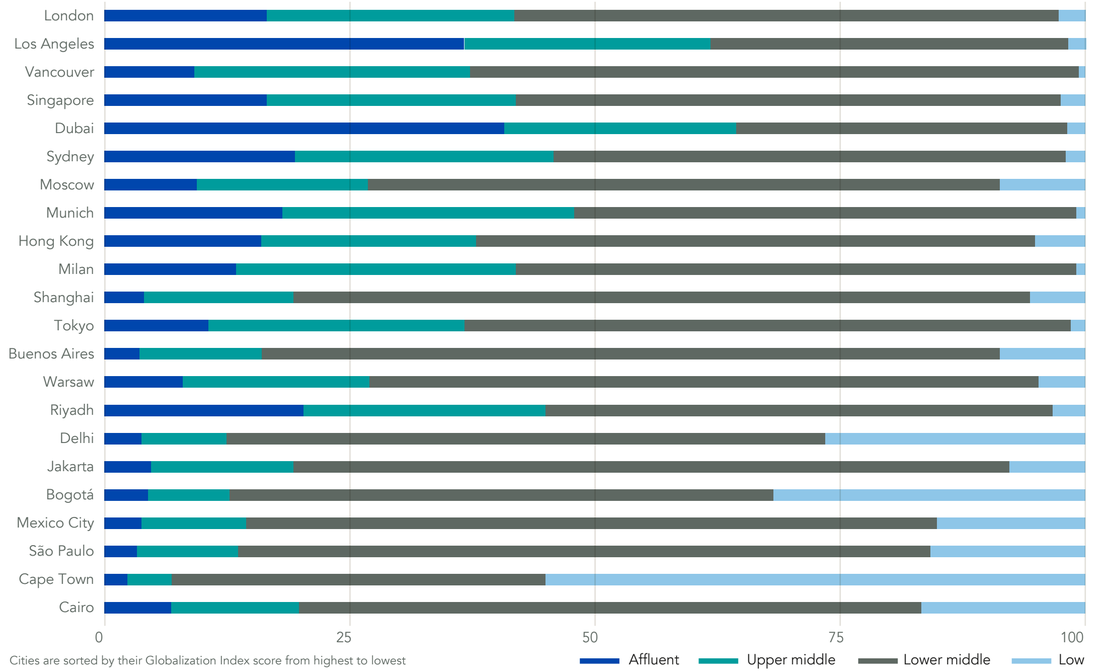
Figure 6 | Changes in middle class spending allocation - 2020 to 2030



Source: Global Middle Class Consumption Study, 2017. Visa Business and Economics Insights, Oxford Economics

Finally, it is important to highlight that, despite the decreasing weight of Italy in terms of population and economic weight, Milano is generally classified among the top global cities (see Figure 7), thanks to its competitive position in some key industries (fashion, food, finance, healthcare, pharma, etc.) and to its attractiveness for young people from all over the world. Although currently severely threatened by the 2020 pandemic crisis that hit so severely Milano and the Lombardy region, this competitive position represents a key competitive factor in the attractiveness for students and faculty members from all over the world.

Figure 7 | Selected Global cities and income segment composition



Source: Global Middle Class Consumption Study, 2017. Visa Business and Economics Insights, Oxford Economics

To sum up, it is reasonable to conjecture that the higher education industry is expected to grow significantly in terms of demand during the next decade. This increase is related both to an increase in the number of people in the right age bracket and in the share of global spending in higher education. This increase will mostly come from Asian students, who will grow both in numbers and in terms of purchasing power.

In this context, Italy shows a declining population, a low share of population below 25 years of age, and a lower share of population attaining tertiary education than the European average. However, Milan, the country's economic and financial capital, where Bocconi is located, while threatened by the recent pandemic crisis, represents a dynamic and attractive location well positioned among the top global cities of the world.

2.

THE JOB MARKET: TRENDS, CHALLENGES AND OPPORTUNITIES

In this section we present a brief analysis of the major features and trends that are likely to affect the job market for graduates in the next decade. This analysis has benefited from interviews with members of the International Advisory Council, members of the Board of Directors and a number of HR managers from major corporates and financial institutions. The main trends characterizing the future job market are summarized below.

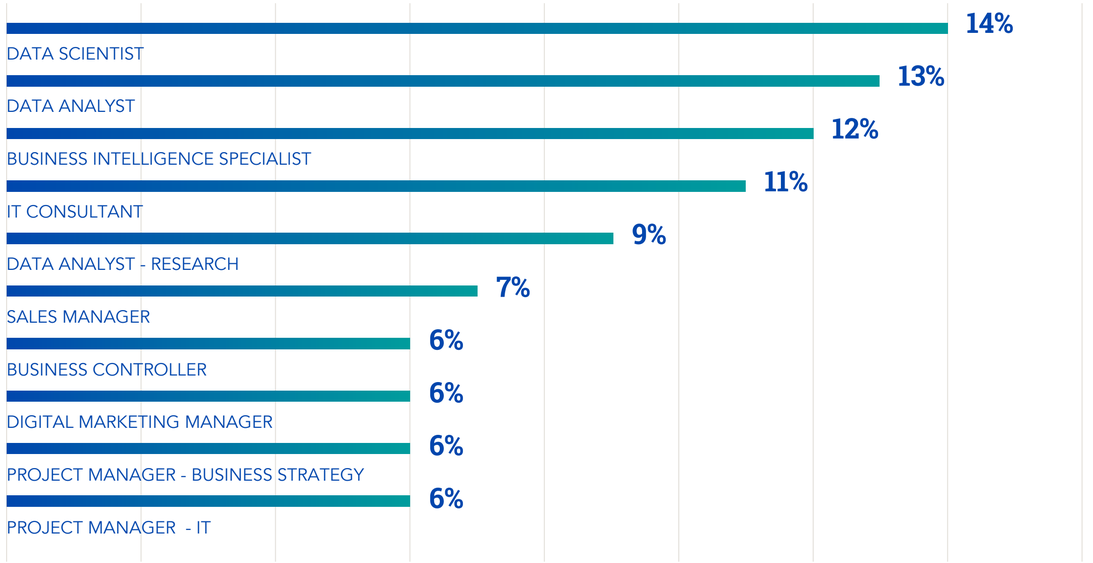
First, during the last few years a **growing skills mismatch** between supply and demand has been recorded. This mismatch is mostly due to the **shortage of competences in areas such as computer science, data science, information technology, and more generally science**. These are often related to the more general STEM (science, technology, engineering and mathematics) competences.
It is reasonable to assume that this skills mismatch will continue to characterize the future years and will even be worsened by the digital practices and needs that emerged during the 2020 Covid 19 pandemic. Furthermore, this trend towards a growing demand of digital, data and tech competences is also favored by the increasing degree of automation, which is expected to displace routine jobs and create new jobs, particularly in the area of STEM. Indeed, as highlighted by the OECD, the changes in skills demand brought about by digitalization create opportunities for some workers while making others more vulnerable. Highly skilled workers are more likely to benefit as their skills complement technology, they can perform non-routine tasks, and tend to have better access to training opportunities than the lower skilled. Conversely, those with low levels of skills are more likely to be employed in jobs that are vulnerable to automation and also face increasing competition from middle-skilled workers whose jobs have been most affected by the digital transformation. According to the OECD, the intensity of skills shortages and surpluses has worsened in the last decade, calling into question the adaptability of individuals and economies in responding to changing skills needs.

A survey recently conducted by Bocconi with 188 human resource managers representing major corporates and institutions has identified the positions that are perceived as most difficult to fill. These include roles that require specific competences such as technical/IT, quantitative, digital and computer science skills. The results of this survey, reported in Figure 8 below, are consistent with the above mentioned skills mismatch. Indeed, the positions where the shortage of graduates appears most significant include data scientists, data analysts, business intelligence specialists and IT consultants.

A similar evidence emerges from an analysis conducted by the World Economic Forum concerning the redundant and new professional roles, as reported in Table 2. As can be seen, among the new roles a number of them relate to the above mentioned digital, data and technological skills.

It is important to highlight that digital, data science and information technology competences are sought not only for IT-related profiles, but more generally for managerial positions within corporates, consulting firms and the financial services industry. Indeed, in the above mentioned survey conducted by Bocconi with a large number of HR managers, digital, data and IT competencies appear as the top three most demanded competences, followed by flexibility, adaptability and analytical skills.

Figure 8 | Most difficult professional roles to recruit



Source: ATLAS/Work, Bocconi University, 2019.

Based on the above, one can conclude that a **new workforce is emerging in the job market**, featuring a new set of knowledge and competences. Data analysts and scientists, AI and machine-learning specialists, digital transformation and new technologies specialists are likely to arise amongst the new roles in the job market. Once again, the need for this new workforce will even be increased by the crisis experienced by most companies during the 2020 pandemic. At the same time, "human touch" jobs and customer-related professions keep being relevant for corporates (Customer Service, Sales and Marketing Professionals, People Management, Innovation Managers). On the opposite front, routine-based, middle-skilled white-collar jobs are expected to become redundant and to be automated. This scheme is mirrored in the set of skills sought: some are deeply connected with the technological change in the market (advanced IT, programming, digital and data analytics skills), some are more related to "human" complex abilities and aptitudes (critical thinking, communication and negotiation, entrepreneurship and innovation, resilience and flexibility).

Second, given the rapidly changing job profiles and the high degree of uncertainty concerning future job requirements, future graduates will need to be equipped with a stronger **ability for adaptability, resilience and a commitment to continuous learning**. Transversal cognitive skills, such as **critical thinking, complex problem solving, creative thinking**, "learning to learn" are also considered key not only to respond to future challenges, but also to help graduates shape a better future for all.

Table 3 reports the results of a World Economic Forum survey concerning the evolution of the required skills in the future. **Reasoning, problem solving, critical thinking and analytical thinking** clearly appear, together with technology design and programming, leadership and emotional intelligence, among the future required skills. An additional important skill that is often overlooked in continental European universities is represented by **debating skills**, often reflected in anglosaxon universities in the presence of so called "Debating Societies".

Table 3 | Evolving skills demand (2018-2022)

Today, 2018	Trending, 2022	Declining, 2022
• ANALYTICAL THINKING AND INNOVATION	• ANALYTICAL THINKING AND INNOVATION	• MANUAL DEXTERITY, ENDURANCE AND PRECISION
• COMPLEX PROBLEM-SOLVING	• ACTIVE LEARNING AND LEARNING STRATEGIES	• MEMORY, VERBAL, AUDITORY AND SPATIAL ABILITIES
• CRITICAL THINKING AND ANALYSIS	• CREATIVITY, ORIGINALITY AND INITIATIVE	• MANAGEMENT OF FINANCIAL, MATERIAL RESOURCES
• ACTIVE LEARNING AND LEARNING STRATEGIES	• TECHNOLOGY DESIGN AND PROGRAMMING	• TECHNOLOGY INSTALLATION AND MAINTENANCE
• CREATIVITY, ORIGINALITY AND INITIATIVE	• CRITICAL THINKING AND ANALYSIS	• READING, WRITING, MATH AND ACTIVE LISTENING
• ATTENTION TO DETAIL, TRUSTWORTHINESS	• COMPLEX PROBLEM-SOLVING	• MANAGEMENT OF PERSONNEL
• EMOTIONAL INTELLIGENCE	• LEADERSHIP AND SOCIAL INFLUENCE	• QUALITY CONTROL AND SAFETY AWARENESS
• REASONING, PROBLEM-SOLVING AND IDEATION	• EMOTIONAL INTELLIGENCE	• COORDINATION AND TIME MANAGEMENT
• LEADERSHIP AND SOCIAL INFLUENCE	• REASONING, PROBLEM-SOLVING AND IDEATION	• VISUAL, AUDITORY AND SPEECH ABILITIES
• COORDINATION AND TIME MANAGEMENT	• SYSTEM ANALYSIS AND EVALUATION	• TECHNOLOGY USE, MONITORING AND CONTROL

Source: World Economic Forum, 2019.

A third important trend in the job market is related to **the growing emphasis on** the so called **21st century skills**. In addition to digital literacy, these include soft skills such as **creativity**, the **ability to adapt to change, resilience, interpersonal skills, entrepreneurship, and intellectual curiosity**. All these skills are increasingly mentioned by HR managers as key skills required by graduates entering the job market in the future and are indicated by the OECD as the subject of a growing skills gap.

Fourth, a **growing need of interdisciplinary studies** to address increased complexity of the business world is generally perceived by HR managers as a key feature of the education of future managers and business leaders. This trend is likely to be strengthened by the recent pandemic crisis. Indeed, it has become increasingly clear that the collaboration among different disciplines and areas of expertise (e.g. medicine, mathematics and computer science; economics, sociology and statistics; etc.) provides significant value added in dealing with emergencies such as the one generated by the Covid 19 pandemic[2].

Finally, social and **emotional skills**, including empathy, self-awareness, respect for others, and the ability to communicate are likely going to increase in relevance in light of the fact that workplaces are becoming more ethnically, culturally and linguistically diverse. These skills are considered to be key to fostering more inclusive, fair, tolerant and sustainable economies and societies. For executives, teamwork and team leadership skills, the ability to inspire and lead teams through change, and emotional intelligence are always in high demand according to the OECD "Skills for jobs" survey.

The above mentioned job market trends have clear **implications** for higher education institutions. First, it is important to **strengthen the computer science, data science and more generally digital content** of the programs offered to students of the different degrees. This would not only allow graduates to be more competitive in the job market, but also to reduce the above mentioned shortage of technical competences and skills mismatch. Second, universities should find ways to **improve the set of soft skills** that are so much demanded by corporates and institutions, especially as far as managerial and leadership positions are concerned. This could be done by embedding soft skills in curricula that are focused primarily on technical aspects, and by fostering transversal competencies that are essential to leverage technical skills, including effective c**ommunication**, **teamwork/collaboration**, **and leadership**. Third, teaching and learning methodologies should be aimed at improving graduates' cognitive skills such as **critical thinking**, **complex problem solving**, **and creative thinking**. Finally, universities should foster **interdisciplinary knowledge and skills** in their curricula by favoring connections between specialized subject areas, fostering thematic learning, combining related subjects, and supporting project-based learning.

2 An example of response to this need of interdisciplinary studies is represented by the "Covid Crisis Lab" recently introduced by Bocconi, where epidemiologists, economists, sociologists, computer scientists and experts of artificial intelligence cooperate to address the problems raised by the covid 19 crisis.

3.

THE COMPETITIVE LANDSCAPE: TRENDS, CHALLENGES AND OPPORTUNITIES

This section presents an analysis of the competitive scenario of the higher education industry and of its main trends, challenges and opportunities. More specifically, the major trends affecting demand and supply are first examined. In this analysis, a number of relevant questions are also addressed.

(i) What factors affect the international competitiveness of universities?

(ii) What internationalization strategies do they adopt?

(iii) How is technological innovation affecting the academic world?

(iv) Who are the new competitors?

(v) What major trends are likely to affect demand and supply in the future?

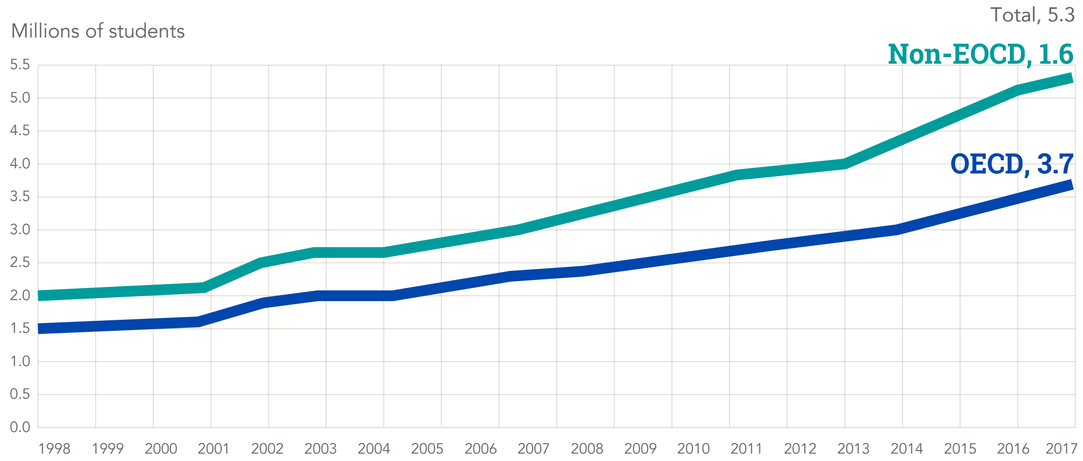
An analysis of the consequences and implications of the major trends affecting the higher education industry is then presented.

3.1. | The main trends affecting the demand for higher education

During the last two decades the higher education industry has become increasingly global, with **students becoming more and more internationally** mobile and universities expanding globally through foreign branches, joint ventures, partnerships and off-shore campuses. On the demand side, international students, i.e. students attending universities located in a foreign country, have increased from approximately 2 million in 1998 to over 5.3 million in 2017 (Figure 9).

Figure 9 | International Students

NUMBER OF INTERNATIONAL OR FOREIGN STUDENTS ENROLLED IN OECD AND NON-OECD COUNTRIES

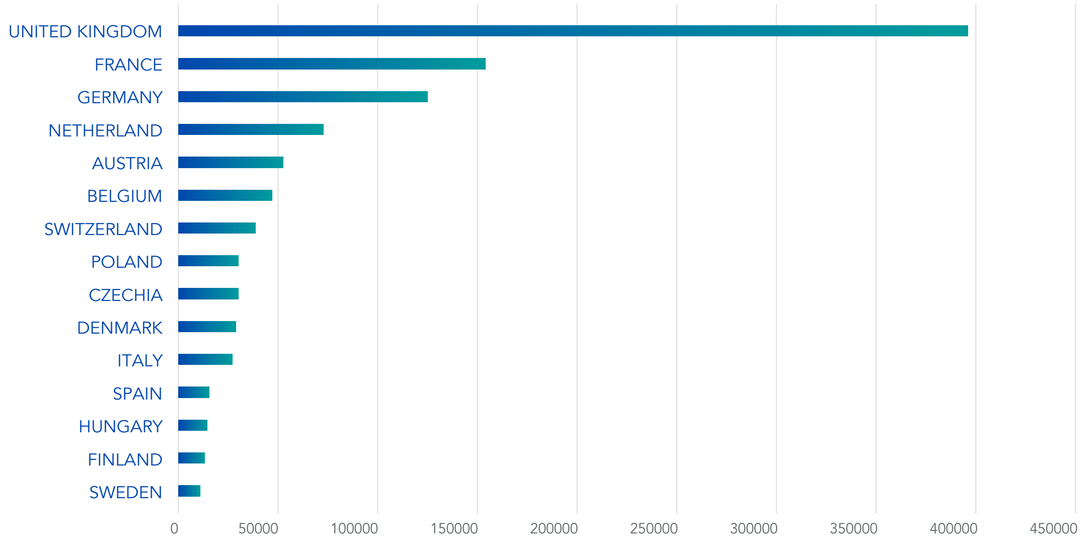


Note: The data sources use similar definitions, thus making their combination possible. Missing data werw imputed with the closest data reports to ensure the breaks in data coverage do not results in time series.
Source OECD/UIS/Eurostat (2019). Other non-OECD countries and years prior to 2013: UNESCO Institute for Statistics. See Source section for more information and Annex 3 for notes (http://doi.org/10.1787/f8d7880d-en)
Source: OECD, UNESCO, 2019.

A key role in the international mobility of students is played by the competitiveness of different countries. Indeed, universities do not "walk alone" in the competitive arena, as they are strictly linked to the country in which they have their headquarters. This is not only due to the legal and regulatory framework, but also to the global reputation and future growth perspectives. Empirical evidence from a recent report by Bocconi University (ATLAS/Work, 2019) on the international mobility of university students shows that the US remains the most attractive destination in terms of total number of international students enrolled, followed by the UK, Australia, France and Germany. Canada and China appear as the rising stars and are consolidating their positions. As for the share of international students, the most internationally open system is New Zealand, followed by the UK, Switzerland and Australia. In Europe, also Denmark and the Netherlands reach a double-digit share of international students over the total student population, followed by France and Germany. Italy is still lagging behind, attracting the majority of international students from non-OECD countries, while the majority of outgoing students moves towards OECD countries. The subjects most affected by international mobility of students are the ones belonging to the STEM area, business administration and law.

Figure 10 reports a ranking of European countries, based on the net international flow of university students (incoming students - outgoing students). The evidence confirms the above mentioned leadership of the UK, followed by France, Germany and the Netherlands. Italy, ranked 11th, is not even in the top ten European countries in terms of international students' attractiveness.

Figure 10 | Top 15 European countries for positive net flow of students



Source: Bocconi, Atlas/Work, 2019.

Many factors affect student mobility at the country level. A strong national job market, with the presence of global multinational companies, represents a powerful driving force of a country's appeal. Notably, France enjoys an "attractiveness bonus" that goes beyond its current international attractiveness, job market's strengths and quality of the education system. Italy's low attractiveness depends on the country's general situation, especially in view of its feeble job market, the prospects for the economy and the political context. By contrast, the city of Milan shows a positive performance according to the most renowned international rankings, such as The Economist, the Globalization and World Cities Research Network, and QS.

Some countries consider **attracting international students as a by-product of a broader strategy on human capital** and they consider it as a priority to be addressed with specific and ad hoc programs, as happens in the UK, France, Australia, Canada, China and New Zealand, for instance. The universities based in these countries can thus count on a "systemic advantage", while the universities based in countries not practicing such illuminated policies have to compensate with other factors.

Additional factors affecting the international competitiveness of universities and their attractiveness for international students include the **support to higher education through government sponsored scholarships** and the ability to attract high quality faculty and researchers. Indeed, the quality of faculty and research represents a key factor in determining the international reputation of a higher education institution and of its positioning in the main international rankings.

While it is reasonable to assume that the international mobility of university students is likely to slow down in 2020 given the constraints to international travel posed by the Covid 19 pandemic crisis, it is also reasonable to assume that this process of globalization of higher education will continue once the current emergency phase is over.

On the demand side, a number of other important trends have been emerging in the last few years and are likely to continue in the future. First, the **increasing demand for customized programs and individualized learning paths**, as opposed to standardized ones. This in turn is leading universities towards the reduction of standardized compulsory parts within degree programs, in favor of shorter and more flexible courses. Following this trend, it is likely that an increasing variety and flexibility of programs, to meet evolving students and employers' needs, will be seen in the future.

Second, a growing **orientation among students toward multi-university experiences**, with students aiming at constructing curricula that include different countries and geographies, as well as different fields, with programs jointly offered by different schools of the same university (e.g. engineering and management, entrepreneurship and technology, etc.). This trend is also a reflection of the increasing demand by major employers for graduates with this kind of interdisciplinary competences.

Third, an increase in students' **attention to services, campus experience and, more generally, value for money**. This relates to campus life, with the focus on the availability of sports facilities & extracurricular activities, to the quality of digital interactions, and to the quality of services offered by universities, especially in terms of career development, i.e. internship opportunities and placement.

A fourth important trend is the one related to the increasing demand for life-long learning, whereby the process of learning does not end with graduation, but rather continues over the entire working life of an individual. This trend is related to a number of underlying factors: (i) the fast pace of technological change and the need for people to continuously adapt and improve skills and competences, (ii) the fact that, differently from the past, individuals often change work and employer, (iii) the importance that most employers place on the need for constant upskilling and reskilling of human resources. As often mentioned, learning how to learn has become the most important skill for an individual during his/her career. Lifelong learning is therefore seen as an "insurance" to cope with skills obsolescence, a driver to catch fast-changing career opportunities and to take advantage of new opportunities in the evolution of professional, social and cultural contexts.

This means that the responsibility of universities does not end with graduation but rather continues through lifelong learning. Universities all over the world, and especially business schools, are engaged in dealing with this growing demand. From a business school perspective, this means that an integrated, flexible, multichannel portfolio of both off-campus / on-line and on-campus programs should be developed, aimed at actively supporting individuals and organizations dealing with the dynamic of changing environments and skills. As a result, the business model should change from a "single transaction" model to a customer-life cycle one.

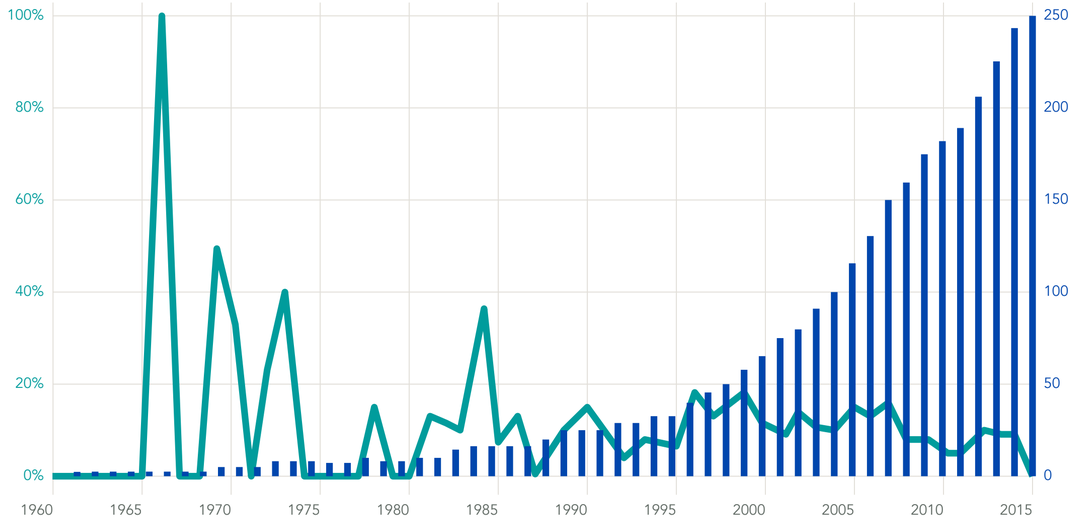
As an example, in Singapore, universities support their graduates to undertake additional studies at preferential rates: graduates can return to attend a master course or a short upskilling module. Similar examples exist in other higher education institutions, where new engagement and retention strategies are aimed at achieving seamless student journeys, whereby individuals become lifelong students of the university (e.g. Harvard 60-year curriculum, NUS Lifelong learners program).

Finally, it is worth mentioning the growing demand for two subjects that are becoming increasingly important for the higher education industry as a consequence of their increasing relevance to the business world: **entrepreneurship and sustainability**. Indeed, the demand for higher education in these two subjects has increased during the last ten years and is likely to significantly grow in the next decade. Universities are called to stimulate the entrepreneurial spirit of their students and, at the same time, to favor their sensitivity, awareness and competence on the subject of sustainability. In the area of sustainability Europe has been leading the way and should continue to do so.

3.2. | Main trends affecting the supply of higher education

On the supply side, during the last twenty years universities have themselves been very active internationally, setting up international branch campuses, joint ventures and strategic partnerships.

Figure 11 | Evolution of international branch campuses



Source: Cross-Border Education Research Team (2017, January).

The different internationalization models reflect different objectives, different investments, and entail different degrees of risk. Table 4, taken from an internal analysis by Bocconi, highlights the main alternative internationalization strategies, their underlying rationale and targets, together with a number of relevant examples. In some cases, the foreign model developed abroad is also developed at the domestic level through a multi-campus offer (e.g. Sciences Po and Edhec in France; Wharton and Michigan University in the US, Esade and Iese in Spain, Cornell engineering and STEM center in New York).

Table 4 | Universities internationalization strategies

Type of strategy	Rationale	Target
MULTI-LOCAL	OFFER A MULTI-CAMPUS OR DUAL CAMPUS EXPERIENCE TO HOME STUDENTS	CURRENT STUDENTS/CUSTOMERS AND HOME COUNTRY PROSPECTIVE ONES
FOREIGN BRANCH	ATTRACT STUDENTS AND CUSTOMERS FROM A DIFFERENT MARKET	HOST COUNTRY PROSPECTIVE STUDENTS/ CUSTOMERS
JOINT-VENTURE	ESTABLISH LONG-TERM COOPERATION WITH A LOCAL PARTNER	HOST COUNTRY STUDENTS/ CUSTOMERS
GLOBAL	STRONGLY AFFIRM GLOBAL EXPOSURE OF THE BRAND	PROSPECTIVE CUSTOMERS AND STUDENTS WITH GLOBAL/REGIONAL FOCUS

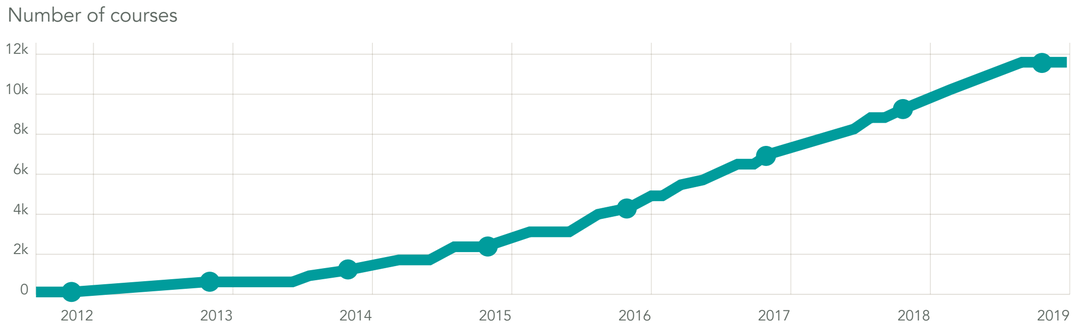
A critical factor in these different strategies is the one related to faculty, i.e. whether the faculty active within the international branch, joint venture or off-shore campus is part of the core faculty of the parent company, or whether a new faculty is hired ad hoc. The involvement of the faculty from the parent university is often complex and risks losing motivation and commitment over time. On the other side, establishing a new faculty is potentially counterproductive due to the high synergies, both in terms of teaching and research activities, of one single location and to the critical mass needed to be effective in both teaching and research activities. It is important to highlight that these alternative strategies may have different underlying objectives: (i) exploiting the brand in a foreign market, thereby attracting new students/customers, (ii) enhancing the domestic market students' experience through an international branch or joint venture, (iii) strengthening of recruiting and executive education in a foreign market.

A final trend that has become increasingly significant and is likely to increase in the future is the increasing importance of **international partnerships and alliances** among universities. These may take different forms: joint programs, double or triple degrees, exclusive networks or alliances such as CEMS (*Global Alliance of Management Education*), GNAM (*Global Network of Advanced Management*), and GPPN (*Global Public Policy Network*). These partnerships do not simply allow universities to offer higher value programs, but are also used as marketing tools, signaling membership in prestigious international networks and alliances.

On top of the internationalization efforts brought forward by a large number of higher education institutions in the last two decades, a number of other important trends are affecting supply and are likely to be further strengthened in the next decade. The first one is related to the transformation made possible by **technological innovation**. This transformation has taken different forms. First, the possibility of offering online courses has allowed the emergence of **new players such as EdX, Coursera and Udacity**. These are platforms where online courses from the best faculty and the most prestigious universities are made freely available to all students. During the last decade, the growth of these massive open online courses (MOOCs) has been exponential (see Figure 12). In 2019, open online courses reached a peak of 110 million students, involving more than 900 universities, for a number of over 13,000 courses. This phenomenon has clear implications for traditional players, as the free availability of high quality content online requires universities to enhance the teaching and learning experience offered through classroom activities.

Second, technological innovation has led a number of players to launch programs - and not simply individual courses - online. These are fully fledged degrees (e.g. MBA) entirely offered online, and where physical face to face modules are offered entirely jointly with online modules. These **online degrees** are still limited in number (50 online degrees are estimated as at end of 2019), but their growth is expected to be significant in the future. A similar growth has been experienced by modularization and micro-certifications, i.e. short fee based programs offered online (estimated at over 800 in 2019).

Figure 12 | Total number of MOOCs available, 2012–2019



Source: Class Central, 2020.

Third, technology has favored the emergence of **new players**, such as Singularity University, Kahn Academy and a number of consulting companies and corporate universities, especially in the area of executive education (e.g. BCG, McKinsey and Bain). Indeed, the opportunity to combine consulting with executive training made the executive education market more competitive and more difficult to defend for incumbent schools. Finally, technology has enabled adaptive and personalized learning solutions, whereby individuals and corporates have more flexibility in designing programs tailored for their specific needs.

The area of post graduate education is the one that has already been and will be mostly affected by technological innovation. Indeed, this is potentially the largest and the most permeable segment of the market, where the opportunities offered by online education and distance learning are more significant. Here are just a few examples, taken from the US market, of leading schools initiatives in the online executive education arena:

(i) Wharton started Wharton Online in 2015 with about 6 courses; today the school offers 60 online classes, and has issued 250,000 certificates;

(ii) Columbia Business School began offering online classes in 2012; in 2020 it reached a portfolio of 24 online programs and is adding new ones each year;

(iii) Stanford Graduate School of Business' LEAD program, a year-long certificate program, is now in its fifth year, offering a total of 23 online courses;

(iv) MIT Sloan now offers 13 open enrollment executive education classes that run multiple times a year, up from just 4 courses three years ago.

(v) University of North Carolina's Kenan Flagler School of Business offers 10 online open executive courses, up from just one in 2017.

A second important trend affecting supply is related to **expansion of the range of educational offers** realized during the last few years by a number of universities. As an example, a number of US business schools, traditionally active only on the executive and MBA market, have entered the master of science (MSc) segment. A similar expansion has been recently pursued by a number of leading European business schools traditionally active only on the executive and MBA markets, such as London Business School, Iese (Barcelona) and Insead (Paris). This is also explained by the recognized stage of advanced maturity of the MBA model, whereas the MSc model is becoming more and more important and attractive for employers.

Similarly, some business schools traditionally focused on the graduate level have entered the bachelor segment (e.g. HEC Paris). Also, schools are converging to cover all the sectors of higher education, from pre- to post-experience and only few players are staying out either of the bachelor or of the executive market. The presence in all segments - bachelor, master of science, MBA - under the same brand generates synergies, allows diversification of risk, and strengthens the relationship with corporates, thereby facilitating both placement and fund raising. It is reasonable to assume that this type of expansion will further increase in the near future given the significant problems that the Covid 19 pandemic has posed to the executive education segment of the market.

A third important trend refers to the increasing role of computer science and data science in education. In recent years, computer and data science departments have significantly grown within universities. Computer and data science faculty has been hired in the departments of social science institutions and in general in business schools. More importantly, the number of double degrees blending business and economics with computer science has been developed as a new format and tracks in computer science within MBA programs or in general minors and majors in computer science have increased in prominence. Lastly, in terms of research it is important to notice the increasing competition from the five digital giants (FAANG) and other emerging players of the digital economy which are running top-notch research within their own corporate academies and are increasing the bargaining power of professors.

A fourth major trend that has affected the supply of higher education and is likely to affect the industry in the next decade is represented by the **continuous decrease in public funding**. In a context of rising costs and declining public support, universities have been struggling for cash through **aggressive fundraising campaigns** targeted to alumni, corporates and foundations. The decrease in the amount of public funds received by universities is likely to continue in the future in light of the increase in public deficit that most countries will experience as a consequence of the extraordinary measures adopted during the 2020 pandemic. This will likely make the competition to attract private funding through ambitious fundraising campaigns even stronger in the years to come.

A fifth important trend is the one related to the increasing divide between "global" and local or regional universities. As a result of the increasing competition to attract the best students and faculty, it is indeed possible to identify **two different types of higher education institutions: global versus national/regional**. The first one is represented by institutions with global ambitions, competing at the world level for the best talent. These are the universities that appear in the top positions of all the international rankings, that compete on the international market for faculty, that attract the best students from all over the world, with the majority if not all of their degree programs taught in English and a large part of their graduates employed abroad. The second ones are the regional and national institutions, with a faculty and student body that are largely domestic, that do not actively participate in the international market for researchers, with the majority of their teaching denominated in the national language and the large majority of their graduates employed in the domestic market. The **divide between these two groups is likely to increase in the next decade**, as the scale of the investments required to belong to the first group is getting more and more significant. Also, it is reasonable to assume that this divide will be accelerated by the Covid 19 pandemic crisis, as traditional conferences and seminars will lose weight in favor of webinars and digital means to communicate research results. This has clear implications in terms of: (i) the relevance of critical mass of research groups, (ii) the attractiveness of large and high quality research groups for young researchers.

It is important to highlight that the competition among these "global institutions" to attract the best talent, both in terms of students and faculty, has been getting tougher and tougher over the years. Also, the **competitive landscape has itself become more global**, with an increasing participation of universities and business schools from the Asian continent. Tables 5 and 6, based on a very common international ranking, the one on MBA programs prepared each year by the Financial Times, group schools ranked in the top 100 positions by country and by macro-region. One can see that during the last 10 years schools from North America and Europe have been gradually losing position to Asian schools. Indeed, the latter were only 7 in 2009 and have increased to 17 in 2019. This also reflects a fifth trend that characterizes the supply, i.e. **the increase in the quality and number of globally competitive institutions** in the higher education industry.

Table 5 | Top 100 FT Global MBA Ranking by Schools' Macro Region

By region	2009	2019	Δ 2009-2019
ASIA	7	17	10
SOUTH & CENTRAL AMERICA	1	1	0
AFRICA & MIDDLE EAST	1	0	-1
EUROPE	31	28	-3
NORTH AMERICA	60	54	-6

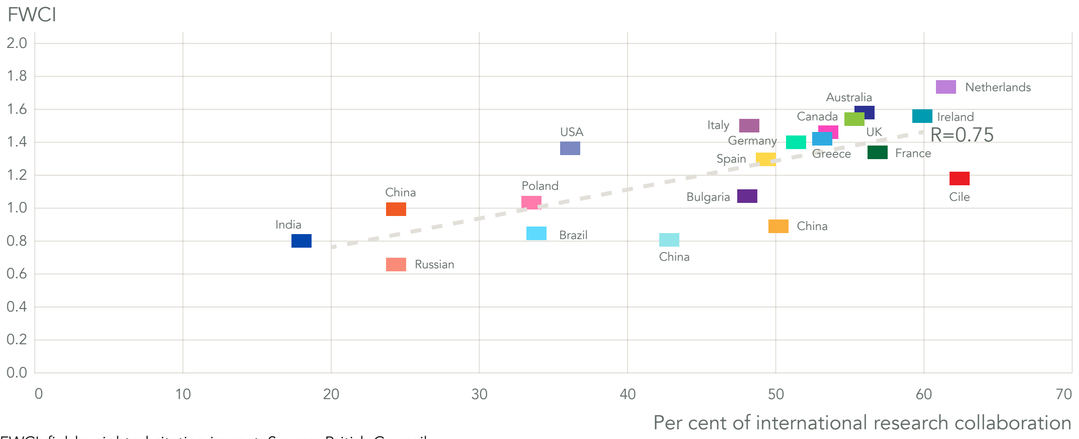
Source: FT MBA Rankings

A sixth important trend that has characterized the academic world in the last twenty years is the increasing international competition to attract the most productive research active faculty, leading to an **increase in faculty compensation**, in individuals' research budgets and, more generally, in faculty general benefits (e.g. school or housing subsidies). It is reasonable to assume that this trend may be threatened, at least in the near future, by the 2020 Covid 19 crisis, as a consequence of two factors: (i) the constraints to international travel and mobility, and (ii) the negative impact on universities' endowments provoked by the general downturn in financial markets. The latter has a clear impact on the financial budget of major universities and on their capacity to sustain a continuous increase of faculty compensation packages.

In the international competition to attract the best faculty and researchers, Brexit and the US increased constraints on immigration represent an important opportunity for continental European universities like Bocconi in the next few years, as the attractiveness of the two anglosaxon countries declines.

Finally, on the **research activity** conducted by universities it is worth mentioning two main trends: (i) the increasing importance of international collaborations, and (ii) the increasing importance of faculty ability to attract research funding. On the first point, Figure 13 below reports an analysis based on scopus data, showing the positive correlation between research conducted through international collaborations and its impact in terms of citations. Indeed, international collaborations have contributed to a significant increase in the impact of research and to the improvement of research output. On the second point, it is important to highlight that research funding opportunities in Italy are especially limited, thereby making EU research funding opportunities especially relevant in our country.

Figure 13 | International collaboration and research impact



FWCI: field weighted citation impact. Source: British Council.

What are the **consequences and implications** of the above mentioned trends?

First

as content becomes easily available online and can be easily replicated, **more active interaction between students and professors becomes necessary,** together with a **more active student participation in the learning process**, possibly through the recourse to the direct use of technologies in the classroom. Similarly, the fact that new generations are used to easily finding content and knowledge freely on the web has clear implications for the value added expected by students from class activities and, more generally, university campus life.

Second

it is likely that in the future students from around the world will take courses as they need them, often online, stitching together the equivalent of customized degrees and presenting employers with transcripts of the classes they've taken from different providers. This means that universities will need to keep offering immersive degree-based experiences, but at the same time experiment, especially for post graduate education, with more just-in-time, convenient, relatively inexpensive programs that could create **lifelong customers** who return every time they need to acquire new skills.

Third

given the above mentioned technological trend, the competitive advantage of universities with respect to other players will also be grounded on the capacity to **produce cutting edge knowledge** through relevant and **rigorous research** and to the ability to integrate theory and practice. This is consistent with "academic" missions, as research universities become effective when they work on the most pressing societal issues and disseminate research results that shape both academic thinking and business practice.

As an example, if we focus our attention on business schools, we can see that the leading players in Europe and the US have been reacting in different ways to the competitive dynamics described above in order to face the commoditization of knowledge: (i) by penetrating the pre-experience MSc market with flexible and branded programs (e.g. INSEAD, LBS, IESE and some US schools), (ii) by expanding their footprints into new content and disciplinary fields such as computer science and data science, (iii) by launching on-line, flexible programs (i.e. MIT Micromasters) or fully fledged degrees (e.g. CMU, Online MBA) hosted by platforms (e.g. EdX) or building their own platform, often through strategic alliances with new players (e.g. UCL with Coursera), (iv) by investing in the value of students' on-campus "experience", (v) by embracing the new services and business models for lifelong learning, and (vi) by investing in research (basic and applied).

Finally

an important issue with significant implications for higher education institutions is the one related to the exponential growth of **social networks**. The new generations of students spend a significant portion of their time on these networks and often tend to become strongly dependent on their use for information and social relations. These passive attitudes make it even more important for higher education institutions to strengthen **students' critical thinking and independence of mind**, in order to allow them to properly evaluate and critically distinguish among the huge amount of info and data found on the web.

This phenomenon has also clear implications not only for the way higher education institutions design students' learning processes and the development of their skills, but also from the point of view of research for universities focused on the social sciences. Indeed, rigorous research should support the design of **public policies** aimed at limiting the social and psychological problems generated by young people's dependence on social networks (based on algorithms designed to extract attention, influence behavior and generate addiction) and the related potential implications for relevant democratic processes such as elections and referenda.

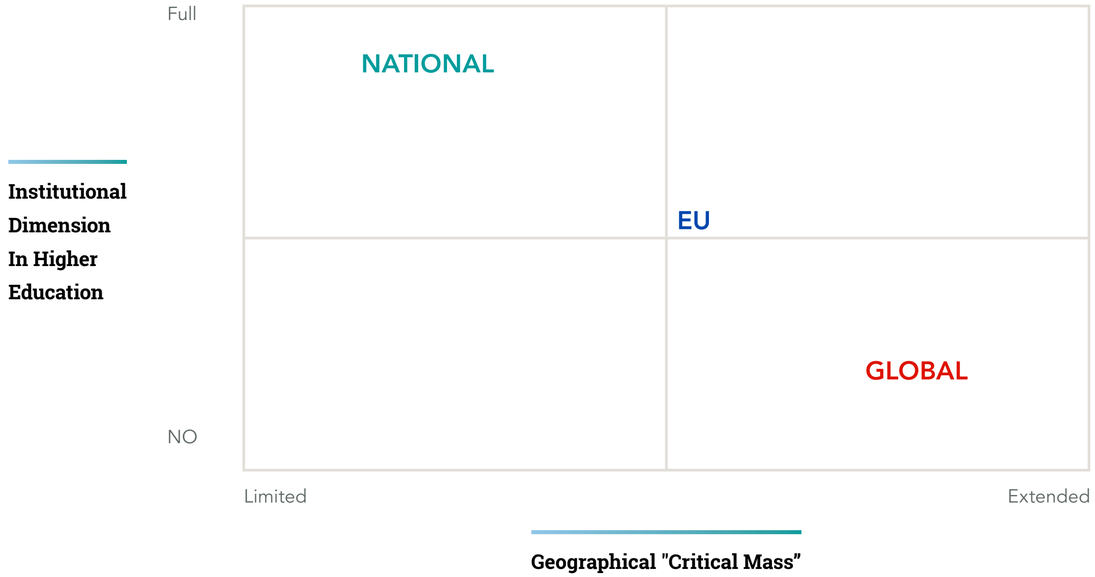
3.3. | The Relevance of the European Dimension

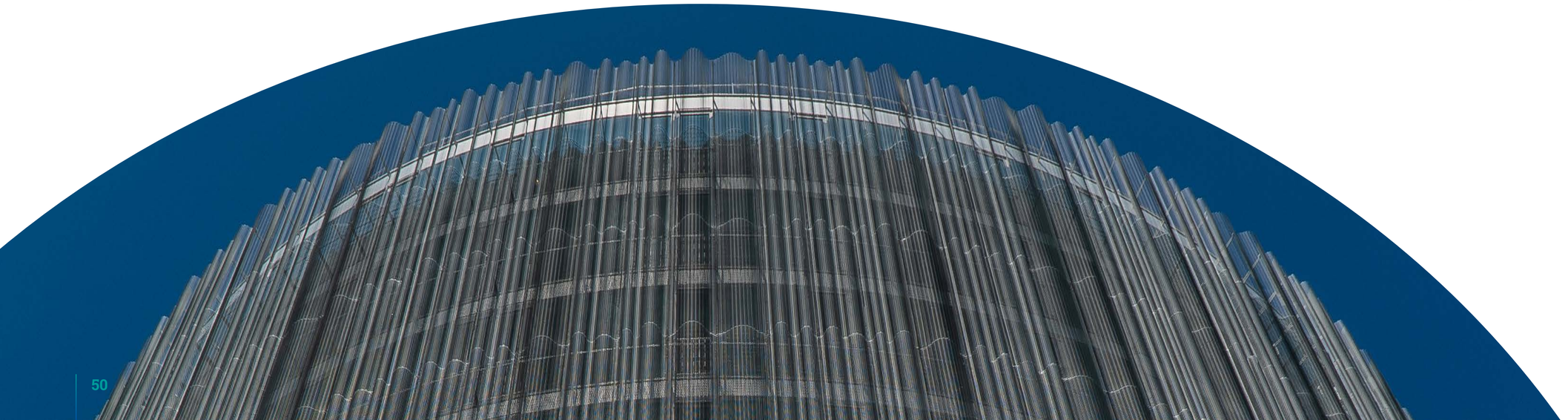
As duly examined in the previous paragraph, a major trend affecting higher education is represented by the growing polarization between global and national (or regional or local universities). Global institutions have global ambitions and compete at the world level for the best talent.
These are the universities and business schools that appear in the top positions of all the international rankings, that compete on the international market for faculty, that attract the best students from all over the world, with the majority if not all of their degree programs taught in English and a large part of their graduates employed abroad.

Bocconi shall aim to be a global institution and its strategic evolution in the last 20 years clearly shows the progress made to reach this ambitious goal. It has to be recalled, however, that in the case of an Italian higher education institution like Bocconi, between the national and the global dimension one must also consider the European dimension, as a link and a catalyst between the other two.

In fact, if the global dimension is a geographical one, but without a correspondent institutional framework, and the national dimension has on the contrary both attributes, institutional and geographical, though the latter with limited "critical mass", the EU level matches the two in a sort of "augmented configuration". It is in fact a geographical entity, and it has its own institutional framework for higher education.

Figure 14 | Institutional and geographical dimensions





If the latter were further enhanced, the EU would be able to act in the global competitive arena of higher education more and more as an integrated market, with a shared institutional framework, for the benefit of Member States' universities first of all. The major benefit lies in the capacity to compete globally with a "systemic" reputation. This is crucial research-wise, to develop and retain best talented scholars, and to attract top scholars from outside Europe, thanks to better access to funding (both public grants and private donations).

A similar advantage can be reproduced with regard to the student body, enabling to attract and retain the best talented students worldwide, thanks to stronger educational institutions in terms of faculty, research capacity and educational outreach.

The outcome would be a powerful enrichment of human capital and research/innovation ability at the EU level. For universities, this would also imply positive fall-outs in terms of better capacity to contribute to the advancement of society and satisfy the needs of a fast changing job market. Needless to say, all the above would positively reflect upon positionings of EU based universities in global rankings.

It is worth underlining that the role of the European Union in higher education, though not always so well-known to the general public, has been of paramount importance in promoting, for instance, **cross-border student mobility** - notably through the Erasmus project - and **research activity**, mostly through the European Research Council (ERC). The European Union also promoted innovations that have spread outside its own domain: the introduction of the three-cycle education system consisting of Bachelor, Master and doctoral studies (e.g. "Bologna Process") has in the long-run changed the competitive arena, as proved by the fact that also prestigious US business schools have launched their own Master of Science programs.

To help European universities gaining enough "critical mass" to compete at the global level, in 2017 the European Council (EC) has launched the **"European Universities"** initiative aimed at strengthening strategic partnerships across the EU between higher education institutions and encouraging the emergence by 2024 of some 'European Universities', consisting in bottom-up networks of universities across the EU, which will enable students to obtain a degree by combining studies in several EU countries and contribute to the international competitiveness of European universities.

The next step already announced by the EC will be to remove the existing barriers at EU level to facilitate the transnational operation and the transformation of higher education institutions towards the Universities of the future. Such a transformation requires much deeper cooperation between higher education institutions across the EU, removal of barriers to this deeper cooperation, in particular in terms of mobility (including recognition of qualifications, language learning, and other favoring framework conditions), quality, governance (including possible EU-level degrees and statute) and financing (EU, national and regional), and boosting the capacity of higher education institutions to deliver in a synergetic manner on the four missions of universities (education, research, innovation and service to society).

Thanks

TO ITS DEEP-ROOTED COMMITMENT TO THE EUROPEAN INTEGRATION PROCESS, BOCCONI IS ALREADY PART OF THE "EUROPEAN UNIVERSITY" PROJECT, AS A FOUNDING MEMBER OF CIVICA - THE EUROPEAN UNIVERSITY OF THE SOCIAL SCIENCES. BELIEVING IN EUROPE AS A GATE TO THE WORLD, BOCCONI SHALL CONTINUE TO PURSUE ITS EUROPEAN IDENTITY, ALSO BECOMING MORE VOCAL WITH EU-INSTITUTIONS TO PROMOTE THE ADVANCEMENT OF THE INSTITUTIONAL DIMENSION.

PART 2

Vision 2030 and strategic plan 2021-2025

4.

STRATEGIC GOALS DRIVING VISION 2030

The analysis carried out in the first part of this document has highlighted the economic and demographic scenario with which Bocconi will be confronted in the next decade, with particular focus on the major trends affecting the higher education area more directly, such as the job market's prospective dynamics and the challenges/opportunities related to a fast-changing competitive arena (including expected impacts of the Covid-19 pandemic).

The aforementioned facts and figures were shared with a broad range of internal stakeholders (the University Board, the International Advisory Council, Faculty and Staff members, students representatives, the Bocconi Alumni Community Board). Thanks in good part to their significant contributions the Executive Committee was able to identify the six strategic goals that drive Bocconi Vision 2030 and will define our university going forward.

1. **A leading independent international university in the social sciences**
2. **A university committed to the advancement of knowledge through rigorous and relevant research**
3. **A university offering a life transforming learning experience of the highest academic quality**
4. **A university promoting impact and engagement of all its stakeholders**
5. **An open university supporting social mobility, inclusivity, diversity and sustainability**
6. **A university promoting innovation and entrepreneurship**

Each strategic goal was assigned to a working group, made up of both faculty and staff members, in charge of analyzing it and proposing a set of long-term actions aiming for achievement by 2030. A special thanks is deemed to the working group members: Jérome Adda, Pierpaolo Battigalli, Fabio Bellet, Lucia Benedetti, Francesco Billari, Bruno Busacca, Paolo Cancelli, Laura Candotti, Leonardo Caporarello, Antonella Carù, Stefano Caselli, Andrea Colli, Silvia Colombo, Andrea Fosfuri, Alfonso Gambardella, Elena Gelosa, Roberto Grassi, Fulvio Ortu, Tommaso Monacelli, Maurizio Mongardi, Simone Piunno, Peter Pope, Annalisa Prencipe, Gaia Rubera, Pietro Sirena, Giuseppe Soda, Silvia Tracchi, Nico Valenti Gatto, Marcello Valtolina, Marco Ventoruzzo, Markus Venzin, Erika Zancan, Gabriella Zanga.

1 | A leading independent international university in the social sciences

Bocconi University strongly values its independence and freedom from any political and economic power. Always proud of its Italian roots, Bocconi is already a leading European research and teaching university in the social sciences. Our ambition for the next decade is to **consolidate our positioning in Europe** and to progressively narrow the gap with first-rate global players in our academic domains, e.g. economics, management, legal studies and the social sciences at large. **Our vision of the social sciences** expands to include those disciplines, such as data/computer science and cognitive sciences, that have a great disruptive impact on business and society. These areas are changing profoundly the dynamics underpinning how economic and social relations unfold, and more generally are helping in understand and address the big challenges of our times within a multi-disciplinary framework.

We believe that **attracting talented students from all over the world** and enabling them to access high-quality tertiary education, regardless of their families' economic and social condition, are the pillars of Bocconi educational mission, which starts at the undergraduate level.

Bachelor programs represent an internationally recognized strength of Bocconi and, as such, need to be carefully enriched and reinforced, also leveraging the uncommon capability of matching high quality with high numbers that the University has developed through the years.

Our aspiration for the next decade is to harness the best minds and resources to provide our students with the most relevant and engaging educational experience, blending theory with practice and ensuring that students coming to Milan from all over the world, from the most diverse backgrounds, enjoy a fulfilling and rewarding experience at Bocconi.

2 | A university committed to the advancement of knowledge through rigorous and relevant research

During the next decade, Bocconi will emphasize its research university nature more and more, firmly believing that the **advancement of knowledge** through original research is the cornerstone of modern world-class universities.

With the aim of becoming the **leading social science university in Continental Europe by 2030**, Bocconi will mainstream research in all its activities, primarily by recognizing the pivotal role of research-oriented Faculty (scholars) in advancing knowledge, and consequently attracting students/relevant stakeholders (employers, donors, etc.) to the University and contributing to the University's performance in rankings.

Universities are build-to-last institutions, since they are endemically oriented to future generations. This is particularly true with regard to research and its continuity in time, which must be ensured through a rigorous process of selection and training of next generation scholars (Ph.D.).

Last but not least,

THE INVOLVEMENT OF DEDICATED STAFF IS INTEGRAL TO EFFECTIVELY PERFORM THE RESEARCH ACTIVITY IN A HIGHLY COMPETITIVE ENVIRONMENT.

3 | A university offering a life transforming learning experience of the highest academic quality

Bocconi intends to develop an **outstanding learning experience** from undergraduate to executive education. The capability to have such a multidimensional offer - undergraduate, graduate, PhD, MBAs and Executive -, fueled by rigorous and relevant research, represents a pillar of the Bocconi value proposition.

Our educational offer unfolds along two synergetic dimensions, both pivotal to make the student journey unique and fully rewarding in the long run:

THE **TEACHING MODEL**, AIMED AT ENABLING STUDENTS TO **UNDERSTAND** AND ELABORATE CONCEPTS AND THEORIES; TO **APPLY** KNOWLEDGE FOR ANALYZING AND SOLVING PROBLEMS USING A CRITICAL THINKING APPROACH; TO **TRANSFER** THE KNOWLEDGE AND EXPERIENCE ACQUIRED ALSO OUTSIDE THE CLASSROOM, TO ADDRESS REAL-LIFE CASES;

THE **LEVEL OF PERSONALIZATION** OF THE LEARNING PATH.

With particular reference to the future challenge facing our **MSc programs**, some considerations regarding competition becoming fiercer for this kind of programs specifically (with new competitors emerging in the international arena), Bocconi's choices (admission process, size of programs, domestic focus, binding curricula, etc.) and the Italian context (outbound talent mobility, country's attractiveness for foreign students, feeble job market, etc.) push towards an evolution of the Master of Sciences as leading graduate programs offering a **more personalized and digital learning experience**.

Besides global scenario and competitive trends, both the teaching model and the level of personalization are also deeply impacted by the evolution of **technology**, which is as well a key driver and an enabler of **life-long learning**.

Lifelong learning will be a key driver for **SDA Bocconi**, together with other five pillars identified for 2025 and associated to specific actions and KPIs:

1 **Lifelong learning**

2 **Experience**

3 **Glocal**

4 **Discovery**

5 **Innovation**

4 | A university promoting impact and engagement of all its stakeholders

In a context dominated by increasing competition among top tier institutions in attracting the best students/faculty and resources at large, shrinking public funding, and limits to the increase of student intake and tuition fees, universities rely more and more on **individuals and corporates to raise the funds needed** to fulfil their mission of contributing to the advancement of knowledge and educating future generations of citizens.

Bocconi's positioning in this area already rests on solid ground: our university has in fact a **deep-rooted tradition of strong and mutually-satisfactory relations with our stakeholders**, primarily the business world, and our network of **more of 120,000 Alumni** based in 158 countries represents an asset for Bocconi around the globe.

While proud of our achievements, we are not complacent, as we are aware of the gravity of the challenges that lie ahead, and hence determined to do more over the next decade to enhance alumni engagement and fund raising, also relying on the full support of all our stakeholders, in primis the University governance, Faculty and Staff.

At the same time, due to the coronavirus emergency and the economic crisis that goes with it, we expect a reduction in the resources available for philanthropic causes and most probably a readdressing of donors' priorities towards more pandemic-related issues, which escalates the level of uncertainty affecting our planning activity, at least in the short-term.

By 2030 we thus aim at becoming a leading university in Europe to engage alumni, corporates, individuals and organizations in sustaining:

ACCESS TO HIGHER EDUCATION (DRIVE **SOCIAL MOBILITY** THROUGH EDUCATION);

HUMAN CAPITAL DEVELOPMENT (ADVANCE **KNOWLEDGE** FOR A BETTER WORLD);

THE COMMUNITY AND THE ENVIRONMENT IN WHICH WE LIVE (ENHANCE **SUSTAINABILITY** AND THE QUALITY OF FACILITIES AND CAMPUS LIFE).

5 | An open university supporting social mobility, inclusivity, diversity and sustainability

Universities are no longer ivory towers: they are, on the contrary, open and dynamic organizations, where people gather to build a better future by nurturing new ideas, acquiring and sharing knowledge and enriching experiences.

In this context, Bocconi is, and will be, committed to pursuing its core research and educational objectives in an environment (physical and intellectual) where all students, faculty and staff receive, and offer to others, **equality of opportunity and treatment**, irrespective of their gender, sexual orientation, ethnicity, religion, age or economic conditions.

Bocconi, intended both as a **community of people** (students, faculty, staff, alumni) and as a cluster of physical facilities (above all, the Campus in Milan), has to be considered as a system which both receives from and impacts on the external environment and, as a system, has the duty and need to be **open and inclusive**, as well as to be in its turn included, into the broader community to which it belongs, at the local, national and international level.

We are open to bright and motivated students, regardless of their background, and determined to provide them with the knowledge and tools that realize their full potential: today as students, tomorrow in work and society.

Well aware that sustainability, in its many forms, is the global challenge facing us all, we will continue to be fully committed to achieving **more sustainable**, inclusive and forward-looking development for future generations, devoting time and energy to this purpose.

ALL THE ABOVE SHALL APPROPRIATELY BE DESIGNED, IMPLEMENTED AND COMMUNICATED INTERNALLY AND EXTERNALLY. BOCCONI MUST BECOME AND BE PERCEIVED AS HOME OF DIVERSITY, INTERCULTURAL UNDERSTANDING, COMMUNITY ENGAGEMENT, INCLUSION AND SUSTAINABILITY. A SAFE PHYSICAL AND VIRTUAL SPACE.

6 | A university promoting innovation and entrepreneurship

In the digital society, technology breakthroughs follow one another at a speed that has never been experienced before in history, imposing not only new products and services, but radically transforming the way we learn, work and live.

Understanding innovation trends has thus become a key requirement for any student in the social sciences.

For the same reasons, **developing an entrepreneurial mindset** - open to new ideas and challenges, flexible, proactive, with a responsible but above-average risk-taking propensity – is an asset not only for would-be entrepreneurs, but for anybody approaching the job market now and even more in the years to come.

The above-mentioned trends have a significant impact on higher education and universities have developed a number of tools (contests, hackathons, labs, accelerators, incubators, etc.) designed to boost students' ability to face up to innovative ventures.

At the same time, academic applied research has a long tradition in **producing spillovers/spin offs** that, through technology transfer practices, bring to the market innovations originally conceived within university departments, accomplishing, in this way, also the so called "third mission".

Consistently with this framework and its expected evolution, by 2030 Bocconi aims at **creating a fertile ground for innovation and entrepreneurship** by developing and matching technical talent with business skills through its educational model that applies solid knowledge on theoretical frameworks and data science to solve practical problems.

More specifically, we envisage Bocconi in 2030 as:

A **DYNAMIC AND INNOVATIVE INSTITUTION** WHICH PROVIDES A LEARNING ENVIRONMENT FOR STUDENTS THAT INTEGRATES THE LATEST TECHNOLOGY WITH A HUMAN TOUCH;

A TOP **EUROPEAN BUSINESS UNIVERSITY** RENOWNED WORLDWIDE FOR PROVIDING STUDENTS WITH THE BEST SKILLS NEEDED TO SUCCESSFULLY NAVIGATE THE JOB MARKET AND FIND WORK OR TO LAUNCH THEIR OWN BUSINESSES;

A **HUB FOR STARTUPS, CORPORATES AND INVESTORS** TO BOOST ENTREPRENEURSHIP WHILE CONNECTING STUDENTS, FACULTY AND STAFF WITH THE EXTERNAL BUSINESS AND POLICY CONTEXT.

5.

STRATEGIC PLAN 2021-2025

Once the path to 2030 was nailed down, working groups were engaged to carve out the strategic plan to 2025, underpinning the subsequent economic and financial plan (which unfolds in part 3 of this document).

The five year strategic plan consists of 45 actions, which were analytically described in terms of:

1 **goal:** actions major achievement;

2 **drivers:** what needs to be done to achieve the goal;

3 **threats and risks:** potential hurdles to the goal's achievement;

4 **targets:** quantitative/qualitative breakdown of milestones within the planning timeframe (2021-2025), in order to achieve the goal.

Among the 45 actions and relative targets, the Executive Committee selected the **main quantitative targets for 2025**, that will comprise the key metrics to monitor the University's trajectory to 2025.

1 | Main quantitative targets for 2025

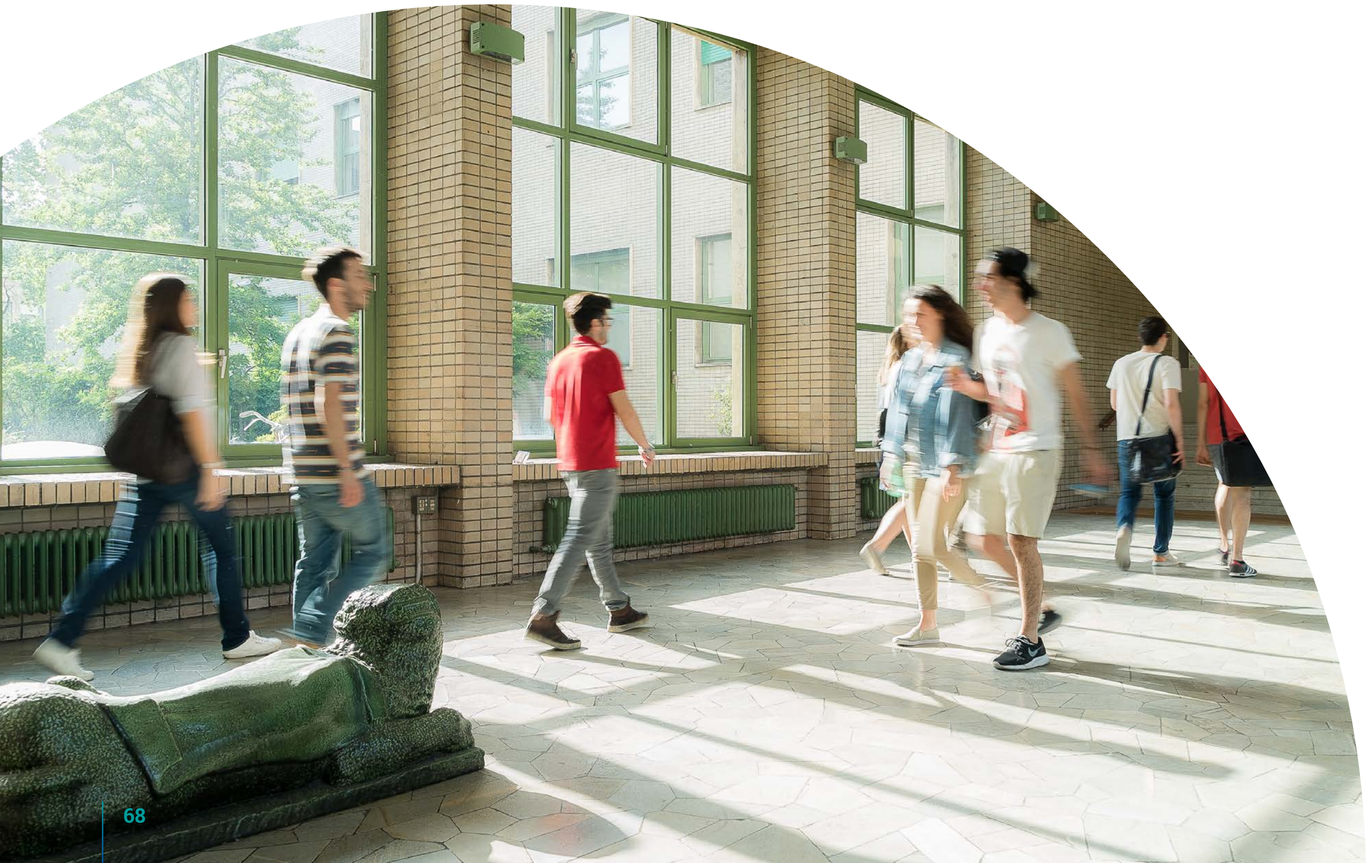
Targets were grouped into four areas:

1 Students, Schools and Rankings

2 Faculty, Research and Staff

3 Diversity

4 Alumni, Fundraising and B4i



2 | Students, Schools and Rankings

With regard to **"Students, Schools and Rankings"**, we plan to keep the overall **number of students** flat, at approx. 15,000 students.

At the same time, we will slightly **rebalance the mix between the undergraduate and graduate levels** by increasing the intake of Bachelor programs and symetrically reducing the intake of Master of Science programs. This will allow us to further consolidate our competitive advantage at the undergraduate level and, at the same time, to enhance the level of faculty-students interaction and personalization of the learning process for MScs.

With regard to enrolled students and the their **international and experiential exposure**, we want to further expand the portfolio of opportunities available at the undergraduate level, by increasing the percentage of students with at least one internship experience to 70% in 2025 and the percentage of students with a study abroad experience to 52% in 2025.

To address the **social mobility** challenge, we plan to increase the overall amount of financial aid, tuition waivers, etc. to over € 45 million in 2025, from the current € 30 million. Special actions will be put in place to reach out to talented students from the most disadvantaged backgrounds and to students whose families have been particularly hit by the economic fallout of the Covid-19 pandemic, to allow them to benefit from high quality tertiary education.

Finally, with regard to rankings and the increasingly tough competition universities are faced with, we plan to select the rankings that matter the most for Bocconi in the social sciences domain. We are going to concentrate our efforts to reach the Top 3 positions in the EU and the Top 20 in the World by 2025 for the chosen rankings, also as a gateway for the even more ambitious goals set for 2030.

The above mentioned quantitative targets are summarized in the table below.

Figure 15 | Students, Schools, Rankings

	2020	2025
N. of Students	15,000	15,000
UG Students' Internships	50%	70%
UG Students' Int.l Experience	45%	52%
Financial Aid, Tuition waivers, etc.	EUR 30 mln	EUR 45+ mln
International Rankings	Top 5 EU	Top 3 EU
	Top 20 World	Top 20 World

3 | Faculty, Research and Staff

With regard to **"Faculty, Research and Staff"**, we plan to further expand our capacity to attract top-notch talent from the international job market and offer them an ideal environment to live, teach and research.

More specifically, we plan to increase both research and teaching faculty, reaching an overall number of **470 faculty members** in 2025.

Combined with a flat number of students, this remarkable rise in hirings will allow us to improve the **student/faculty ratio**.

We also plan to increase up to 70% by 2025 the teaching hours delivered by core faculty, in function of both the teaching model's evolution and new programs launched.

Additional faculty also means additional research opportunities to be exploited. Therefore, we plan to increase the number of **international research grants (Horizon 2020, ERC, etc.) hosted by Bocconi to 59 in 2025**.

Bocconi will continue to invest in research also by increasing both **Department funding**, thus providing Departments with more autonomy and subsequent accountability, and **individual research funding**.

A lighter expansion is planned for **administrative staff**, which should grow to **700+ FTE** in 2025 from current 650.

The above mentioned quantitative targets are summarized in the table below.

Figure 16 | Faculty, Research, Staff

	2020	2025
Core Faculty	376	470
Int.l research grants (e.g. ERC, H2020)	44	59
Staff (FTE)	650	700+

4 | Diversity

The need to improve notably our community's diversity - broadly defined - has emerged across various working groups.

Though **openness to diversity** is more of a cultural attitude, thus difficult to capture by numbers in its essence, we have identified some specific quantitative targets that represent a reasonably robust proxy for this multi-faceted attribute.

They include **nationality, gender and experiences** and extend to faculty, students and staff members. It has to be noted, as shown in the table below, that in the case of staff the proposed action in favor of gender balance works "the other way round", e.g. we need to increase the percentage of male staff members.

Figure 17 | Diversity

	2020	2025
Foreign Faculty	20%	30%
Foreign Staff	6%	10%
Staff with international experience	20%	30%
Female Faculty	31%	35%
Foreign students in international programs	39%	45%+

5 | Alumni, Fundraising and B4i

Alumni are a driving force of modern univerisities. Their personal and professional achievements contribute to the Institution's reputation. They can act as ambassadors towards prospective students, as employers for graduates, as customers for life-long learning initiatives, and as donors who give back to their alma mater.

Bocconi pursues alumni engagement through its Alumni Community (BAC), which is expected to grow overall and specifically in terms of **active alumni - 5,000 in 2025 - and alumni donors - 3,000 in 2025**.

The Community will also be nurtured with fresh energy, as students will be involved from their "day one" on Campus, thus a target of **students enrolling in BAC** has been set (**45% in 2025**) as well.

The increase in the Alumni Community's expected contribution to the University's fund raising effort will allow us to diversify and rebalance the sources of funds between individuals, on one hand, and corporates/organizations, on the other hand.

We plan to augment the **funds annually pledged from the current level of € 10-12 million per year to approx. 20 million by 2025**.

Alumni and students that want to become entrepreneurs or to create innovative ventures have also the opportunity to benefit from the support of B4i; as well, alumni in primis - though not exclusively - will have the chance to invest in B4i startups themselves, contributing to reaching the ambitious target that have been set.

Figure 18 | Alumni, Fundraising, B4i

	2020	2025
Alumni	128,000	144,000
Active Alumni		5,000
Alumni Donors		3,000
Students enrolling in BAC		45%
Fundraising		
- Funds Pledged per year	EUR 10-12 mln	EUR 20 mln

Bocconi. Knowledge that Matters